Baseline Geochemical Characterization Report

Grassy Mountain Project

Report Prepared for

Calico Resources USA Corporation

Report Prepared by

srk consulting

SRK Consulting (U.S.), Inc.
SRK Project Number 506800.02
January 2018 (revised April 2018, October 2019)

Baseline Geochemical Characterization Report

Grassy Mountain Project

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1 Introduction

SRK Consulting U.S., Inc. ("SRK") has completed a baseline geochemical characterization study for the Grassy Mountain Project, Oregon for Calico Resources USA Corp. ("Calico"). The Grassy Mountain Project consists of an underground gold resource located in Malheur County, Oregon, about 22 miles south-southwest of Vale, Oregon in an area where no previous mining activity has occurred. Processing will be by conventional mill and containment of tailings in an engineered tailings impoundment.

The purpose of the baseline geochemical characterization program is to define the potential geochemical reactivity and chemical stability of mine waste that will be produced by the proposed Grassy Mountain underground gold mine. The results of the geochemical characterization program will assist in determining the potential for acid rock drainage and metal leaching associated with the project. Data produced during this study can be used in the project design process and as an operational tool for identifying material types that require special handling during operations.

The characterization work undertaken for the Grassy Mountain project meets the following regulatory requirements:

- Oregon Department of Geology and Mineral Industries (DOGAMI) Division 37 Chemical Process Mining, Oregon Administrative Rule (OAR) 632-037-0055 and OAR 632-037-0085(Environmental Evaluation); and
- Applicable Oregon Department of Environmental Quality (ODEQ) Division 43 Chemical Mining Rules, OAR 340-043, which address process mining.

In addition, the geochemical characterization program was designed to follow guidelines set forth in the Bureau of Land Management Instruction Memorandum NV-2013-046, Nevada Bureau of Land Management Rock Characterization Resources and Water Analysis Guidance for Mining Activities (BLM, 2013).

This report is written to conform with the Environmental Baseline Study Work Plans (EM Strategies Inc, 2017), which were accepted by the TRT on December 7, 2017 pursuant to Oregon Revised Statute (ORS) 517.967 using criteria and/or guidelines and information provided by the technical review team (TRT) assembled for the project. This Baseline Work Plan was reviewed and approved by the TRT and contains a description of the baseline data requirements for the various resource categories including geochemical characterization of mine waste.

In January 2016 a revised Baseline Report (*Geochemistry Baseline Study: Preliminary Results and Work Plan for the Grassy Mountain Project)* was submitted to DOGAMI and Oregon Department of Environmental Quality (ODEQ) to provide a plan for additional sample collection; this report also provided a description of the geochemical characterization study methodology and a summary of the data available at that time.

After completion of the kinetic testing program, a Baseline Geochemical Characterization Report for the Grassy Mountain Project (Baseline Report) was prepared and submitted to DOGAMI in January 2018. Integral Inc. was contracted by the State of Oregon to review the report and evaluate the adequacy of the geochemical characterization program for predicting the acid

generating and metal leaching potential of ore, waste rock, tailings, access road cut and borrow material associated with the Grassy Mountain Project. Comments from Integral were received on March 5, 2018. A memorandum was prepared to provide responses to comments received from Integral and a revised Baseline Report was submitted to DOGAMI in April 2018. At the time the April 2018 report was submitted, the following activities had been completed:

- Review of site geology and identification of the primary material types.
- Collection of drill core samples representative of waste rock and ore.
- Collection of test residue from metallurgical testing representative of tailings material associated with the project.
- Static and kinetic laboratory testing of selected waste rock, ore and tailings samples.
- Mineralogical analysis of waste rock for the presence of erionite.

Since the April 2018 Baseline Report was submitted additional sampling and testing has been done in support of the baseline geochemical characterization program for the Grassy Mountain project including:

- Static laboratory testing of additional tailings material amended with lime to meet Oregon regulation standards.
- Static laboratory testing of a borrow source for construction material.
- Static laboratory testing of access road cut material that could be generated during haul road and access road construction.
- Additional erionite mineralogical analysis of the access road cut and borrow material.

The following report has been prepared to provide a comprehensive Baseline Geochemical Characterization Report that incorporates the results of all previous reports plus the additional data and interpretation associated with the latest characterization activities.

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2 Background

2.1 Project Study Area Description

The Project is located in Malheur County, Oregon, approximately 22 miles south-southwest of Vale (Figure 2-1) and consists of two areas: the Mine and Process Area and the Access Road Area, which together are the Permit Area (Figure 2-2).

The Mine and Process Area is located on three patented lode mining claims and unpatented lode mining claims that cover an estimated 886 acres. These patented and unpatented lode mining claims are part of a larger land position that includes 419 unpatented lode mining claims and nine mill site claims on lands administered by the Bureau of Land Management (BLM). The full land status of the project is described in the Consolidated Permit Application. All proposed mining would occur on the patented claims, with some mine facilities on unpatented claims. The Mine and Process Area is in all or portions of Sections 5 through 8, Township 22 South, Range 44 East (T22S, R44E) (Willamette Meridian). The Access Road Area is located on public land administered by the BLM, and private land controlled by others. A portion of the Access Road Area is a Malheur County Road named Twin Springs Road. The Access Road Area extends north from the Mine and Process Area to Russell Road, a paved Malheur County Road. The Access Road Area is in portions of Section 5, T22S, R44E, Sections 3, 10, 11, 14, 15, 21 through 23, 28, 29, and 32, T21S, R44E, Sections 1, 12 through 14, 23, 26, 27, and 34, T20S, R44E, Sections 6 and 7, T20S, R45E, and Sections 22, 23, 26, 35, and 36, T19S, R44E (Willamette Meridian). The width of the proposed Access Road Area is 300 feet (150 feet on either side of the access road centerline) to accommodate possible minor widening or re-routing, and a potential powerline adjacent to the access road. There are several areas shown that are significantly wider than 300 feet on the Figure 2-2, which are areas where the final alignment has not yet been determined. The final engineering of the road will be consistent throughout, and will be entirely within the Permit Area. The Access Road Area also includes a buffer on either side of the proposed road width for the collection of environmental baseline data. The road corridor within the Access Road Area will be 40 feet wide, which includes a 24-foot wide road travel width (12 feet on either side of the road centerline), four-foot wide shoulders on each side of the road, minimum one-foot wide ditches on each side of the road, and appropriate cut and fill. The Access Road Area totals approximately 876 acres.

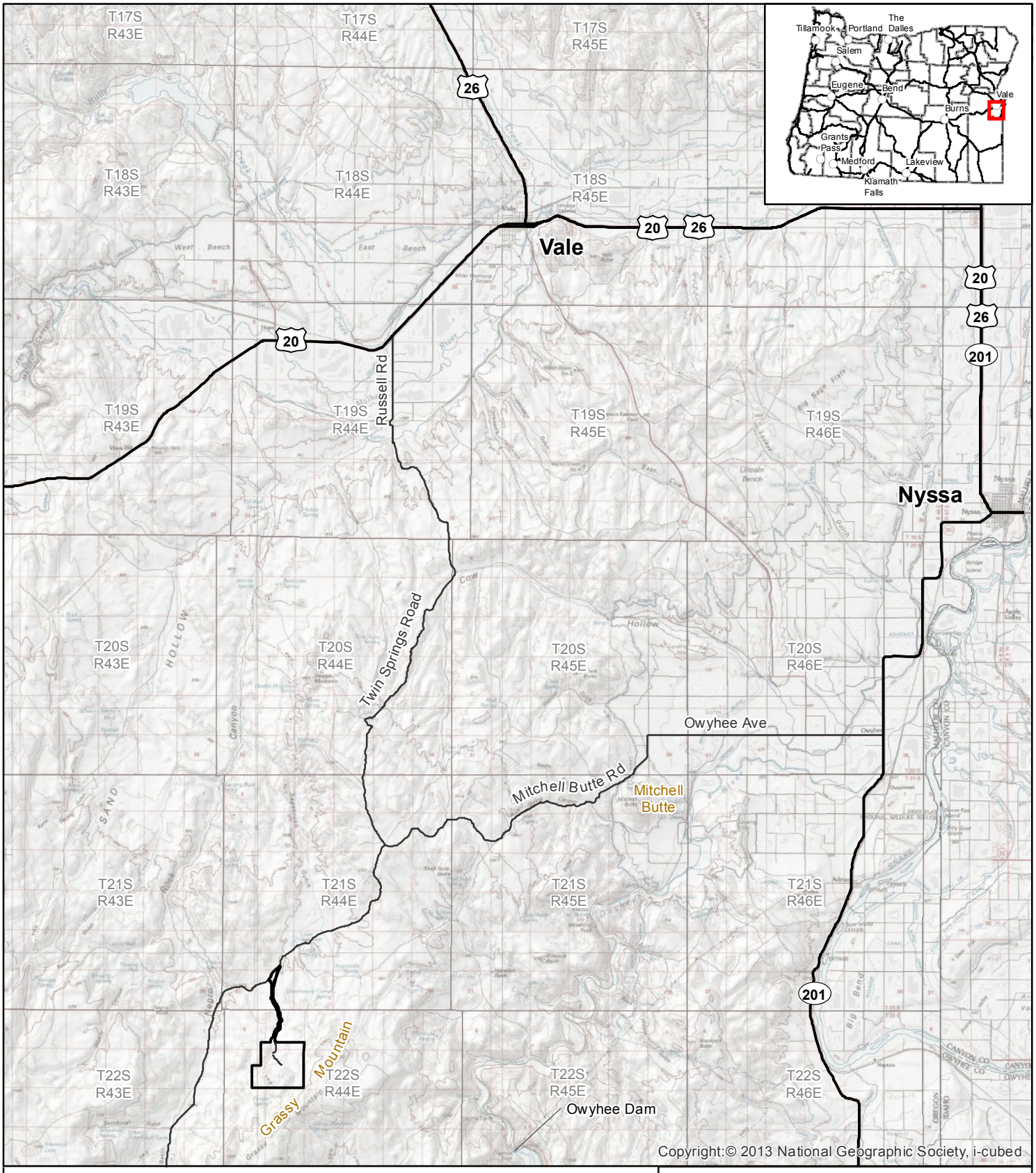
2.2 Mine Plan

Calico proposes to construct, operate, reclaim, and close an underground mining and precious metal milling operation known as the Grassy Mountain Mine Project (Project). The Project area is comprised of approximately 981 acres, of which 919 acres are public land administered by the Bureau of Land Management. Approximately 62 acres within the Project area are private land controlled by Calico (Figure 1-1). In general, the proposed mining and precious metal processing operations under this Plan will consist of underground mine and ore processing facilities, including a conventional mill and tailings storage facility, and waste rock storage areas, as well as other support facilities. The Project will include the following major components:

- One underground mine;

- One waste rock storage area;
- One carbon-in-leach processing plant;
- One borrow pit area;
- One tailings storage facility;
- Run-of-mine (ROM) ore stockpile;
- One reclaim pond;
- A water supply well field and pipeline, associated water delivery pipelines, and power;
- A power substation and distribution system;
- Access and haul roads;
- Ancillary facilities that include the following: haul, secondary, and exploration roads; truck workshop; warehouse; storm water diversions; sediment control basins; reagent and fuel storage; storage and laydown yards; explosive magazines; fresh water storage; monitoring wells; meteorological station, an administration/security building; borrow areas; landfill; growth media stockpiles; and solid and hazardous waste management facilities to manage wastes; and
- Reclamation and closure, including the development of an evaporation (E) cell for potential long-term discharge from the tailings storage facility (TSF).

Calico proposes to mine approximately 3.0 million tons of mill-grade ore and 0.2 million tons of waste rock (total of 3.2 million tons). The material (both ore and waste) will be extracted from the underground mine using conventional underground mining techniques of drilling, blasting, mucking, loading, and hauling. Calico will use hydraulic loaders to load the ore and waste into the haul trucks. The haul trucks will transport the waste rock to the waste rock disposal areas adjacent to the tailings facility and transport the ore to the ROM stockpile near the crushing and milling facilities. The ore will be leached in a carbon-in-leach processing plant to recover the precious metals into a “pregnant” leach solution. The pregnant solution will then be processed for metal recovery and further off-site refining. Exploration activities, expected to disturb up to 10 acres, will occur within the Project Area. The acreage of proposed surface disturbance associated with the Project as a whole is approximately 265.8 aces.



Explanation

Project Area

Existing Road

Projection: UTM Zone 11 North, NAD83, meters

0 2 4 Miles

N

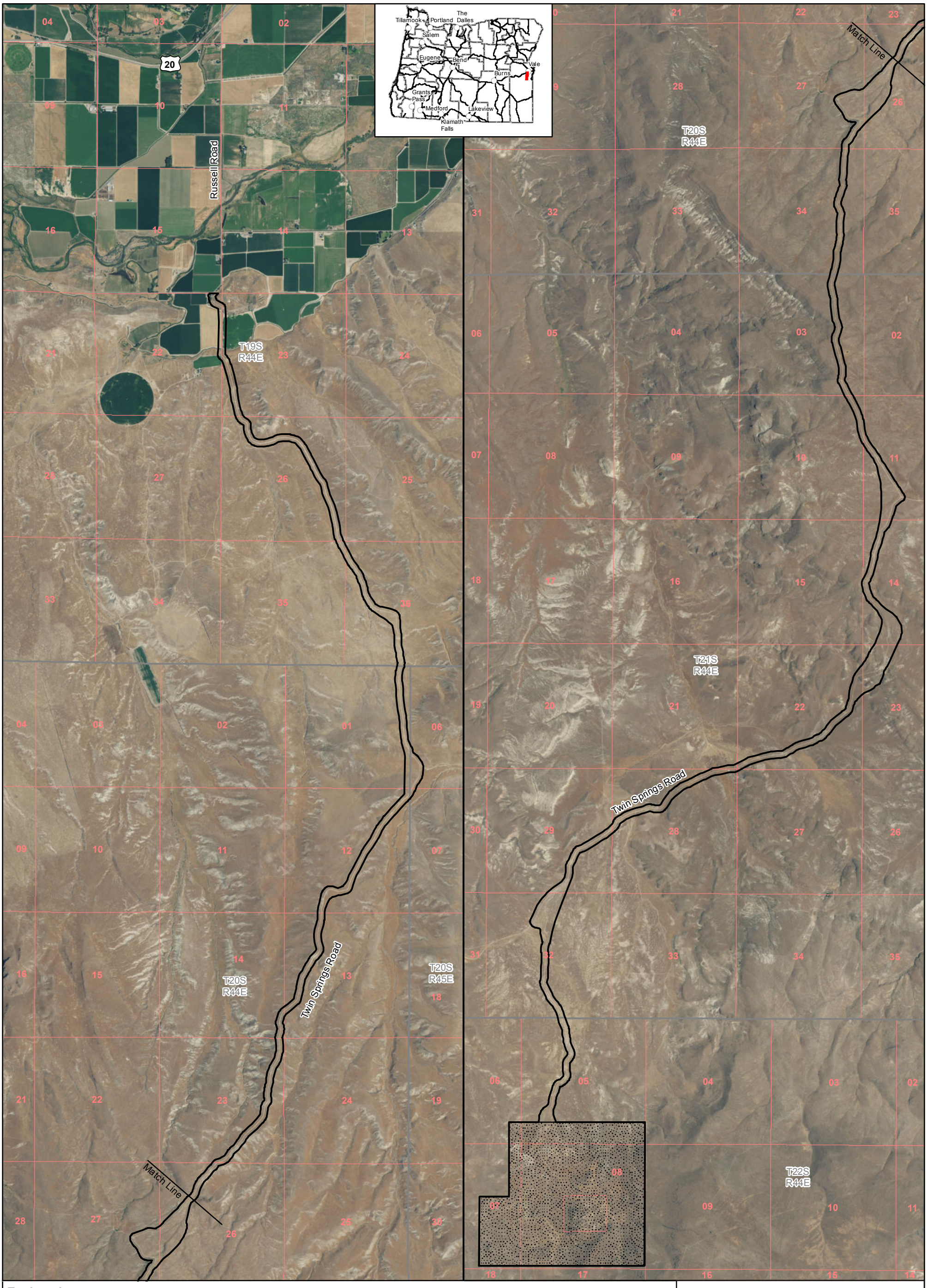
CALICO RESOURCES USA CORP.

GRASSY MOUNTAIN PROJECT

Figure 2-1: Project Location

Date: 07/27/2017	Drawn By: GSL		
Revised:	Project No.: 3672		
Base Map: USGS 100K quads: Boise, Brogan, Vale, Weiser			
File Name: 3671GX_GrassyMtn_Fig1_Location.mxd			

EM STRATEGIES



Explanation

Permit Area

Geochemistry Study Area

Projection: UTM Zone 11 North, NAD83, meters

0 1 2 Miles

N

CALICO RESOURCES USA CORP.

GRASSY MOUNTAIN PROJECT

Figure 2-2: Permit Area and Geochemistry Study Area

Date: 12/21/2017	Drawn By: JDB/GSL	
Revised:	Project No.: 3672	
Base Map:		
File Name: 3672X_GrassyMtn_GeochemStudyArea_forSRK_11x17.mxd		

EM STRATEGIES

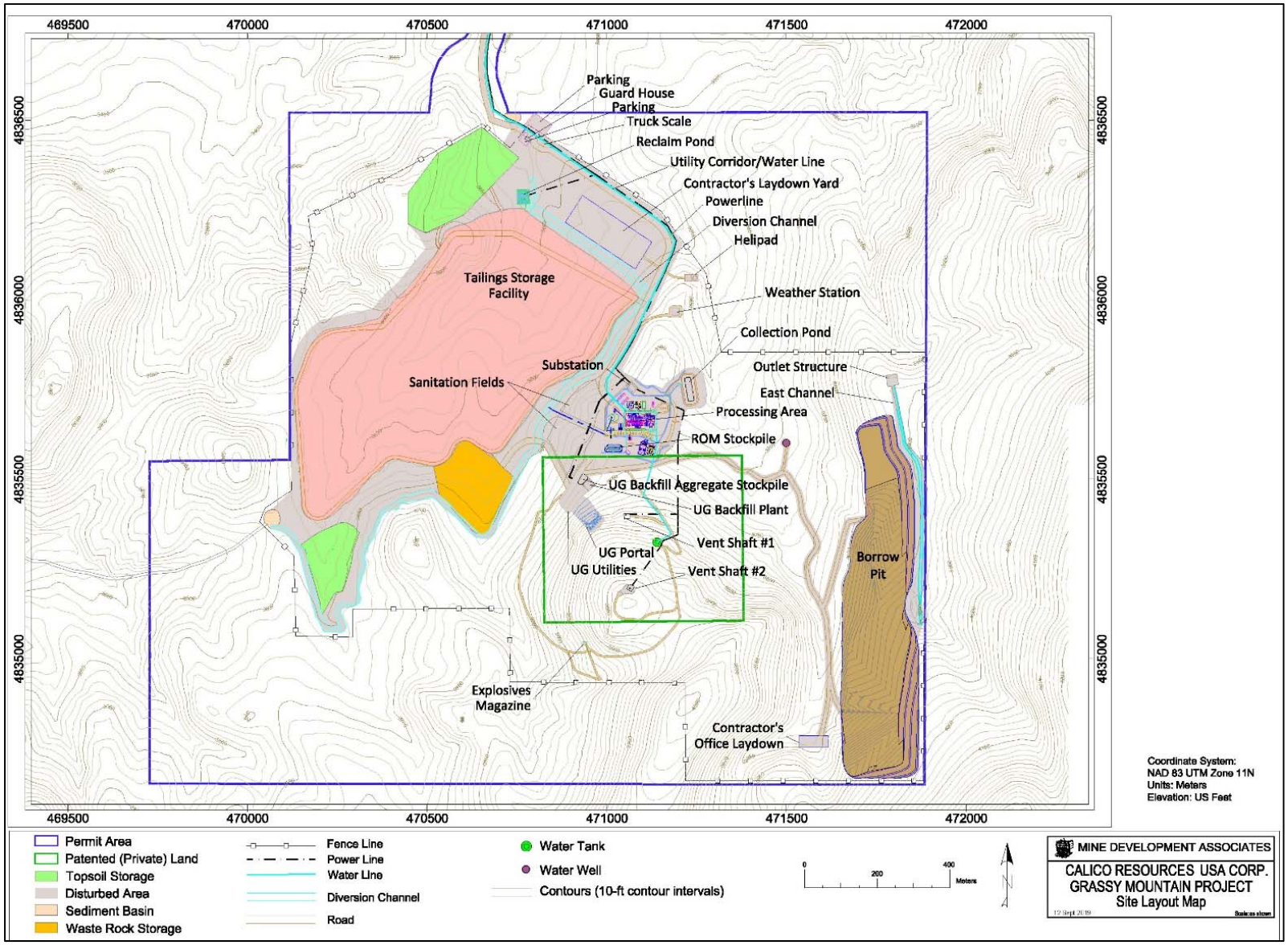


Figure 2-3: Site Layout Map

3 Site Conditions

3.1 Topographic Setting and Climate

The Grassy Mountain property is located in the semi-arid plateau region of eastern Oregon. The local landscape is typical of a high mountain desert environment and range land. Terrain is gentle to moderate throughout most of the project study area, with elevations ranging from 3,330 to 4,300 feet above mean sea level (amsl).

Seasonal mean temperatures are typical of the western United States, with mostly sunny winter and summer skies and little overcast. Local weather data indicate a mean annual temperature of 52°F, with daily temperatures ranging from an extreme low of -20°F in the winter to extreme highs of 100°F and higher in the summer. Annual precipitation is about 9.8 inches, roughly half of which falls as snow between November and March. Winter and wet weather occasionally limit access to the project site, but operations may generally be carried out year round.

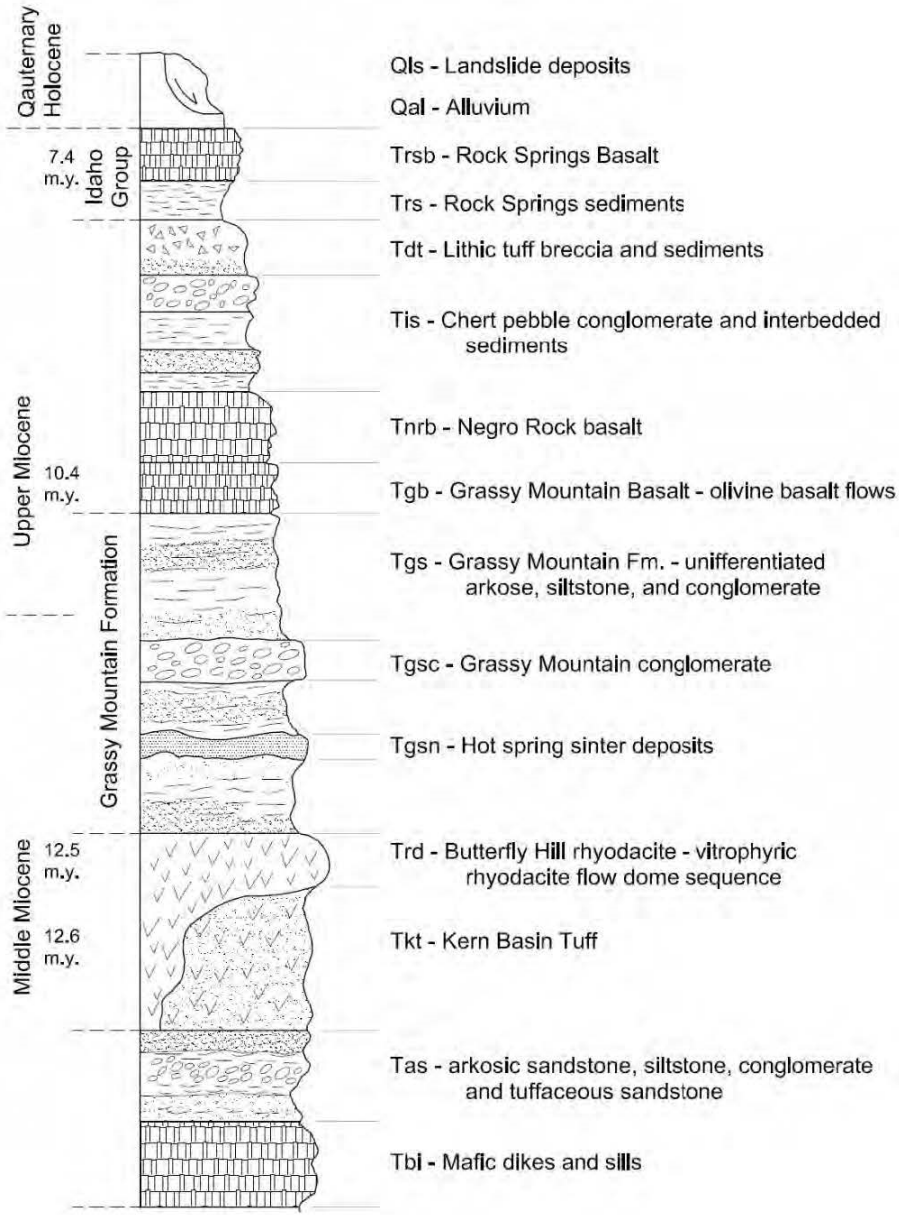
3.2 Geology

The following description of regional and project geology is from the *Geology and Soils Baseline Study for the Grassy Mountain Project* (Abrams, 2018).

3.2.1 Regional Geology

Grassy Mountain is the largest of twelve recognized epithermal hot spring precious metal deposits of the Lake Owyhee volcanic field. The Lake Owyhee volcanic field occurs at the intersection of three tectonic provinces: the buried cratonic margin, the northern Basin and Range, and the Snake River Plain. During the mid-Miocene, large volume, peralkaline, caldera volcanism occurred in response to large, silicic magma chambers emplaced in the shallow crust throughout the region. The volcanic field includes several caldera-sourced ash-flow sheets and rhyolite tuff cones that were deposited about 15 million years ago (Ma).

At about 15 Ma, subsidence of the Lake Owyhee volcanic field triggered a change in volcanic eruption style, resulting in small volume, basalt-rhyolite deposits of limited extent. Volcanism during the mid to late Miocene is evidenced by small volume, metaluminous, high-silica rhyolite domes and flows, and small volume basalt flows and mafic vent complexes in north- and northwest-trending Basin and Range-type fracture zones and ring structures related to resurgent calderas. Regional subsidence facilitated the formation of through-going fluvial systems, and large volumes of fluvial sediments, sourced from the exhumed Idaho Batholith to the east, were deposited in conjunction with volcanism and hot spring activity during the waning stages of volcanic field development. The resulting regional stratigraphic section is a thick sequence of mid-Miocene volcanic rocks and coeval-to-Pliocene age non-marine lacustrine, volcaniclastic, and fluvial sedimentary rocks. For the purpose of geologic mapping at the project study area, a stratigraphic column is shown in Figure 3-1. Table 3-1 describes the stratigraphic column in more detail including the geologic units mapped within the project study area, the unit's age and lithologic description, and provides the map symbols used to cross reference with the geologic units shown on the project study area geology map (Figure 3-2 and Figure 3-4:).



Source: Calico Resources, 2019

Figure 3-1: Grassy Mountain Stratigraphic Column

Table 3-1: Stratigraphic Column Descriptions

Map Symbol	Rock Unit	Age (Millions of years before present in parenthesis)	Description
Qal	Alluvium	Pleistocene and Holocene	Unconsolidated and generally poorly sorted deposits of gravel, sand and silt accumulated along modern streams, drainages and flood plains
Qls	Landslide Deposits	Pleistocene and Holocene	Landslide and slump deposits of unconsolidated and unstratified soil and angular rock fragments formed as the result of bedrock failure. Includes large slump and debris flows composed of blocks of capping basalt on the flanks of Grassy Mountain and Sourdough Basin.
Trsb	Rock Spring Basalt	Upper Miocene (7.4 m.y.)	Snake River type olivine basalt flows and interbedded deposits of Tuffaceous siltstone and sandstone. Unit is made up of approximately equal amounts of volcanic flows and interflow sedimentary rocks. Trsb flows range from 2 to 20 feet thick. Entire unit of basalt with sedimentary interbeds reaches maximum thickness of 400 feet east of Shell Rock Butte.
Trs	Rock Spring Basalt - tuffaceous siltstone and sandstone	Upper Miocene	Sandstone and tuffaceous siltstone interbedded with unit Trsb are mapped separately where well exposed. Upper beds are mainly tuffaceous siltstones and include some bentonitic clays.
Tdt	Lithic tuff breccias	Upper Miocene	Mafic clast lithic tuff, airfall tuffs and overlying reworked tuffaceous silt and sandstones. Breccia clasts include yellow inflated pumice and basaltic scoria. Distinguished from Tkt by absence of banded rhyolite clasts and absence of biotite and hornblende phenocrysts that are present in Tkt. Unit is approximately 80 feet thick in western portion of map. Unconformably overlies Tis and is conformably overlain by Trsb.
Tis	Interbedded conglomerate and siltstone	Upper Miocene	Chert pebble conglomerate and interbedded diatomaceous siltstone. Mainly tuffaceous and arkosic sandstone and siltstone with interbedded conglomerate. Locally becomes finer grained upward into pale, white and yellow claystones and interbedded diatomaceous siltstones. Presumed base of Tis near Grassy Mountain Reservoir contains black chert-pebble and granite-clast conglomerate. Erosional contact with underlying unit Tgs marked by rounded boulders of olivine basalt unit tgb. Unit is approximately 400 feet thick in mapped area.
Tnrb	Negro Rock Basalt	Upper Miocene	Dark brownish gray, locally flow banded basalt. Dikes, plugs and sills are common. Typically higher Fe/Mg ratios and much lower chromium content than Tgb or Trsb.
Tgb	Grassy Mtn Basalt	Upper Miocene (10.4 m.y.)	Flow on flow sequence of olivine basalts capping the summit of Grassy Mountain; includes somewhat younger intra-canyon flows forming benches on the south side of Grassy Mountain. Locally includes overlying stream gravels containing chert pebbles and large rounded basalt clasts. Maximum thickness of 200 feet; individual flows up to 40 feet thick.

Map Symbol	Rock Unit	Age (Millions of years before present in parenthesis)	Description
Tgs	Grassy Mtn Formation-undifferentiated	Upper and Middle Miocene	Arkosic sandstones and channel-fill granite clast conglomerates. Mainly white to tan arkosic sandstones. Includes Tgsc, channel fill conglomerates with abundant granite and rhyolite clasts in the upper part of the unit. Uppermost conglomerates locally contain rounded obsidian clasts and rare black chert clasts. Unit Tgs generally becomes finer grained upward and includes white bentonitic clays near the top of the section which, where overlain by unit Tgb often generate large landslide masses. Hot spring activity contemporaneous with the deposition of the arkoses is indicated by sinter beds Tgsn, and sinter boulders containing silicified reeds and wood near the Grassy Mountain gold deposit. Unit Tgs is the host for both the Grassy Mountain and Crabgrass gold deposits.
Tgsc	Grassy Mtn Formation-Conglomerate		Conglomerates occurring in the upper portion of Tgs - mapped individually where possible
Tgsn	Grassy Mtn Formation-Sinter		Hot spring sinter deposits within Tgs - mapped individually where possible
Trd	Butterfly Hill Rhyodacite	Middle Miocene (12.5 m.y.)	Rhyodacite flow dome complex.
Tkt	Kern Basin Tuff	Middle Miocene	Mainly non-welded fine-grained, white to pale-yellow lithic tuff contain basalt, banded rhyolite, and white pumice clasts with biotite, hornblende, quartz and plagioclase crystals. Includes thinly bedded airfall tuffs at the base of the unit and overlying thin lenses of interbedded tuffaceous and arkosic sandstone and granite-clast conglomerate. Locally includes chaotically bedded airfall tuff with slump structures and massive surge deposits of matrix-supported lithic tuff composed of rhyolite and pumice clasts. Pumice clasts in the lithic tuff deposits increase in abundance and size toward the top of the unit. Unconformably overlies unit Tas.
Tas	Arkosic and tuffaceous sandstone	Middle Miocene	Arkosic and tuffaceous sandstone, siltstone and conglomerate. Mainly white to tan arkosic sandstone with minor amounts of granite-clast conglomerate. Includes 20 feet thick massive beds of coarse matrix supported, granite-clast conglomerate near the exposed base of the unit.
Tbi	Mafic dikes and sills	Middle Miocene	Mafic dikes and sills. Younger sequence includes irregularly shaped sills and dikes that intrude units Tas, Tkt and Tgs along both flanks of Grassy Mountain. Dikes and sills are olivine basalts believed to be feeders to units Tbg and Trsb. Dike cut through lowermost flows of unit Trsb north of Grassy Mountain near Willow Spring.

Source: Source: Calico Resources, 2019

3.2.2 Project Geology

Bedrock outcrops in the project study area are typically composed of olivine-rich basalt and siltstones, sandstones, and conglomerates of the late Miocene Grassy Mountain Formation.

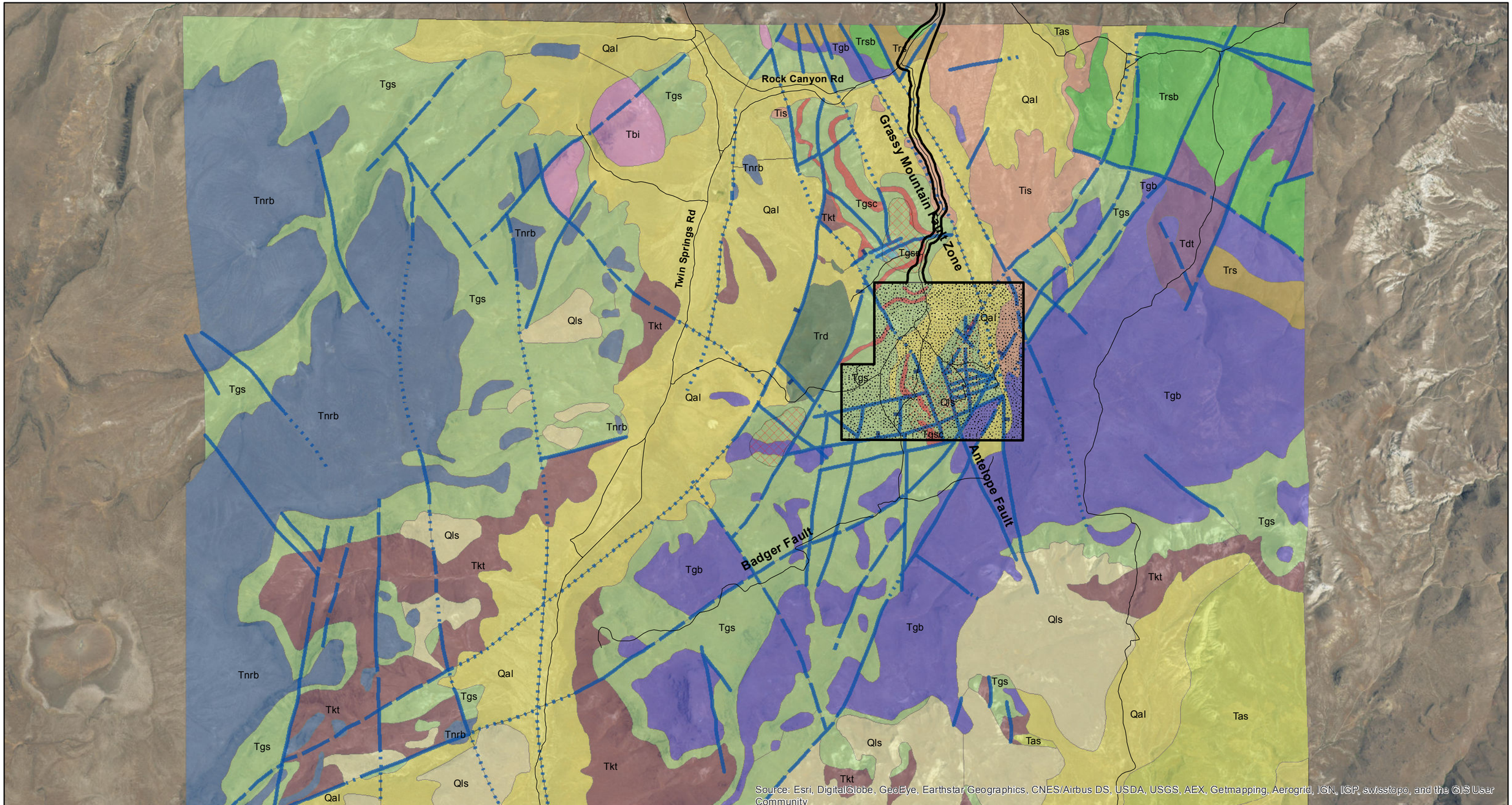
These rocks are locally covered with relatively thin, unconsolidated alluvial and colluvial deposits. Erosion-resistant basalts cap local topographic highs. Arkosic sandstones have been encountered at the surface and at depth, but have not been correlated across the project study area, in part due to lateral discontinuity associated with sedimentary facies changes and structural offset. The project study area geology is shown in Figure 3-2 and Figure 3-3. A geologic cross-section is provided in Figure 3-4.

Surface and drill-defined stratigraphy within the project study area reveals complex facies that were produced during the waning stages of deposition of the Lake Owyhee volcanic field. The oldest units encountered are the flow-on-flow Blackjack and Owyhee Basalts (14.3 to 13.6 Ma).

These basalts are overlain by arkosic sandstone, tuffaceous sandstone, and conglomerates of the Deer Butte Formation. The basal unit to the overlying Grassy Mountain Formation is the Kern Basin Tuff, a nonwelded, pumiceous, crystal tuff that displays cross beds and local surge structures. Clast size, thickness of individual ash units, and bedding structures suggest a source in the Grassy Mountain area. The Kern Basin Tuff ranges in thickness from 300 feet on the south bluffs of Grassy Mountain, to 1,500 feet in a drill hole beneath the project study area.

The Kern Basin Tuff is overlain by a series of fluvial, lacustrine, and tuffaceous sediments. Most of the sedimentary units in the project study area are silicified and strongly indurated. These sedimentary units include granitic clast conglomerate, arkosic sandstone, fine grained sandstone, siltstone, and tuffaceous siltstone/mudstone. The sedimentary facies of the Grassy Mountain Formation range from 300 to over 1,000 feet thick, and provide the host rocks of the Grassy Mountain mineral resource.

Several siliceous terraces are interbedded with the silicified sediments of the Grassy Mountain Formation. Terrace construction was apparently episodic and intermittently inundated by fluvial/lacustrine sediments and ash, resulting in an interbedded sequence of siltstone, tuffaceous siltstone, sandstone, conglomerate, and sinter terrace deposits. Load casts, flame textures, convolute lamination and other soft-sediment deformation textures are common in both the sinter beds and sedimentary facies. The amount and size of the sinter clasts in the sedimentary rocks reflect relative proximity to a terrace. Proximal deposits are angular, inhomogeneous, clast supported breccias of sandstone, siltstone, and sinter with indistinct clast boundaries in a sulfidic mud-textured matrix.



Explanation

- Permit Area
- Geochemistry Study Area
- Fault, Location Certain
- Fault, Location Inferred
- Fault, Concealed
- Alteration
- Road

- Qal: Alluvium
- Qls: Landslide deposits
- Tas: Arkosic and tuffaceous sandstone
- Tbi: Mafic dikes and sills
- Tdt: Lithic tuff breccias
- Tgb: Grassy Mtn Basalt
- Tgs: Grassy Mtn Formation - undifferentiated
- Tgsc: Grassy Mtn Formation - Conglomerate
- Tgsn: Grassy Mtn Formation - Sinter
- Tis: Interbedded conglomerate and siltstone
- Tkt: Kern Basin Tuff
- Tnrb: Negro Rock Basalt
- Trd: Butterfly Hill Rhyodacite
- Trs: Rock Spring Basalt - tuffaceous siltstone and sandstone
- Trsb: Rock Spring Basalt

0 2,000 4,000 Feet

N

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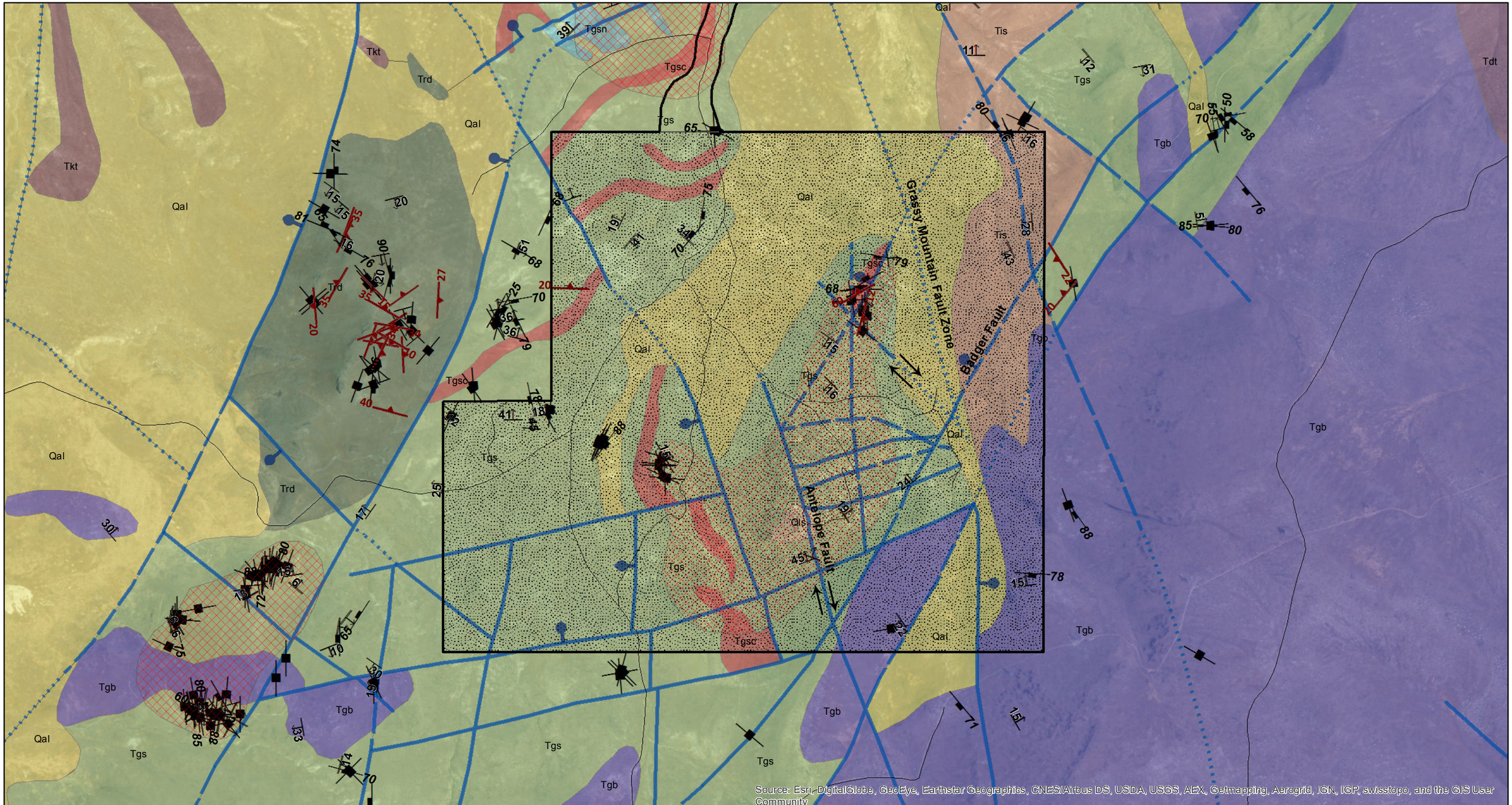
GRASSY MOUNTAIN PROJECT

Figure 3-2: Regional Geology

Date: 12/22/2017	Drawn By: GSL
Revised:	Project No.: 3672
Base Map:	
File Name: 3672X_GrassyMtn_RegionalGeology_forSRK_17x11.mxd	

EM STRATEGIES



Explanation

- Permit Area
- Geochemistry Study Area
- Fault, Location Certain
- Fault, Location Inferred
- Fault, Concealed
- Relative Direction of Strike-Slip Fault
- Downthrown Side of Fault
- Road
- Alteration
- Qal: Alluvium
- Qls: Landslide deposits
- Tdt: Lithic tuff breccias
- Tgb: Grassy Mtn Basalt
- Tgs: Grassy Mtn Formation - undifferentiated
- Tgsc: Grassy Mtn Formation - Conglomerate
- Tgsn: Grassy Mtn Formation - Sinter
- Tis: Interbedded conglomerate and siltstone
- Tkt: Kern Basin Tuff
- Trd: Butterfly Hill Rhyodacite
- Strike and Dip Direction with Dip Angle
- Foliation Strike and Dip Direction with Dip Angle
- Joint with Strike and Dip Direction with Dip Angle
- Vertical Joint

0 1,000 2,000 Feet

N

CALICO RESOURCES USA CORP.

GRASSY MOUNTAIN PROJECT

Figure 3-3: Mine Area Geology

Date: 12/22/2017	Drawn By: GSL
Revised:	Project No.: 3672
Base Map:	
File Name: 3672X_GrassyMtn_MineAreaGeology_forSRK_17x11.mxd	

EM STRATEGIES

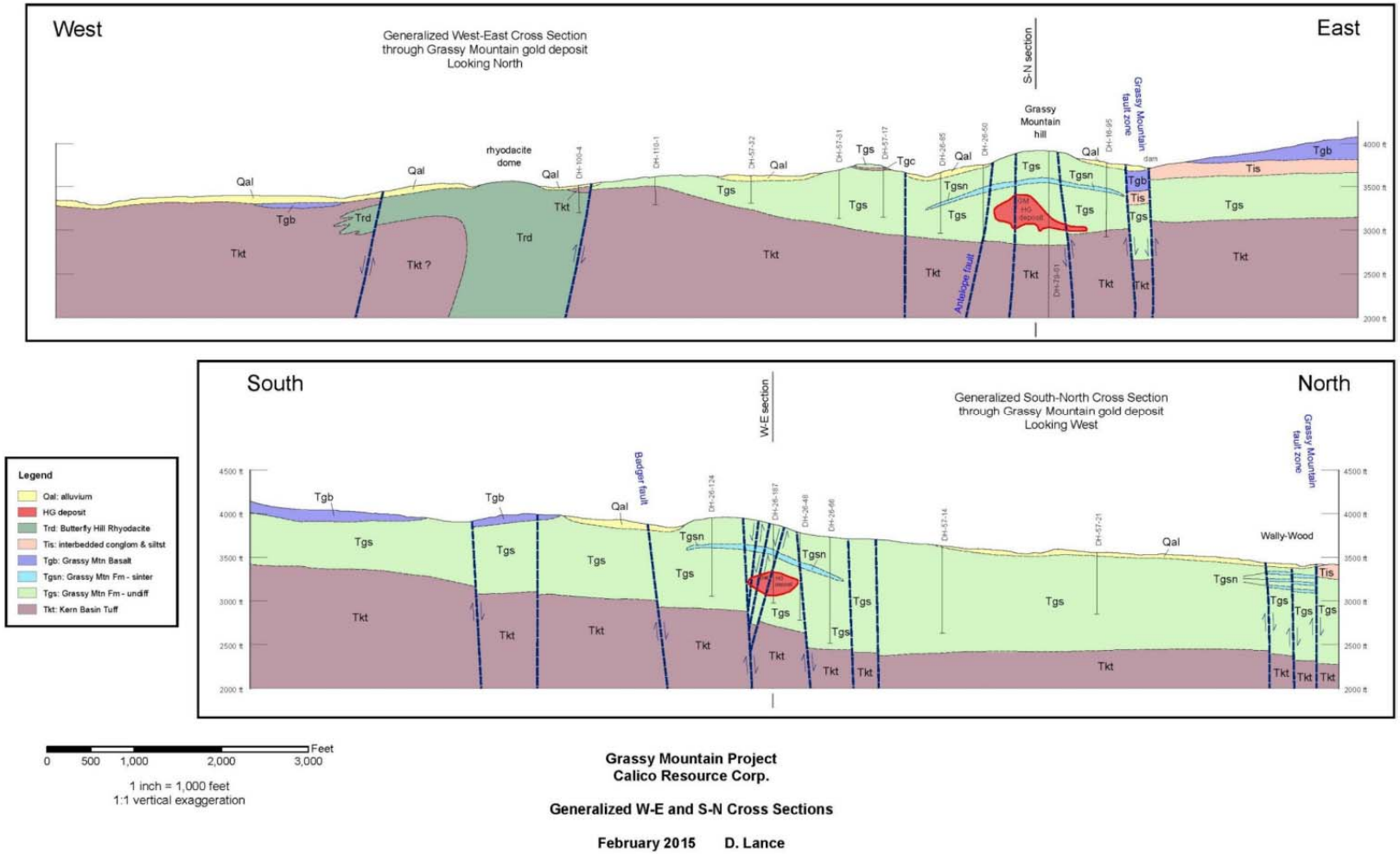


Figure 3-4: Geologic Cross-Sections

Source: Abrams, 2019

3.3 Water Resources

3.3.1 Surface Water and Springs

The project area is rolling hill terrain. Negro Rock Canyon to the north west of the project area and the Owyhee River Canyon to the southeast provide more relief in topography. The highest elevation is about 4,800 feet amsl along the west flank of Grassy Mountain. Elevation decreases to the north (about 3,250 feet amsl at Negro Rock Canyon). Elevation falls to about 2,300 feet amsl at the Malheur River 18 miles to the north and to 2340 feet amsl at the Owyhee River 5 miles to the west.

There are two watersheds that could be impacted by surface runoff from Grassy Mountain Gold Project surface facilities; Negro Rock Canyon, which could receive runoff from processing facilities; and Sagebrush Gulch (a tributary to Negro Rock Canyon, which could potentially receive runoff from mine facilities). Project facilities will not extend south into the Dry Creek drainage (an Owyhee River tributary).

All the drainages in the vicinity of the project boundary are ephemeral or intermittent. Several springs exist within the project area. Many of the springs appear to represent discharge of groundwater from deep aquifers while others represent discharge of groundwater from local shallow perched water-bearing zones. Some of the springs are dry during most of the year and are active only during the spring and early summer.

The Owyhee River is the largest surface water body in the region. The U.S. Bureau of Reclamation supplies about 500,000 acre-feet of water from the river basin to irrigate approximately 118,000 acres along the west side of the Snake River in the vicinity of Adrian, Nyssa, and Ontario. Negro Rock Canyon drainage contains an intermittent stream that only flows in response to snowmelt or heavy precipitation. There are no known stream gaging records within the Negro Rock Canyon basin. There are published stream gaging records for the Owyhee River, Malheur River, and the north fork of the Malheur River. Owyhee Reservoir and several reservoirs in the Malheur River Basin also report water surface elevations (USGS, 2001).

There are no jurisdictional wetlands or floodplains within the study area.

3.3.2 Groundwater

The regional groundwater system that includes the project study area is bordered by the Sourdough Mountain upland area to the west of Grassy Mountain, the Malheur River to the north and west, and the Owyhee Reservoir and Owyhee River, and the Snake River to the south and east. Groundwater studies by Adrian Brown Consultants, Inc. (ABC, 1992) and J.M. Montgomery, Consulting Engineers, Inc. (JMM, 1991) further identified the following hydrostratigraphic units within the project study area:

- Local discontinuous water-bearing zones within the Grassy Mountain formation.
- Less permeable fine-grained sedimentary rocks (clay, clayey and tuffaceous siltstones, and indurated siltstone predominantly overlying and underlying the sandstone and conglomerate unites), acting as aquitards beneath the project study area.
- Sandstone and conglomerate units that are inconsistent water-bearing units.

While the groundwater system appears to be regionally continuous, individual water bearing units are scattered and have restricted areal extent across the site. These units range from roughly 25 to 420 or more feet below ground surface (bgs). Groundwater flow in the shallowest, unconfined water bearing zones generally follows the topography. Flow in deeper, confined water-bearing zones is likely disrupted by faults and other structures in the study area. Grassy Mountain appears to be a hydrologic divide between the Owhyee River and Negro Rock Canyon.

Recharge to the regional system is by infiltration of incident precipitation and runoff. The general direction of groundwater flow in 2013 (SPF) was to the northwest, which was consistent with previous studies. Figure 3-5 shows the 2013 groundwater contours.

Estimates of the transmissivity of the aquifers vary from 175 to 2,800 gallons per day per foot (gpd/ft) (JMM, 1991). Aquifer testing suggests that the transmissivity decreased to the south, with low permeability near areas where the sedimentary rocks become silicified and more indurated. The hydrothermal alteration and silicification at Grassy Mountain may have locally affected the hydraulic properties of sedimentary rocks within the area and caused permeabilities in the vicinity of the ore deposit to be significantly reduced relative to permeabilities north and west of the mine.

Geologic and hydrogeologic information from the site indicates that water-bearing zones are generally confined by layers of fine-grained sedimentary rocks. Low permeabilities are also expected in siltstone and claystone materials at depth (JMM, 1991). The fine-grained sediments will retard downward migration of surface contaminants to potential deeper water-bearing units. The potential for faults to act as contaminant transport pathways has been examined. Aquifer test data indicate that the faults probably restrict lateral groundwater flow, acting as negative hydraulic boundaries. According to JMM (1991) this information, together with the evidence that low-permeability sediments dominate the subsurface for at least 100 feet in the vicinity of the proposed mine and process facilities (which would have lower permeabilities along fault zones) indicates that faults in the area have little potential to act as contaminant transport pathways.

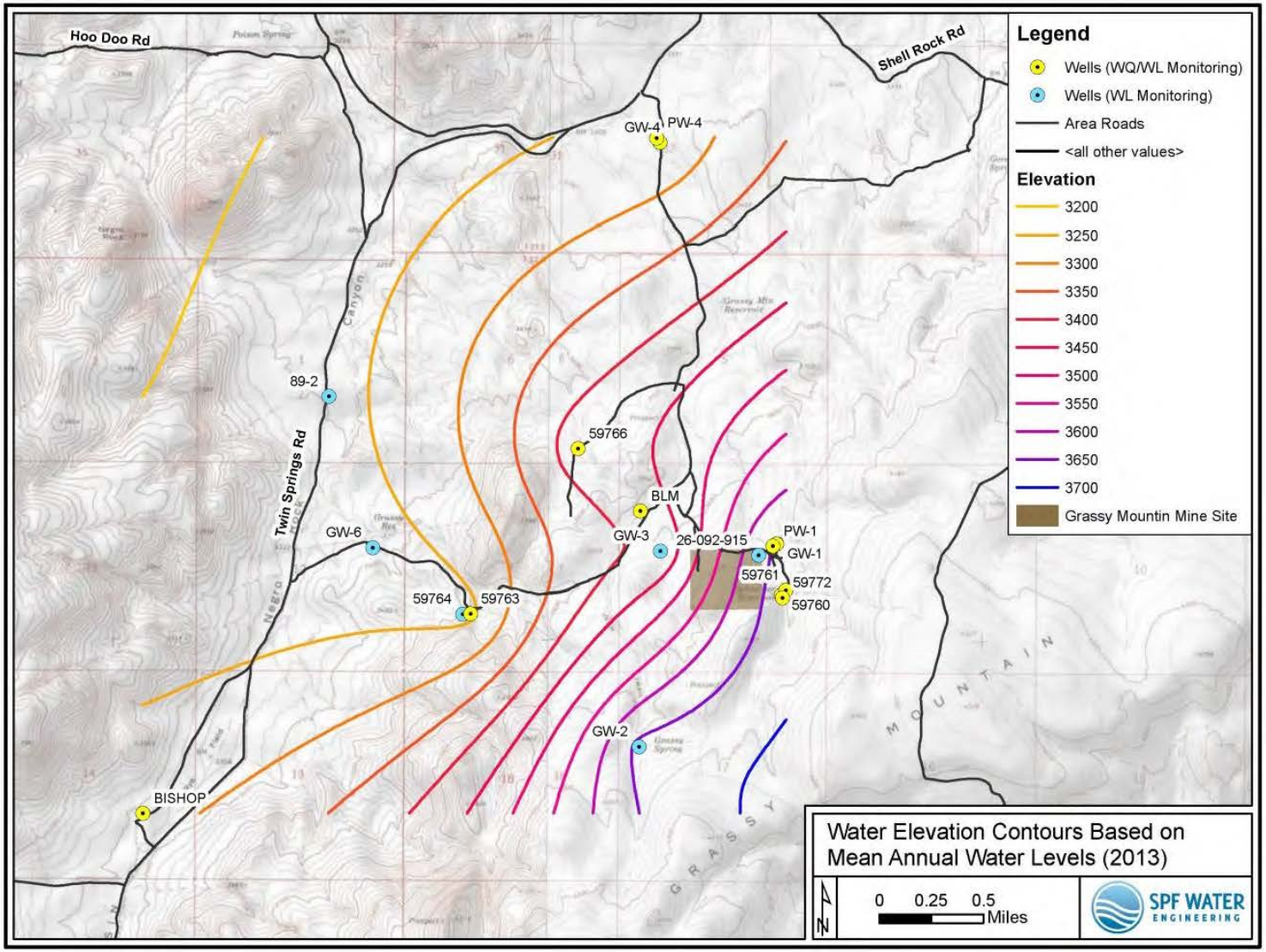


Figure 3-5: Groundwater Contour Map (2013)

4 Conceptual Model and Program Design

SRK has developed a conceptual geochemical model based on the deposit geology combined with the proposed mining and processing methods. This conceptual model provides the basis for the scope and methodology of the geochemistry baseline study and defines the approach for sample selection, laboratory procedures and key criteria for decision-making throughout the process.

The Grassy Mountain Project consists of an underground gold resource located in Malheur County, Oregon, about 22 miles south-southwest of Vale, Oregon in an area where no previous mining activity has taken place. The Grassy Mountain Project is an epithermal gold deposit that was formed by epithermal hot spring activity. The boiling water produced brecciation, alteration of county rock, and precipitation of precious metals with only trace amounts of base metals as sulfide minerals. Alteration occurred mainly by silicification with the precious metals commonly occurring in quartz adularia-sericite veinlets. Silica is almost always the most abundant gangue mineral. Pyrite and other iron sulfides are the most common sulfide phases. Arsenic, mercury, and antimony sulfides may also be present, but are subordinate to pyrite. From geologic logging of drill core, it appears that the sulfide ore body has been partially oxidized by groundwater. Within the oxidized zone, sulfides may be wholly or partially replaced by oxides, hydroxides, sulfates, or carbonates. There are limited carbonate minerals present within the deposit.

The Grassy Mountain Project will be developed as an underground mine with an expected operational mine life of 8 to 10 years. Ore and waste rock will be excavated using conventional drill and blast techniques. Waste rock will be generated from road (and other) construction as well as during excavation of the underground decline. Waste rock will be placed in mined out areas of the underground workings or placed in the lined waste rock facilities. Ore will be deposited onto a temporary coarse ore stockpile at the site prior to being transferred to the process area.

The Grassy Mountain Project process circuit includes crushing and grinding the ore, gravity separation, cyanide leaching (CIL) thickened tailings, electrowinning recovery, cyanide detoxification, and a Knelson concentrator sewer to separate the free milling gold. The rougher concentrate is then pumped to the CIL circuit where the tailings are thickened and sodium cyanide, lime, and oxygen are added. This chemical reaction dissolves or leaches the precious metals into solution in a series of agitated tanks. It will be a “zero discharge” operation. The final step in processing is to treat the remaining tailings to remove any residual reagents or chemicals, and to neutralize any residual cyanide.

The operation would employ an industry standard tailings management technology that will stabilize the tailings deposited in the management facility.

The design of the geochemical characterization program has been developed based on the geology of the site and the mine plan information and includes the following steps:

1. Refinement of the current conceptual geochemical model for each mine facility including understanding of the geological materials involved and the conceptual management approach.
2. Design of the sampling approach for each component.
3. Selection of suitable test procedures to assess potential impacts.

Table 4-1 provides a list of the mine facilities that will require geochemical characterization, location and duration of the facility, and the types of geochemical data required. To date, the characterization program described herein is complete for six potential sources listed in Table 4-1 including: 1) waste rock dumps, 2) ore stockpiles, 3) underground workings, 4) tailings impoundment, 5) borrow material, and 6) access road cuts.

Waste rock and ore samples have been collected as part of a comprehensive program designed to examine the range of conditions that could occur within the deposit. Tested ore and waste materials include exploration core (as available) and samples of test residues from metallurgical testing in 2015 and 2018. The metallurgical test residues have undergone cyanide destruction and are representative of the tailings material that will be generated as part of the milling process. The 2018 test residues were also amended with lime and are considered representative of tailings material that will be amended and placed in the tailings impoundment pursuant to the Oregon regulations.

Access road construction will be limited to widening an existing road that is mostly alluvium; reducing the requirements for sampling bedrock along the access road. However, some access road development will still take place that will expose bedrock. These exposures of bedrock at the surface are not directly comparable to the samples collected as part of the waste rock characterization program for the underground development as described above. Therefore, rock samples representative of bedrock that could be intersected during road construction were collected from outcrop for geochemical characterization. In addition, core samples from the proposed basalt quarry that will be used as construction material were also collected as part of this characterization program.

During operations, approximately equal amounts of rock fill (RF) and cemented rock fill (CRF) will be placed as backfill in the underground workings. Sources of aggregate include the borrow material (i.e., basalt) and waste rock. Only rock from the basalt quarry will be used for RF without cement (i.e., none of the waste rock will be used as RF). The majority of the waste rock generated during operations will be used as CRF. Calico estimated a mix of five percent cement will be added to geochemically stabilize the waste rock material. However, due to the small quantity of waste rock (200,000 tons), a significant percentage of the CRF will be sourced from the basalt borrow area. Therefore, core samples from the proposed basalt quarry are representative of the majority of the RF and CRF material that will be placed underground. CRF containing waste rock will only be placed above the saturated zone and will not become saturated once the groundwater recovers in the mine area. Samples representative of CRF with waste rock will need to undergo geochemical characterization to determine the quantity of cement mix

needed to neutralize the material prior to placing CRF with waste rock below the estimated groundwater table.

The characterization studies provide an estimate of the composition of waste rock, ore, tailings, access road cut and borrow materials in order to provide information necessary to determine the potential environmental impacts in the environmental evaluation phase of the Division 37 permit process.

The geochemical baseline study is designed to follow guidelines set forth in the Bureau of Land Management Instruction Memorandum NV-2010-014, Nevada Bureau of Land Management Rock Characterization Resources and Water Analysis Guidance for Mining Activities (BLM, 2013). In addition, the program follows the guidance provided in the Global Acid Rock Drainage (GARD) Guide (INAP, 2009), the industry best practices for characterization to support evaluation of potential future impacts to water resources and design of appropriate mitigation strategies. Leachate chemistry have been compared to Oregon Groundwater Quality Guidelines (OGWQG, OAR 340-40-020) to provide a context in which to understand and interpret the data (Table 4-2).

Table 4-1: Program Design

Source	Description	Location	Duration	Composition	Sample Types	Geochemical Data Needs				
						Static	Mineralogy	SPLP	MWMP	HCT
Waste rock dump	Waste rock dump	Mine area (surface)	Permanent	Non-PAG and PAG waste rock	Core	X	X	--	X	X
Ore stockpile	Ore stockpiled near mill	Plant site	LOM	Underground ore	Core	X	X	--	X	--
Underground workings	Exposed rock in workings	Mine area (underground)	Permanent	Waste rock and ore	Core	X	X	--	X	X
Tailings Impoundment	Tailings	Plant site	Permanent	Tailings with and without lime amendment	Metallurgical testwork	X	X	X	X	X
Borrow material	Borrow materials for construction	Various	Permanent	Basalt	Core	X	X	--	X	--
Access and haul roads	Surface development (cut/fill)	Various	Permanent	Alluvium/bedrock	Surface samples	X	X	--	X	--
Underground backfill	Rock Fill and Cemented Rock Fill	Mine area (underground)	Permanent	Basalt with or without cement	Core	X	X	--	X	--
Underground backfill[1]	Cemented Rock Fill	Mine area (underground)	Permanent	Waste rock with cement	Cemented core	X	--	--	X	--

[1] Characterization of this material source is not included in this study and will be provided under separate cover.

Table 4-2: Oregon Groundwater Quality Guidelines (OAR 340-40-020)

Parameter	Units	Reference Level[1]	Guidance Level[1]
Arsenic	mg/L	0.05	-
Barium	mg/L	1	-
Cadmium	mg/L	0.01	-
Chloride	mg/L	-	250
Chromium	mg/L	0.05	-
Copper	mg/L	-	1
Fluoride	mg/L	4	-
Iron	mg/L	-	0.3
Lead	mg/L	0.05	-
Manganese	mg/L	-	0.05
Mercury	mg/L	0.002	-
Nitrate	mg/L as N	10	-
pH	s.u.	-	6.5 - 8.5
Selenium	mg/L	0.01	-
Silver	mg/L	0.05	-
Sulfate	mg/L	-	250
Total Dissolved Solids (TDS)	mg/L	-	500
Zinc	mg/L	-	5
[1] All reference and guideline levels are for total (unfiltered) concentrations			

5 Characterization Program Methodology

5.1 Material Type Delineation

Underground development rock will consist of waste rock and ore materials that can be classified and tested according to material type, and the number of samples selected for geochemical testing is typically based on the relative percentage of each material type predicted to be mined from the geologic model.

The term 'material type' typically denotes a unique combination of lithology, alteration and oxidation state. However, because silicic alteration is pervasive in the Grassy Mountain deposit and the deposit is mostly oxidized, material types were delineated solely on lithology. Based on this assumption, a total of eight material types have been identified. These are summarized in Table 5-1 along with an estimate of the percent of each material type that will be mined based on the geologic block model. The characterization program included samples of waste and ore grade rock from the underground development, with a focus on waste grade material.

Table 5-1: Grassy Mountain Material Types

Material Type	Approximate Proportion of Development Rock – Ore/Waste (%)
Siltstone	54
Sandstone	26
Sinter	11
Mud/clay	5
Breccia	<1
Mudstone	<1
Tuff	<1
Basalt	<1

Source: Calico (personal comm.)

5.2 Sample Collection

5.2.1 Waste Rock and Ore

SRK collected a total of 105 samples for geochemical characterization testing as part of the current evaluation of the Grassy Mountain project. This included 68 samples collected from exploration drill core and 36 pulp samples representative of development rock (ore and waste rock). Sample collection activities are described in the following sections.

Sample selection is a fundamental step in the waste rock/ore characterization program and requires careful consideration. Guidelines applied to determine sampling adequacy are provided by the USEPA (1994), by the British Columbia AMD Task Force (BCATF, 1989) and Canada's Mine Environment Neutral Drainage (MEND) Program (Price, 2009). However, professional judgment and sound geological knowledge of a deposit are even more significant factors in the number and types of samples selected, as opposed to a strict numerical adherence to the guidelines (INAP, 2009).

The MEND Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials (Price, 2009) provides suggested initial sampling frequency based on tonnage of units mined (Table 5-2). Based on the current mine plan, approximately 2 Mt of waste rock will be generated during mining. According to Table 5-2, between 26 and 80 samples is an appropriate number of samples for the baseline characterization program. However, sample selection should be based on best judgment and an understanding of the variability of the deposit geology.

Table 5-2: MEND Table 8.2 - Sample Frequency

Tonnage (metric tons)	Number of Samples
<10,000	3
<100,000	8
<1,000,000	26
<10,000,000	80

To characterize the Acid Rock Drainage and Metal Leaching (ARD/ML) potential for the Grassy Mountain Project, a weighted approach was taken to assess the geochemical variability of geologic materials that will be encountered during mining. The approach included the collection of an appropriate number of samples based on the relative importance or mass of the lithological unit with respect to the total mass in the deposit. As stated in the GARD Guide, material types that comprise less than five percent of the waste rock typically require fewer samples since they are less likely to have a considerable influence on the geochemical nature of the dump facility (INAP, 2009).

Selection of representative sample intervals was completed with the aid of the Leapfrog Software package which enables 3D visualization of imported drill hole data. This can then be viewed in relation to the proposed underground workings and ore body. Sample intervals were selected from the exploration drill holes to develop a dataset that is as lithologically and as spatially representative of the deposit as possible with the information and drill core available for sampling.

SRK personnel visited the project site in January 2015 in order to collect representative samples of waste rock/ore from drill core being stored at the Vale core shed. During the sample program, SRK collected a total of 68 samples from core holes. The selected sample intervals range from about 10 to 20 feet in length depending upon the geology and gold grade. For each sample interval, approximately 8 to10 kg of sample material was selected from existing core boxes, placed in sample bags, and labeled with the drill hole number, and the interval. In all cases, the material type collected within each interval is identical. In addition to the core samples, 36 pulp samples were selected to characterize the waste rock within the decline area where limited core material was available.

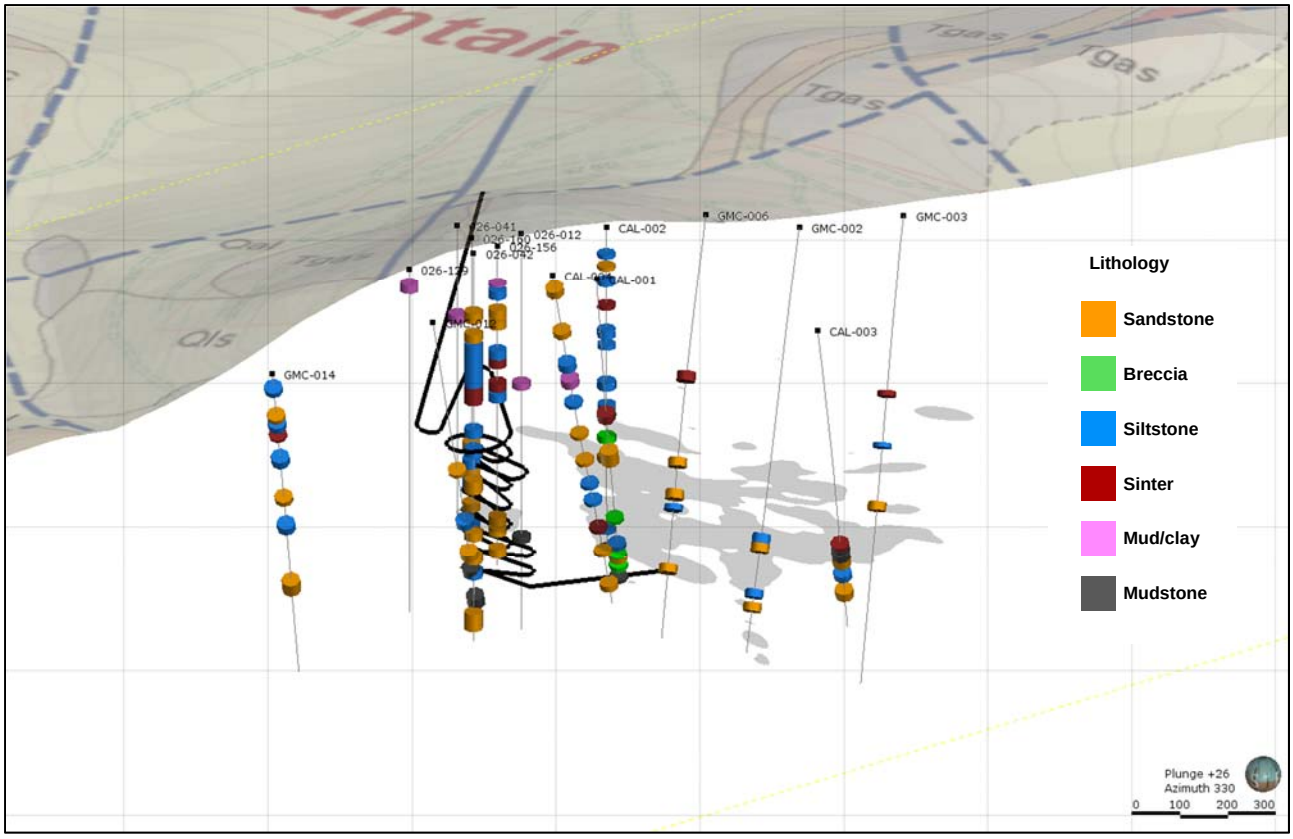
The resulting dataset is lithologically representative of the deposit to the extent possible based on the scope of the exploration program and materials available. Table 5-3 shows the distribution of samples in relation to the proportion of each material type predicted to be mined. This shows good lithological representation of samples, with a bias towards material types that will ultimately comprise a greater proportion of development rock. The mudstone unit occurs at the base of the deposit and although only a very small amount of this material type will be mined as part of the current mine plan, it has been included in the geochemical characterization study for

completeness. At the time of sample collection, none of the drill holes for which sample material was available intercepted the basalt and tuff units. Therefore, no samples of basalt or tuff have been collected to date. However, these units comprise less than one percent of the material that will be mined. If basalt or tuff is encountered in future exploration drilling programs, samples of these rock types will be collected for testing.

The dataset is spatially representative of the deposit to the extent possible based on the location of the drill holes and core/pulp material available. The spatial distribution of sample intervals is shown in relation to the proposed underground decline and ore shells in Figure 5-1, which shows generally good spatial representation. However, a few gaps still exist due to a lack of drilling in some areas. Additional images showing sample distribution are provided in Appendix A. Even though GMC-014 is located outside the underground development, core samples were collected from this hole for similar material types due to limited core material available for the decline area.

Multi-element data and total sulfur data was not available for the exploration dataset; therefore a statistical evaluation of the dataset cannot be made. However, Calico has developed a comprehensive geologic model of the deposit resulting in good geologic control of the sample selection. Based on the geologic interpretation, the geologic units are fairly continuous with consistent oxidation throughout the deposit. Furthermore, the geologic units that will be encountered in the northern portion of the deposit are geologically the same as the units in the other portions of the deposit and no new rock types will be encountered in this area. Therefore, the current dataset is lithologically representative of the deposit and is considered adequate for the baseline characterization program. However, some spatial gaps will need to be addressed in the future when drilling is conducted in these areas. Prior to initiation of mining in these areas Calico will develop and implement a sampling and testing program to verify and confirm the rock units in these areas are geochemically similar to the waste rock material included in the baseline geochemical characterization program. Sampling and testing methods will be consistent with the baseline geochemical characterization program to ensure comparable results.

Samples were submitted to McClelland Laboratories (Sparks, Nevada) for sample preparation and geochemical characterization testing (as specified in Section 5.4, below). The number of samples submitted for geochemical testing is provided (per material type) in Table 5-3.



Source: HDR\402200.010_Calico_Grassy_Mountain\020_Project Data\Leapfrog Files\LeapfrogModel-Geo

Figure 5-1: Spatial Distribution of Samples in Relation to Underground Workings

Table 5-3: Sample Collection and Testing Matrix

Material Type	Proportion of Development Rock - Ore/Waste (%)	Number of samples submitted for testing				
		Core		Pulps		Total
		Waste	Ore	Waste	Ore	
Siltstone	54	13	9	10	1	33
Sandstone	26	19	5	14	2	40
Sinter	11	6	1	4	0	11
Mud/clay	5	1	0	3	1	5
Breccia	<1	1	6	0	0	7
Mudstone	<1	6	1	0	1	8
Tuff	<1	0	0	0	0	0
Basalt	<1	0	0	0	0	0
TOTAL	**100**	**46**	**22**	**31**	**5**	**104**

Source: Grassy Mountain Static Test Database Rev14

5.2.2 Borrow and Access Road Cut Material

Borrow Material

In 2018 Calico resources drilled three diamond drill holes in the proposed basalt quarry location (Table 5-4). Holes were logged by Calico geologists and sample intervals were selected to represent the range of geologic properties encountered throughout the basalt deposit. A total of 20 core samples were submitted to McClelland Laboratories for sample preparation and geochemical testing, as specified in Section 5.4 and summarized in Table 5-5 below. The geochemical test results for the borrow material are provided in Section 6.2.

Table 5-4: Borrow Material Hole Locations

Hole ID	Easting	Northing	Elevation
	NAD 83 US Feet		Feet
Basalt B1	1547894	15862451	4007
Basalt B2	1547855	15864646	3891
Basalt B3	1547730	15865323	3887

Table 5-5: Summary of Borrow Material Test Work

Type	Lithology	Number of Samples	Lab Analyses				
			Mineralogy	Multi-Element Analysis	ABA	NAG	MWMP
Borrow Material	Andesitic Basalt	7	1	7	7	7	3
	Vesicular Basalt	4	3	4	4	4	3
	Basalt	2	1	2	2	2	-
	Clay	1	1	1	1	1	--
	Sand and Clay	1	--	1	1	1	1
	Sediments	5	2	5	5	5	2
Access Road Cut Material	Basalt	**7**	**7**	**7**	**7**	**7**	**6**
	Total	**27**	**15**	**27**	**27**	**27**	**15**

Access Road Cut Material

In 2019 Calico collected samples along the main access road from exposed outcrops in the area where major cuts will be required during road construction. This program resulted in seven samples of basalt at the sample locations shown in Figure 5-2. Samples were submitted to McClelland Laboratories for sample preparation and geochemical characterization testing using the same methods as the borrow material, as specified in Section 5.4. The geochemical test results for the access rock bedrock material are provided in Section 6.3.

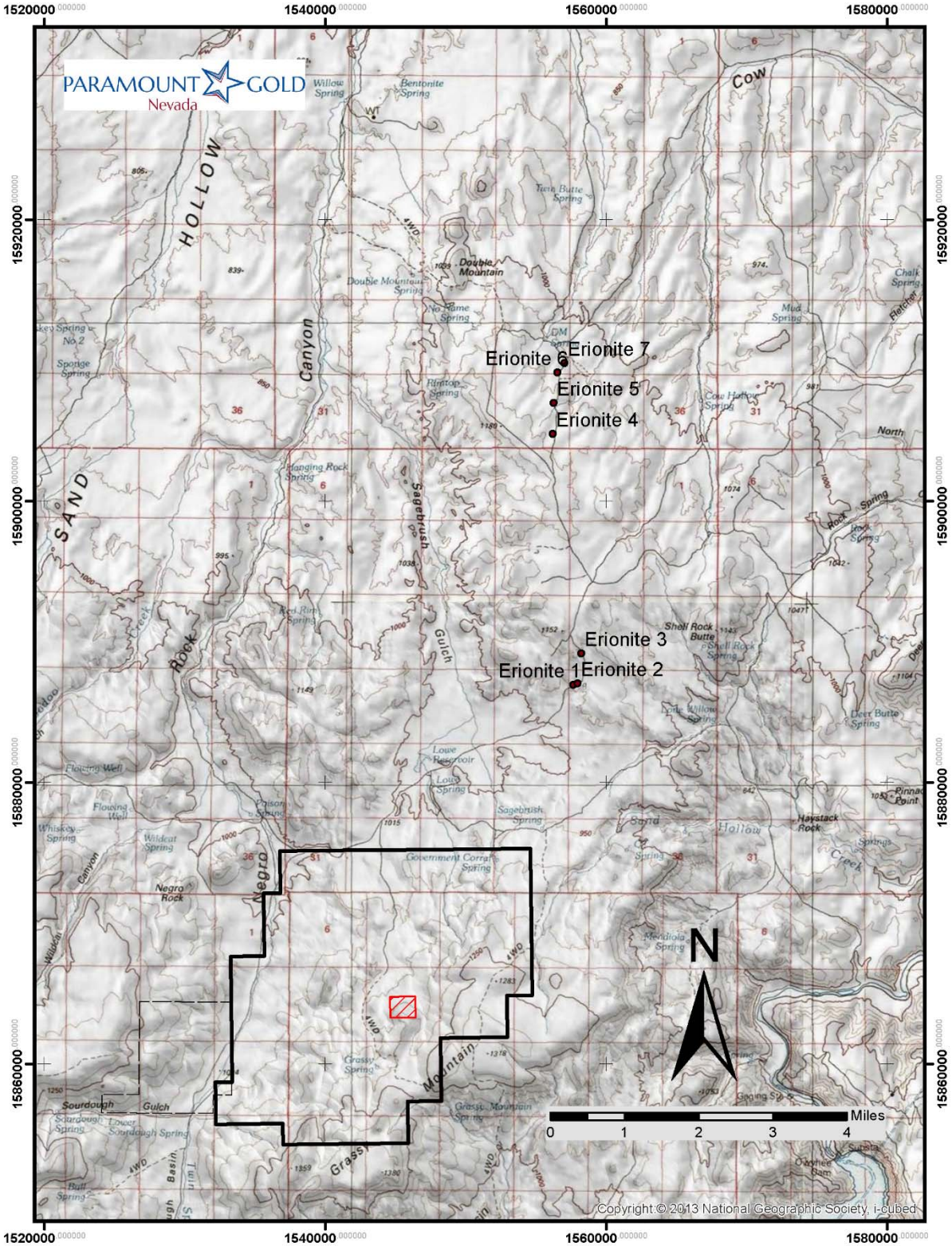


Figure 5-2: Access Road Cut Sample Locations

5.2.3 Tailings Samples

One sample of tailings material was collected from the metallurgical testing program conducted in 2015 at Resource Development Inc. The metallurgical test was conducted on a sample collected from core that consisted of a range of lithologies and gold grades (i.e., average ore grade and composition). The tailings sample was collected after Inco cyanide destruction using sodium bisulfite as a SO_2 source. Calico is planning on including the Inco cyanide destruction in their process circuit. Due to the consistent nature of the geology of the deposit and the fact that the deposit has been oxidized, major shifts in the ore (and tailings) geochemistry are not anticipated. Therefore, this sample is considered representative of the final tailings product.

In 2018, three additional test residues were generated from metallurgical testing representative of the tailings material. These samples are summarized in Table 5-6 and consist of a mixture of the primary lithologies that comprise the bulk of the ore and underwent cyanide destruction prior to geochemical testing to be consistent with OAR 340-043-0130 (1).

Two buckets of tailings slurry per sample were submitted to McClelland Laboratories (MLI) for sample preparation and testing. The samples were allowed to settle and a sample of solution, representative of supernatant solution, was collected from each of the six buckets for analysis. Following collection of the solution sample, the material from the first bucket (1 of 2) for each sample was air dried and each sample was individually blended and split to obtain samples.

Table 5-6: Summary of Tailings Sample Test Work

Year	Sample	Description	Lab Analyses						
			Decant Solution Analysis	Multi-Element Analysis	ABA/ TIC	NAG	Modified MWMP	Modified SPLP	HCT
2015	Calico Leach Res. After CN Destruct.	Mixed Lithology	--	x	x	x	x	--	x
2018	Arkose (1 of 2)	Arkose Sandstone	x	x	x	x	--	x	--
	Arkose (2 of 2)	Arkose Sandstone	x	--	--	--	--	--	--
	MLDWT (1 of 2)	Clay	x	x	x	x	--	x	--
	MLDWT (2 of 2)	Clay	x	--	--	--	--	--	--
	SLST (1 of 2)	Siltstone	x	x	x	x	--	x	--
	SLST (2 of 2)	Siltstone	x	--	--	--	--	--	--

Following analysis of the original sample material, hydrated lime was added to the tailings samples to generate material representative of amended tailings. The results of the ABA tests from the original samples were used to determine the quantity of hydrated lime that needed to be added to the tailings samples to produce a sample of tailings that is net neutralizing based on the criteria specified in the OAR 340-043-0130 (2). The Oregon Regulations state: “(2) The permittee shall determine the potential for acid-water formation from the tailings by means of acid-base accounting and other suitable laboratory static and dynamic tests. If acid formation can occur, basic materials shall be added to the tailings in the amount of three (3) times the acid formation

potential or to give a net neutralization potential of at least 20 tons of $CaCO_3$ per 1,000 tons of tailings, whichever is greater, before placing tailings in the disposal facility." The lime amended tailings samples were submitted for ABA to confirm the amount of lime added was sufficient to meet the neutralization requirements. In addition, the amended tailings samples were submitted for leach testing. Due to the limited amount of material available, a modified SPLP method was used for the lime amended tailings material as described in Section 5.4.5.

5.3 Quality Control

The Global Acid Rock Drainage (GARD) Guide (INAP, 2009) recommends a rigorous QA/QC program for geochemical characterization and recommends that data be validated.

Laboratories selected for this characterization program are certified with the State of Oregon and State of Nevada for the proposed testing and operate internal QA/QC procedures to ensure adequate data quality. This included the analysis of certified reference materials in addition to laboratory control samples, matrix spikes, standards, method blanks, and instrument blanks. However, SRK also applied a number of QA/QC checks on the MWMP and HCT data, including the calculation of ion balances to determine the balance of cations and anions in the generated solutions. A comparison of pH measurements from both McClelland and WetLab was also be carried out to assess data quality.

5.4 Geochemical Testwork Methods

The static and kinetic testing methods selected for the Grassy Mountain Project were designed to address the bulk geochemical characteristics of the waste rock, ore, tailings, borrow and access road cut material samples, and to assess the potential of the waste rock to generate acid or release metals in drainage. "Static testing" is a general term describing those analytical methods applied to characterize acid generation potential and metal leaching characteristics of material at the time of testing and does not account for temporal changes that may occur in the material as chemical weathering proceeds. Static tests provide a balance of acid generating and acid consuming reactions at an end point and also may be used to determine the potential magnitude of leaching metals from a given material.

Static testing is distinguished from "kinetic tests", which evaluate the rate of sulfide oxidation and metal release over time. Static testing provides a conservative approximation of acid generation and trace metal release potential, which is used to determine where more comprehensive kinetic testing is warranted. Based on the results of the static testwork, materials that exhibit uncertain or highly variable geochemical behavior may require further characterization using kinetic test methods to determine the rates and character of longer-term leaching.

The testing methods selected for this project include the following:

- Multi-element analysis using aqua regia digest and ICP analysis to determine total metal and metalloid chemistry for 48 elements (ALS Chemex Method ME-MS41).
- Acid Base Accounting (ABA) using the modified Sobek method (Sobek, 1978) with sulfur speciation by hot water, hydrochloric acid, and nitric acid extraction.
- Total Inorganic Carbon Analysis (TIC) by Leco.

- Net Acid Generating (NAG) test that reports the final NAG pH and final NAG value after a two-stage hydrogen peroxide digest.
- Nevada Meteoric Water Mobility Procedure (MWMP – ASTM EE2242-13) and leachate analysis.
- Modified Synthetic Precipitation Leaching Procedure (SPLP) (USEPA, 1998) and analysis of leachate.
- X-Ray Diffraction Analysis (XRD), petrography and Scanning Electron Microscopy (SEM).
- Humidity Cell Test (HCT) Procedure (ASTM D5744-13e1) and analysis of extracts.

These test methods and the criteria commonly used in the evaluation of the resulting data set are described in the following sections. Samples were submitted to McClelland Laboratories (MLI) in Sparks, Nevada for sample preparation and MWMP extraction. The MWMP extracts were then sent to ACZ Laboratories in Steamboat Springs Colorado for chemical analysis.

5.4.1 Multi-Element Analysis

Multi-element analysis of the waste rock, access road cut and borrow material and tailings samples was completed through ALS Chemex, Reno, to provide an upper limit of available metals for leaching from the samples. The analysis involved aqua regia digestion followed by analysis by ICP-OES and ICP-MS for a full suite of metals and metalloids. This included determination of major elements (e.g. aluminum, calcium, magnesium, sodium, potassium, iron, sulfur) and trace elements (e.g., arsenic, antimony, mercury, zinc, copper, cadmium and lead). The results of the multi-element analysis were analyzed using the Geochemical Abundance Index (GAI) (Förstner et al., 1993), which compares the concentration of an element in a given sample to its average crustal abundance. GAI values are particularly useful in determining the relative enrichment of elements based on lithology and may be used to identify elements enriched above average crustal concentrations. GAI values are calculated as follows:

$$GAI = \log_2 [C/(1.5*S)]$$

Where C is the concentration of an element as determined from the multi-element assay and S is the average crustal abundance of the element of interest (Mason, 1966). Materials were then assigned a GAI value between zero and six based on the degree of enrichment (Table 5-7), with a GAI value greater than three indicating significant enrichment. These elements therefore have potential to be leached in sufficient concentration to have an environmental impact. For those samples results below the laboratory detection limit, the detection limit was used for statistical calculations and graphing.

Table 5-7: Interpretation of GAI values

GAI Value	Interpretation
0	< 3 times average crustal concentrations
1	3 to 6 times average crustal concentrations
2	6 to 12 times average crustal concentrations
3	12 to 24 times average crustal concentrations
4	24 to 48 times average crustal concentrations
5	48 to 96 times average crustal concentrations
6	>96 times average crustal concentrations

5.4.2 Acid Base Accounting

Acid Base Accounting provides an industry-recognized assessment of the acid generation or acid neutralization potential of rock materials. The ABA method used for the characterization of the Grassy Mountain samples is the modified Sobek ABA method (Sobek, 1978), which includes both laboratory analysis and empirical calculations based on acid generating potential (AP) and neutralizing potential (NP). An estimate of acid generation is made by assuming complete reaction between all minerals with acid generating potential and all of the minerals with neutralizing potential (essentially dissolution of carbonate minerals and to very limited extent silicate minerals as the latter have very slow reaction kinetics; Bowell et al., 2000).

The AP values were calculated from sulfide sulfur concentrations and reported as $CaCO_3$ equivalents per 1,000 tons of rock. The modified Sobek method determines the sulfide sulfur and sulfate sulfur content by measuring the amount of nitric acid-extractable sulfur and the amount of hot water-extractable sulfur. According to this method, the AP is established by determining three sulfur content numbers including:

- Total Sulfur – determined from analysis of an untreated sample using a LECO furnace. The result is a measure of all sulfur forms in the sample.
- Non-Extractable Sulfur – determined from digestion of a sample with nitric acid followed by filtration and then LECO analysis. Nitric acid removes sulfate and sulfide minerals and the only remaining minerals are insoluble sulfate minerals such as barite.
- Non-Sulfate Sulfur – determined from digestion with hot water followed by filtration and then LECO analysis. The hot water extraction leaches sulfate minerals (e.g., gypsum) from the sample leaving behind sulfide sulfur and non-extractable sulfur forms.

Sulfide sulfur is the difference between the non-sulfate sulfur (i.e., sulfide sulfur plus non-extractable sulfur) and non-extractable sulfur. The AP is calculated by multiplying the sulfide sulfur concentration by 31.25. In the case where sulfide sulfur was below the laboratory detection limit, the laboratory detection limit (i.e., 0.01 wt%) was used to calculate AP.

The NP values were determined using the modified Sobek protocol that includes a digestion to expel any CO_2 followed by a back titration with NaOH to a pH of 8.3. Neutralizing potential is calculated as $CaCO_3$ equivalents per 1,000 tons of rock. Total Inorganic Carbon (TIC) was also analyzed in order to provide a second measure of neutralization potential; however the Sobek NP

values were used for the purpose of the data evaluation. For those samples with NP below the laboratory detection limit, the NP is assumed to be the detection limit (i.e., 0.3 kg $CaCO_3$ eq/ton) for the ABA calculations.

The balance between the acid generating mineral phases and acid neutralizing mineral phases is referred to as the net neutralization potential (NNP), which is equal to the difference between NP and AP. The NNP allows classification of the samples as potentially acid consuming or acid producing. A positive value of NNP indicates the sample neutralizes more acid than is produced during oxidation. A negative NNP value indicates there are more acid producing constituents than acid neutralizing constituents. Material that would be considered to have a high potential for acid neutralization produces a net neutralizing potential of greater than 20 kg $CaCO_3$ eq/ton. Acid Base Accounting data is also described using the neutralization potential ratio, which is calculated by dividing the NP by the AP (i.e., NP:AP, also referred to as NPR).

The Nevada BLM Water Resource Data and Analysis Guide for Mining Activities (BLM, 2008) establishes the following guidelines for the evaluation of ABA test results:

- NP:AP (NPR) values greater than 3 and NNP values greater than 20 kg $CaCO_3$ eq/ton are not acid generating and do not require further testing.
- NP:AP (NPR) values less than 3 and/or NNP values less than 20 kg $CaCO_3$ eq/ton have uncertain potential and require further evaluation using kinetic test methods.

5.4.3 Net Acid Generation

Static Net Acid Generation (NAG) testwork was carried out in order to determine the maximum potential for acid generation from the samples. The static NAG test differs from the ABA test in that it provides a direct empirical estimate of the overall sample reactivity, including any acid generated by semi-soluble sulfate minerals as well as potentially acid-generating sulfide minerals. Depending upon the site mineralogy and geology, the NAG test can provide a better estimate of field acid generation than the more widely-used ABA method, which defines acid potential based solely on sulfide content.

NAG testing was carried out by SVL laboratories in accordance with the method described by Miller et al. (1997) and Miller (1998). The method involves intensive oxidation of the sample using hydrogen peroxide (H_2O_2), which accelerates the dissolution of sulfide minerals and has the net result that acid production and neutralization can be measured directly. Leachate was then titrated with sodium hydroxide in two stages (pH 4.5 and to pH 7) to determine the NAG value, calculated as follows:

$$NAG = (V_{Init} / X)\ (49 * V_{NaOH} * M) / W$$

Where:
NAG = net acid generation (kg H_2SO_4 eq/ton);
V_{Init} = volume of initial hydrogen peroxide solution (mL);
X = volume used to determine NAG by titration (mL);
V_{NaOH} = volume of NaOH used in titration (mL);
M = concentration of NaOH used in titration (moles/liter); and
W = weight of sample reacted (g).

The guidelines used for assessing the acid generation potential based on NAG results are summarized in Table 5-8. Samples with NAG pH values greater than pH 4.5 are predicted to be

non-potentially acid generating (non-PAG). Net acid generation is only measured for samples with NAG pH values less than pH 4.5. NAG results greater than one kg H_2SO_4 eq/ton indicate the sample will generate some acidity in excess of available alkalinity and is potentially acid generating (PAG). However, by convention, any NAG value below 10 kg H_2SO_4 eq/ton of material has a limited potential for acid generation and the results are considered inconclusive because a blank hydrogen peroxide solution (the reagent in the NAG test) can generate a NAG artifact value up to 10 kg H_2SO_4 eq/ton.

Table 5-8: Acid Generation Criteria for NAG Results

Acid Generation Capacity		Final NAG pH (s.u.)	Static NAG (kg H_2SO_4 eq/ton)
Potentially Acid Generating (PAG)	High Capacity	< 4.5	>20
	Low to Moderate Capacity	< 4.5	1-20
Non-Potential Acid Generating		$\geq$ 4.5	<1

5.4.4 Mineralogy

In order to address comments received from the Oregon Department of Geology and Mineral Industries (DOGAMI) and Oregon Department of Agriculture (ODA) on January 26, 2015, mineralogical analysis has been completed to determine if erionite, a fibrous carcinogenic mineral, is present within the geologic materials that will be encountered during mining and construction. Erionite analysis was conducted according to the February 2015 Erionite Sampling and Analysis Plan (Erionite SAP) as described in detail in Appendix C.

Samples were shipped to McClelland Laboratories (MLI) for sample preparation. For each sample selected for testing, two splits were generated. One 100 gram split was generated and pulverized for XRD analysis and a separate 100 gram split of each sample was generated and set aside for SEM and optical mineralogy as required. The waste rock, ore and tailings samples selected for mineralogy were shipped to SRK (UK) where they underwent x-ray diffraction (XRD) testing at the School of Earth & Ocean Sciences Cardiff University for identification of erionite. The samples of borrow material and access road material were sent to Petrolab Ltd in Cardiff for analysis. Those samples submitted to Petrolab also underwent optical mineralogy and scanning electron microscope (SEM). The SEM analysis was consistent with U.S. Geological survey publication Denver Microbeam laboratory Administrative Report 14012007 (Lowers, H.A. and Meeker, G.P., 2007). Using SEM, each sample was examined for the distinctive needle-shaped crystals of erionite.

In order to ensure quality control, all elemental analysis was conducted after daily calibration of the spectrometers to pure metal standards, compounds and natural minerals for definitive elements. In addition, reference samples (i.e., standards) of erionite from Rome Oregon, were sent to the analytical lab for test sample comparisons.

5.4.5 Short Term Leach Tests (MWMP and SPLP)

Short term leach testing was conducted on representative samples of ore waste rock, access road cut and borrow material and tailings for the Grassy Mountain project as described in the following sections.

The MWMP test was conducted at McClelland Laboratories according to standard test method ASTM E-2242-13 that involves a 24-hour, single pass column leach using a 1:1 distilled water:rock ratio. The resulting leachate was submitted to ACZ Laboratories for major and trace element analysis for the full suite of parameters in Table 4 of the Baseline Work Plan, with the requested revisions from DOGAMI as summarized in Table 5-9 below.

The MWMP test was developed to simulate the leaching of mine waste materials by meteoric water under typical low precipitation environmental field conditions. The results of the MWMP test can be used to identify the presence of leachable metals and readily soluble salts stored in the material, as well as provide an indication of their availability for dissolution and mobility. In addition to the leachable metals, the MWMP test also provides an assessment of the potential for acid release during dissolution of soluble acid salts (Ficklin et al., 1992). The final pH of the MWMP extract is representative of short-term leachate that could be produced from waste rock with readily soluble acid-producing salts under field conditions.

The amended tailings samples were submitted for leach testing including the modified SPLP method. This procedure uses a water to solid ratio of 1:1 and distilled water for the lixiviant. Solutions were analyzed for the same list of constituents as those analyzed for the MWMP test program.

Leachate chemistry data collected during the MWMP and SPLP tests have been compared to the OGWQG (OAR 340-40-020) to determine which constituents could potentially be leached at concentrations above these values. However, due to differences in the liquid to solid ratio used in the test compared to typical site conditions, the MWMP and SPLP test results only provide a qualitative estimate of elemental concentrations in the resulting leachates and are not considered conclusive or to represent actual predictions of water quality.

Table 5-9: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.

[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved concentrations.

[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

Waste Rock and Ore

The waste rock and ore samples submitted for MWMP testing are summarized in Table 5-10 and illustrated in the scatter plots presented in Figure 5-3 through Figure 5-9. These graphs show the distribution of the samples submitted for MWMP and HCT testing in relation to the entire dataset.

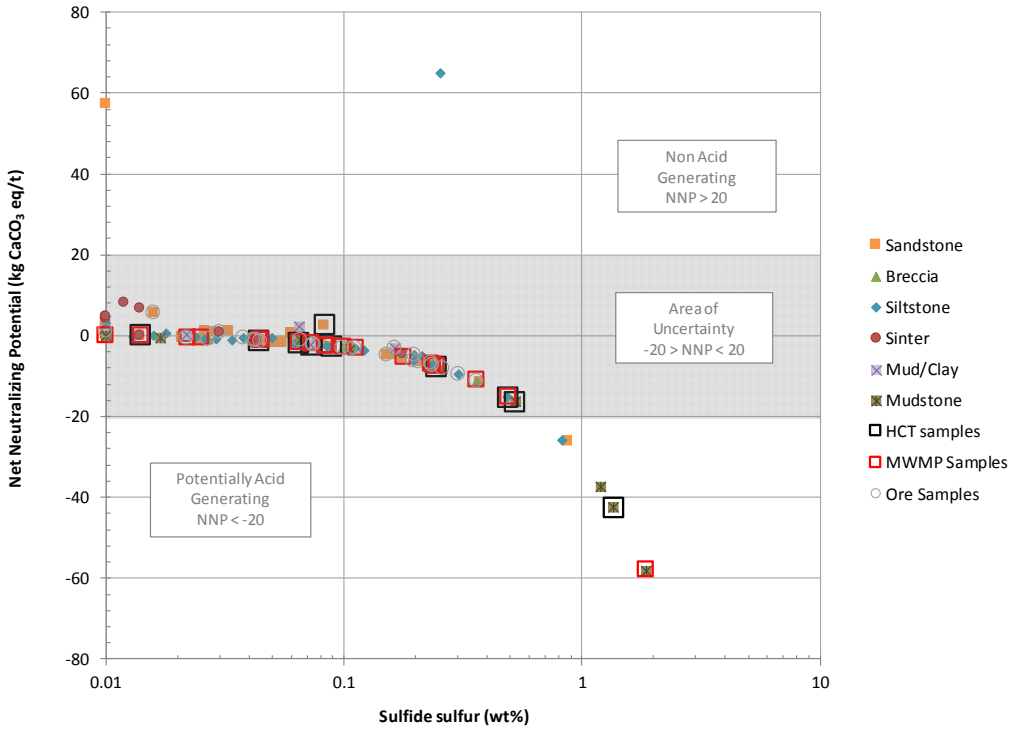
MWMP testing was completed on a subset of samples representative of ore that will be temporarily stockpiled onsite prior to processing. Six ore samples were selected for MWMP testing to represent the 50th and 90th percentile of sulfide sulfur for the main ore lithologies (i.e., sandstone, siltstone and breccia).

SRK selected fourteen core samples representative of waste rock (i.e., waste rock and ore) for MWMP testing. The MWMP sample set is lithologically representative of the deposit and the number of MWMP samples selected for each material type was based on the relative importance or mass of the lithological unit with respect to the total mass in the deposit. Nine of these samples were also tested in the kinetic test program. These samples include two samples per material type including one that represents the median/mean sulfide sulfur content (50th percentile) and one that represents the 95th percentile sulfide content. Only one sample from the interbedded mud/clay unit (which will comprise 5 percent of the total development rock) was selected since it was the only available core sample for this material type. This sample represents the 75th percentile of sulfide sulfur for this material type.

SRK selected 5 additional core samples that represent the 95th and 75th percentile sulfate content for the main material types (i.e., sandstone, siltstone and sinter). Because these samples were selected to determine the potential for sulfate phases present within the samples to generate acid, they were not been included in the kinetic testing program described below. Key graphs are presented in Figure 5-3 through Figure 5-9.

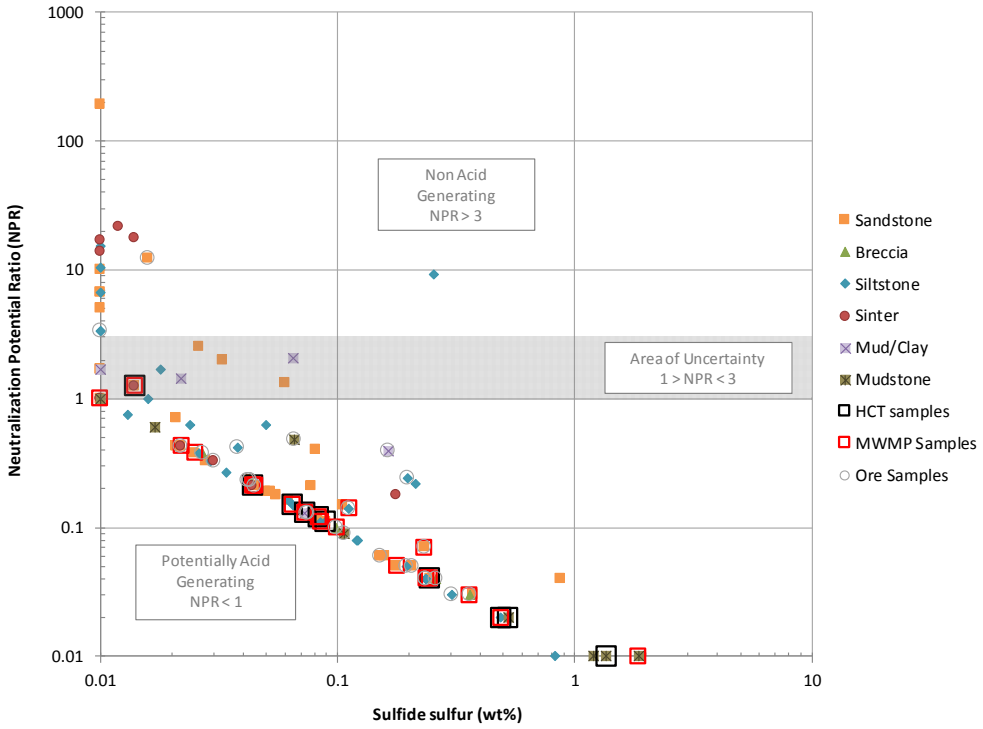
Material types that comprise an insignificant percent of the development rock include breccia and mudstone. Samples of breccia were not selected for MWMP or kinetic testing (as described in Section 4.5.2) since this material type is not likely to have a considerable influence on the geochemical nature of the waste rock facility. Although the mudstone from the base of the deposit will comprise an insignificant amount of the development rock, two samples of this material type were selected for MWMP testing due to the higher potential for acid generation observed for this material type as well as the potential for this material type to be exposed in the underground workings since it defines the lowest extent of the deposit. The samples of mudstone selected for MWMP testing represent the 50th and 95th percentile of sulfide sulfur for this lithologic unit.

Short term leach tests such as the MWMP are best applied to oxidized samples that contain soluble weathering products available for leaching rather than fresh core material. Therefore, the core samples representative of waste rock may under predict the potential for metal leaching that could occur under site conditions. Furthermore, the solubility of trace elements in leachate is commonly pH dependent and the MWMP test does not account for future changes in pH conditions that could occur as this material is exposed to site conditions. In order to address the uncertainties and limitations of the MWMP test, kinetic testing is required for waste rock characterization.



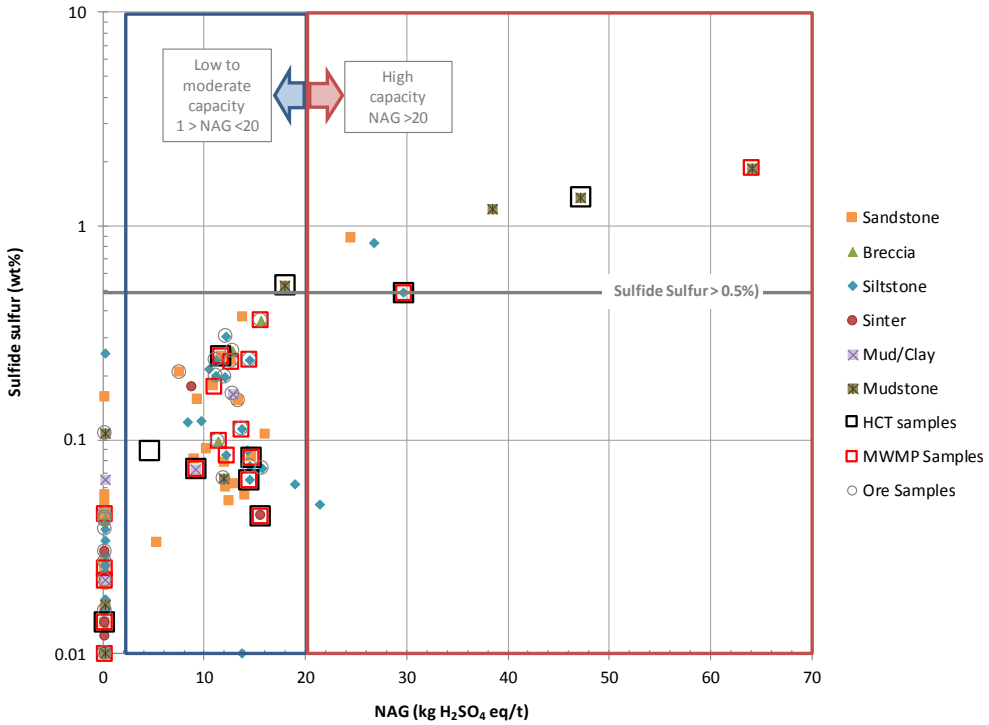
Source: Grassy Mountain Static Test Database Rev14

Figure 5-3: Sulfide Sulfur vs. NNP showing MWMP/HCT Samples



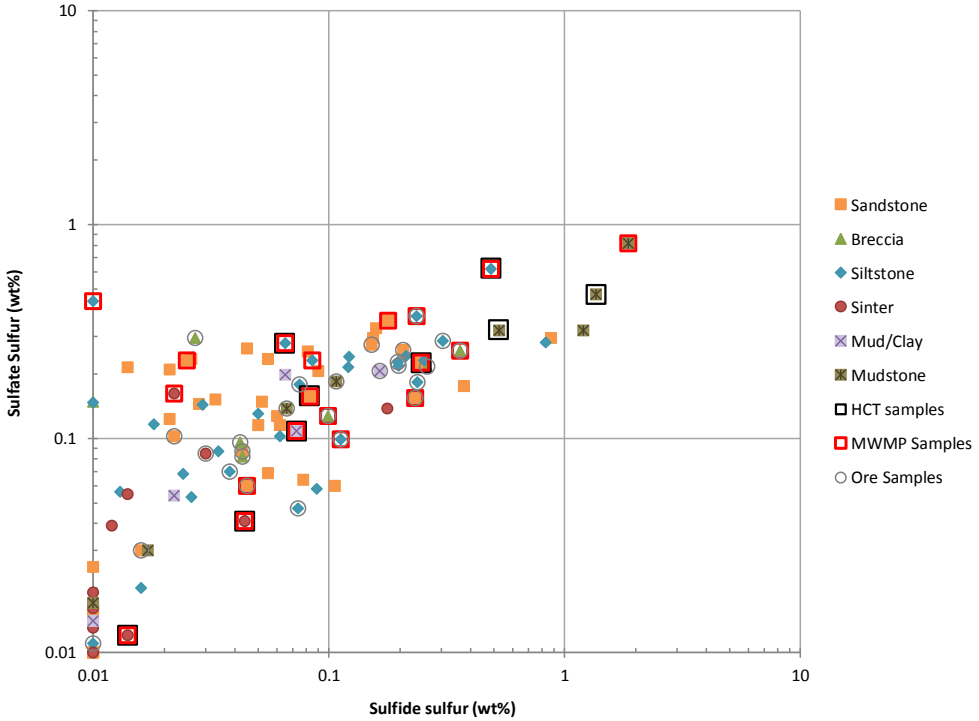
Source: Grassy Mountain Static Test Database Rev14

Figure 5-4: Sulfide Sulfur vs. NPR showing MWMP/HCT Samples



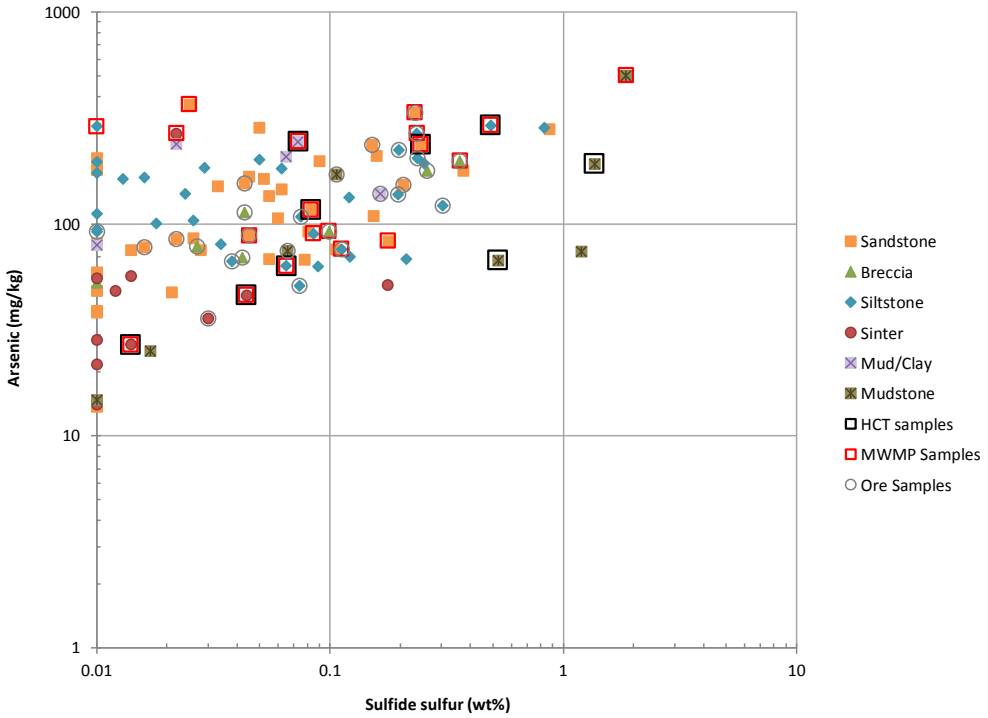
Source: Grassy Mountain Static Test Database Rev14

Figure 5-5: Sulfide Sulfur vs. NAG showing MWMP/HCT Samples



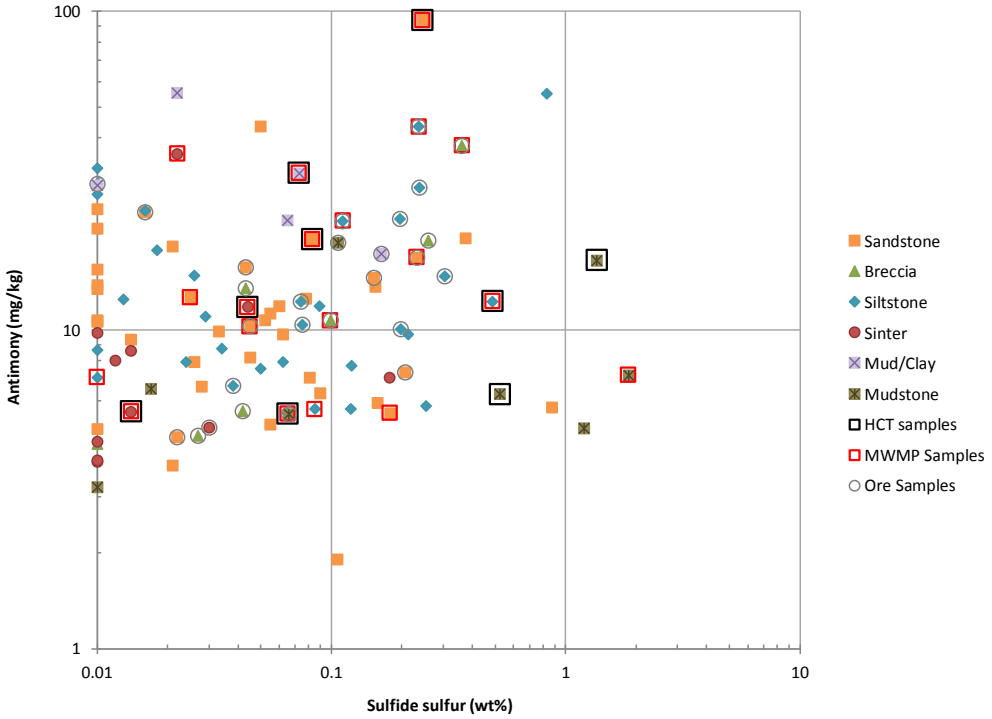
Source: Grassy Mountain Static Test Database Rev14

Figure 5-6: Sulfide Sulfur vs. Sulfate Sulfur showing MWMP/HCT Samples



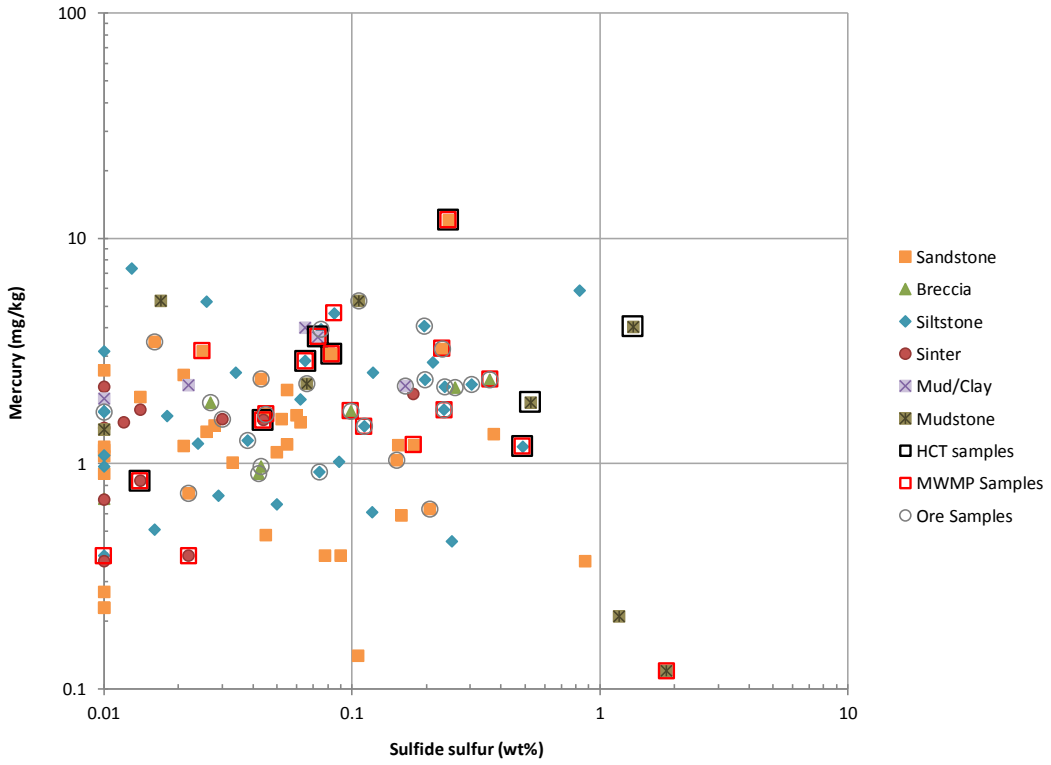
Source: Grassy Mountain Static Test Database Rev14

Figure 5-7: Sulfide Sulfur vs. Total Arsenic showing MWMP/HCT Samples



Source: Grassy Mountain Static Test Database Rev14

Figure 5-8: Sulfide Sulfur vs. Total Antimony showing MWMP/HCT Samples



Source: Grassy Mountain Static Test Database Rev14

Figure 5-9: Sulfide Sulfur vs. Total Mercury showing MWMP/HCT Samples

Table 5-10: Waste Rock and Ore Samples Submitted for MWMP Testing

Sample Type	Sample ID	From (ft)	To (ft)	Lithology	Paste pH	Sulfate Sulfur	Sulfide Sulfur	NNP	NPR	NAG pH	Total NAG	Sample Selection Rational
					s.u	wt%	wt%	-	-	s.u.	kg H_2SO4 eq/t	
Ore	GMC-006	593	613	Sandstone	7	0.06	0.045	-1.1	0.21	4.7	0	50th percentile sulfide S
	CAL-001	487	505.4	Sandstone	5.4	0.16	0.23	-6.8	0.07	3.1	13	95th percentile sulfide S
	CAL-002	235	255	Siltstone	6.7	0.099	0.11	-3	0.14	2.7	14	50th percentile sulfide S
	GMC-003	485	495	Siltstone	6.1	0.37	0.24	-7.1	0.04	2.5	15	95th percentile sulfide S
	CAL-002	430	438.2	Breccia	6.6	0.26	0.36	-11	0.03	2.7	16	95th percentile sulfide S
	CAL-002	480	496	Breccia	6.9	0.13	0.099	-2.8	0.1	3.3	11	50th percentile sulfide S
Waste	CAL-002	86	95	Sandstone	6.4	0.23	0.25	-7.4	0.04	2.4	12	95th percentile sulfide S
	CAL-004	860	875	Sandstone	7.7	0.16	0.083	-2.3	0.12	3.1	15	50th percentile sulfide S
	CAL-004	445	455	Sandstone	5.9	0.23	0.025	-0.5	0.38	5.6	0	75th percentile sulfate S, 25th percentile sulfide S
	GMC-012	780	800	Sandstone	6.5	0.35	0.18	-5.3	0.05	2.7	11	95th percentile sulfate S, 75th percentile sulfide S
	CAL-001	750	762	Siltstone	6.6	0.28	0.065	-1.7	0.15	3.7	15	50th percentile sulfide S
	GMC-014	176	184	Siltstone	3.3	0.62	0.49	-15	0.02	2.7	30	95th percentile sulfide S
	CAL-002	697	706	Siltstone	7.2	0.23	0.085	-2.4	0.11	3.5	12	75th percentile sulfate, 50th percentile sulfide S
	GMC-014	44	59	Siltstone	5.9	0.44	0.01	0	1.0	5.4	0	95th percentile sulfate, 25th percentile sulfide S
	CAL-001	380	400	Sinter	7.7	0.012	0.014	0.1	1.3	5.5	0	50th percentile sulfide S
	CAL-002	177	187	Sinter	6.9	0.041	0.044	-1.1	0.21	4	16	95th percentile sulfide S
	GMC-014	208	215	Sinter	6.3	0.16	0.022	-0.4	0.43	5.1	0	95th percentile sulfate, 70th percentile sulfide S
	GMC-012[1]	919	946	Mudstone	3	0.82	1.86	-57.8	0.01	2.24	64	95th percentile sulfide S
	CAL-004	295	315	Mud/clay	5.4	0.11	0.073	-2	0.13	3.2	9.2	75th percentile sulfide S (only available core sample – HCT)

ABA Criteria	PAG	NNP<-20 or NPR<1
	Low PAG	NP between -20 and +20 or NPR between 1 and 3
	Non-PAG	NNP>20 or NPR >3
NAG Criteria	PAG	NAG>20
	Low to Moderate PAG	NAG between 1 and 20
	Non-PAG	NAG<1

Source: Grassy Mountain Static Test Database Rev14

[1] This sample was chosen to replace the two mudstone samples identified in the work plan (CAL-003 675-685 and GMC-012 832-851) as those samples were consumed in HCT testing. PAG = Potentially Acid Generating, Low PAG = Uncertain Potential/Lower Capacity, Non-PAG = Non-Acid Generating

Access Road Cut and Borrow Material

Six out of seven access road cut samples were submitted for MWMP using the same method as used for the waste rock and ore samples. In addition, nine of the borrow material samples were selected for MWMP.

Tailings Material

Due to the fine-grained nature of the tailings material, the bottle roll extraction variant of the MWMP (NDEP, 2015) was completed for the tailings sample from the 2015 metallurgical test program. Leach testing was also conducted on three samples of amended tailings from the 2018 metallurgical test program. Due to the limited amount of sample material available and the fine grained nature of the tailings material, the modified SPLP method was used.

5.4.6 Long Term Leach Tests (HCT)

The objective of the static testing program was to allow rapid assessment of the acid generating and metal leaching characteristics of the main lithological units that will be exposed on site. However, these static tests do not consider the temporal variations that may occur in leachate chemistry as a result of long-term changes in oxidation, dissolution and desorption reaction rates. Because chemical weathering kinetics are known to strongly affect solute release over time, the results of static tests need to be confirmed using kinetic methods, particularly for samples which demonstrate an uncertain potential for acid generation on the basis of ABA and NAG testwork results.

Kinetic tests (e.g., humidity cell tests) evaluate temporal changes in leachate chemistry, through the sequential leaching of the rock weathered in a regular cycle of exposure to dry and wet air in a controlled laboratory environment. These cycles simulate and accelerate the chemical weathering rates observed under field conditions, using test conditions that are specifically designed to target oxidation of sulfide minerals. The goal of kinetic testing is to provide reaction rate data to support prediction of the leachate chemistry that would likely during through contact of meteoric water with waste rock.

The majority of the Grassy Mountain samples show uncertain acid generating characteristics according to BLM guidance (2008) from the ABA results and further testing is required to address the uncertainties of the ABA testing.

SRK selected a representative subset of nine waste rock samples from the static test database for kinetic testing. Details of these samples are provided in Table 5-11 and are illustrated in the scatter plots presented in Figure 5-3 through Figure 5-9. These graphs show the distribution of the samples selected for kinetic testing in relation to the entire dataset.

The steps taken to select samples for kinetic testing include:

- Identify the main material types that require characterization.
- Select two samples per material type including one that represents the median/mean sulfide sulfur content (50th percentile) and one that represents the 95th percentile sulfide content.
- Where more than one sample was available, the sample with the lowest neutralization potential (NP) was selected in order to characterize the effect of net acid generation.

One sample representing the 75th percentile of sulfide sulfur from the interbedded mud/clay unit (which will comprise 5 percent of the total development rock) was chosen since it was the only available core sample for this material type. In addition to the nine waste rock samples, the tailings sample from the 2015 metallurgical test program was selected for kinetic testing. Because the ore grade material will only be stockpiled onsite in the short term, no samples of ore grade material were selected for kinetic testing.

The resulting HCT sample set is lithologically representative of the deposit and the number of kinetic test samples selected for each material type is based on the relative importance or mass of the lithological unit with respect to the total mass in the deposit. Material types that comprise an insignificant percent of the development rock include breccia and mudstone. Kinetic tests were also performed on the two samples of mudstone from the base of the deposit selected for MWMP testing.

Graphs of total arsenic, antimony and mercury versus sulfide sulfur are provided in Figure 5-7, Figure 5-8 and Figure 5-9 respectively. These graphs show the samples selected for kinetic testing are representative of the range of total concentrations of these constituents. Although antimony, arsenic and mercury concentrations were considered during the sample selection process, sulfide sulfur content is the main control on acid generation and was the key parameter used for sample selection.

Table 5-11: Samples Submitted for Kinetic Testing

Sample ID	Lithology	Paste pH (s.u.)	Sulfide Sulfur (wt%)	NNP (kg $CaCO_3$ eq/t)	NPR	NAG pH (s.u.)	Total NAG (kg H_2SO_4 eq/t)	Sample Selection Rational
CAL-002 (86-95)	Sandstone	6.36	0.246	-7.7	0.04	2.37	11.7	95th percentile sulfide S
CAL-004 (860-875)	Sandstone	7.73	0.083	2.6	0.12	3.14	14.7	50th percentile sulfide S
CAL-003 (675-685)	Mudstone	3.76	1.36	-42.5	0.01	2.33	47.2	95th percentile sulfide S
GMC-012 (832-851)	Mudstone	3.78	0.526	-16.4	0.02	2.56	18	50th percentile sulfide S
CAL-004 (295-315)	Mud/clay	5.44	0.073	-2.3	0.13	3.2	9.2	75th percentile sulfide S (only available core sample)
CAL-001 (750-762)	Siltstone	6.57	0.065	-2.0	0.15	3.7	14.5	50th percentile sulfide S
GMC-014 (176-184)	Siltstone	3.29	0.488	-15.3	0.02	2.7	29.7	95th percentile sulfide S
CAL-001 (380-400)	Sinter	7.72	0.014	0.1	1.25	5.54	0	50th percentile sulfide S
CAL-002 (177-187)	Sinter	6.91	0.044	-1.4	0.21	3.96	15.6	95th percentile sulfide S
Calico Leach Res. After CN Destruct.	Tailings	6.80	0.089	-2.8	0.11	3.21	4.6	--

Criteria for AP Predictions:

ABA Criteria	PAG	NNP<-20 or NPR<1
	Low PAG	NP between -20 and +20 or NPR between 1 and 3
	Non-PAG	NNP>20 or NPR >3
NAG Criteria	PAG	NAG>20
	Low to Moderate PAG	NAG between 1 and 20
	Non-PAG	NAG<1

Source: Grassy Mountain HCT Database Rev02

PAG = Potentially Acid Generating, Low PAG = Uncertain Potential/Lower Capacity, Non-PAG = Non-Acid Generating

The kinetic testing method selected for this project is the standard humidity cell test procedure designed to simulate water-rock interactions in order to evaluate the rate of sulfide mineral oxidation and thereby predict acid generation and metals mobility (ASTM D-5744-13e1). Under ASTM methodology, the test typically runs for a minimum of 20 weeks and follows a seven-day cycle, unless uncertain chemistry requires that it be run longer to achieve steady state conditions. During the seven-day cycle, water is trickled over the rock for two days. Air that is humidified slightly above room temperature is introduced at the bottom of the column for two days of each cycle followed by two days of dry air. On the seventh day, the sample is rinsed with de-ionized water and the extracted solution is collected for analysis. Key parameters including; pH, alkalinity, acidity, electrical conductivity, calcium, magnesium, iron and sulfate were measured on a weekly basis by McClelland Laboratories. Major and trace element chemistry were measured on a weekly basis at McClelland Laboratories for the first four weeks of the test, after which the frequency of analysis was reduced to every fourth week. The HCT extracts were analyzed by ACZ Laboratories for the same list of parameters as the MWMP extracts summarized in Table 5-9.

The ASTM procedure for humidity cell tests calls for a minimum test duration of 20 weeks (ASTM D-5744-13e1). However, there is no technical basis for this recommendation and based on SRK's experience, 20 weeks is typically insufficient to allow complete reaction of the sample material if sulfide-bearing materials are present. Essentially, there is no established criteria for the termination of kinetic tests, rather the point at which HCTs should be terminated is project specific and should be determined by the physical and chemical characteristics of the samples and the objectives of the test (Mills, 1998).

The HCTs were executed until the majority of the mineral reactions that can be predicted from mineralogy or static testing have been observed. This endpoint was assessed by monitoring the release rates of key constituents such as pH, sulfate, acidity, alkalinity and iron as well as dissolved metals and metalloids. It is common practice to terminate cells when the release rates for these parameters become relatively constant with time and there is no substantial change in the calculated release rate (INAP, 2009). In addition, the consumption of sulfide and neutralization potential within the cell was also evaluated throughout the test and was used to help define when a cell could be terminated.

The Grassy Mountain HCTs were operated for 87 weeks and were terminated following approval from DOGAMI and BLM. Following termination of the leach portion of the HCTs, the material within the cells was blended and split for termination testing. Termination testing included multi-element analysis, ABA and NAG on the test residues to define the mineralogical processes that occurred as the materials were exposed to oxygen and water. Mineralogy on the HCT test residues is not considered necessary since the results of the HCT program are conclusive and indicate the majority of the waste rock and ore material will generate acid and leach metals.

Leachate chemistry data collected during the HCT test have been compared to the OGWQG (OAR 340-40-020) to determine which constituents could potentially be leached at concentrations above these values. However, due to differences in the liquid to solid ratio used in the test compared to typical site conditions, the HCT test results only provide a qualitative estimate of elemental concentrations in the resulting leachates and are not considered conclusive or to represent actual predictions of water quality.

5.4.7 Metallurgical Test Decant Solution Analysis

Decanted solutions from the metallurgical test were analyzed at ACZ Laboratories for the same suite of parameters as the MWMP, SPLP and HCT tests (Table 5-9).

6 Characterization Program Results

6.1 Waste Rock and Ore

6.1.1 Multi-Element Analysis

Multi-element assay was completed on the underground development rock (waste rock and ore) to assess their bulk geochemical composition and identify any parameters elevated above average crustal concentrations. The results for key parameters related to ARD/ML are summarized in Table 6-1 and compared to average crustal concentrations using the Geochemical Abundance Index (GAI). Full results are provided in Appendix B.

Statistical analysis of the multi-element data indicates that many environmentally significant elements are below or close to their relative natural abundance in the samples. However, average values for arsenic, antimony, gold, mercury, and selenium are elevated above 12 times crustal abundance in all material types. Average values of molybdenum, silver and sulfur are elevated above three or more times crustal abundance in all material types. Average values for lead and tungsten in the interbedded mud/clay material were also elevated above three times crustal abundance. This observation is consistent with the geochemistry of other epithermal gold deposits, with these elements being commonly associated with the gold mineralization (Rose, Hawkes and Webb, 1979). It is also consistent with the 43-101 report (Calico Resources, 2012), which notes anomalous arsenic, antimony and mercury in the trace element signature of the deposit.

Table 6-1: Summary of Multi-Element Assay Results (mg/kg) Waste Rock and Ore

Material Type		Ag	Al	As	Au	B	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K	Li	Mg
	Average crustal abundance (Mason, 1966)	*0.07*	*81,300*	*2*	*0.004*	*10*	*425*	*36,300*	*0.2*	*25*	*100*	*55*	*50,000*	*0.08*	*25,900*	*20*	*20,900*
Sandstone (n = 40)	Min	0.05	1000	14	<0.2	<10	30	100	<0.01	0.4	7	4	4400	0.14	700	0.4	<100
	P5	0.06	1400	39	<0.2	<10	30	100	0.01	0.5	9	5.6	5000	0.23	1000	0.6	100
	Average	2.2	2600	140	0.39	<10	57	1000	0.037	1.7	88	9.2	8900	1.7	1800	2.1	380
	P95	5.3	4700	290	1	<10	110	1600	0.11	4.5	150	17	13000	3.3	3600	2.4	600
	Max	6.3	8400	370	1.6	<10	120	22000	0.34	8	180	24	22000	12	3700	39	8600
Breccia (n = 7)	Min	0.78	1500	53	<0.2	<10	40	100	<0.01	0.5	92	7	4800	0.7	1300	0.4	<100
	P5	1.1	1500	58	<0.2	<10	43	130	0.01	0.5	96	7.2	5000	0.76	1300	0.43	100
	Average	5.7	1900	110	2.8	<10	69	290	0.016	1	130	11	7300	1.5	2000	0.64	100
	P95	11	2400	190	8.6	<10	100	400	0.034	1.7	160	17	10000	2.3	2900	0.87	100
	Max	12	2400	200	9.7	<10	110	400	0.04	1.8	160	17	10000	2.4	3200	0.9	100
Siltstone (n = 33)	Min	0.05	300	51	<0.2	<10	20	100	<0.01	0.4	8	5.5	5500	0.39	200	0.5	<100
	P5	0.08	660	63	<0.2	<10	30	100	0.01	0.56	8.6	6.3	5900	0.49	500	0.66	100
	Average	2.8	3000	150	0.45	<10	53	1700	0.056	2.5	110	11	11000	2.2	1700	2.5	370
	P95	8.6	12000	290	1.4	<10	84	4800	0.21	7.4	240	18	17000	5.5	3100	9.4	1000
	Max	15	14000	290	1.6	<10	90	33000	0.51	23	260	23	19000	7.3	3200	28	5600
Sinter (n = 11)	Min	0.12	300	14	<0.2	<10	20	100	<0.01	0.5	37	4.9	3700	0.37	200	0.6	<100
	P5	0.26	300	18	<0.2	<10	20	100	0.01	0.55	41	5	4100	0.38	200	0.6	100
	Average	2.1	730	59	1.4	<10	36	210	0.016	1.4	180	8.9	10000	1.3	550	1.1	120
	P95	5.3	1100	160	6.5	<10	60	450	0.045	3.7	270	15	22000	2.1	1300	1.8	200
	Max	7.7	1100	270	13	<10	60	500	0.07	5	290	18	22000	2.2	1300	2.2	300
Mud/clay (n = 5)	Min	0.09	1800	80	<0.2	<10	50	900	<0.05	0.9	16	7.3	11000	1.9	1100	0.8	400
	P5	0.12	2100	92	<0.2	<10	52	1100	<0.05	1.1	17	8	11000	2	1100	0.86	400
	Average	0.7	4300	180	0.42	<10	68	1800	0.12	2.8	58	20	15000	2.8	1600	2.2	660
	P95	1.7	5800	240	0.82	<10	80	2400	0.26	4.9	130	36	20000	3.9	2100	3.5	880
	Max	1.9	5900	250	0.9	<10	80	2500	0.3	5	150	38	21000	4	2100	3.6	900
Basal mudstone (n = 8)	Min	0.59	2800	15	<0.2	<10	10	700	<0.01	0.1	8	6	2000	0.12	1800	0.2	<100
	P5	0.7	2900	18	0.2	<10	14	770	<0.01	0.17	12	6.2	2500	0.15	1800	0.27	140
	Average	2.5	4000	140	0.28	<10	46	1200	0.079	4.5	47	15	12000	2.6	2300	0.79	300
	P95	5.8	6700	390	0.5	<10	110	2300	0.27	12	98	27	19000	5.3	3100	1.7	600
	Max	7.2	7100	500	0.5	<10	130	2500	0.28	13	100	30	21000	5.3	3300	2.1	700

Indicates less than 3 times average crustal abundance
Indicates between 3 and 6 times average crustal abundance
Indicates between 6 and 12 times average crustal abundance
Indicates greater than 12 times average crustal abundance

Note: P5 = 5th Percentile, P95=95th percentile

Source: Grassy Mountain Static Test Database Rev14

Table 6-1: Summary of Multi-Element Assay Results (mg/kg) Waste Rock and Ore Continued

Material Type		Mn	Mo	Na	Ni	P	Pb	S (Total)	Sb	Sc	Se	Sn	Tl	U	V	W	Zn
	Average crustal abundance (Mason, 1966)	*950*	*1.5*	*28,300*	*75*	*1,050*	*13*	*260*	*0.2*	*22*	*0.05*	*2*	*0.5*	*1.8*	*135*	*1.5*	*70*
Sandstone (n = 40)	Min	7	0.72	100	2.3	20	2.9	100	1.9	0.1	0.2	0.2	0.09	0.22	1	<0.05	2
	P5	15	1.2	100	2.7	30	3.6	100	4.6	0.2	0.4	0.2	0.13	0.29	3	0.07	4
	Average	48	17	220	9.1	140	13	2300	14	0.38	1.4	0.36	0.39	0.56	6.7	1.1	17
	P95	120	35	400	19	470	29	5100	25	0.61	4.8	0.51	0.95	0.98	15	3.3	46
	Max	290	150	900	27	550	130	10000	94	1.1	5.5	0.7	2	1.4	31	4.9	110
Breccia (n = 7)	Min	16	4.9	100	5.4	40	2.1	1300	4.4	0.2	0.6	0.3	0.05	0.26	3	<0.05	2
	P5	17	5.8	100	5.9	40	2.5	1300	4.5	0.2	0.63	0.3	0.068	0.29	3	0.053	2.6
	Average	22	14	130	9	64	4.8	2900	14	0.3	2.4	0.37	0.39	0.5	5	0.14	5.7
	P95	29	28	200	13	110	7.2	5700	32	0.58	5.3	0.47	0.9	0.7	8.4	0.33	8.7
	Max	30	33	200	13	120	7.4	6200	38	0.7	6	0.5	1.1	0.72	9	0.4	9
Siltstone (n = 33)	Min	11	1.3	100	3.3	10	1	100	5.5	0.1	0.3	0.2	0.11	0.09	2	<0.05	3
	P5	14	2.3	100	3.7	16	1.4	100	5.7	0.2	0.62	0.3	0.13	0.1	2	0.1	3.6
	Average	64	13	180	12	190	15	2800	16	0.59	1.9	0.45	0.53	0.67	7.1	1	19
	P95	180	39	400	27	610	46	8000	37	1.9	5.5	0.78	1.6	1.3	14	2.6	56
	Max	520	72	1000	39	740	50	11000	55	2.2	6.1	0.9	2.4	2.8	16	8.7	110
Sinter (n = 11)	Min	14	4.5	100	2.7	10	0.5	100	3.9	0.1	0.7	0.2	0.11	<0.05	2	0.1	3
	P5	21	4.7	100	6.3	10	1.1	150	3.9	0.1	0.7	0.2	0.12	0.05	2	0.14	3
	Average	70	11	100	25	46	7.2	780	9.4	0.19	1.2	0.38	0.29	0.14	4.9	1	7.4
	P95	140	26	100	56	160	21	2400	24	0.35	2	0.55	0.72	0.34	11	2.7	18
	Max	140	29	100	65	200	25	3000	36	0.4	2.1	0.6	0.88	0.48	11	3.2	20
Mud/clay (n = 5)	Min	50	1.5	100	5.2	60	5.2	100	17	0.5	0.4	0.3	0.21	0.48	4	0.42	16
	P5	53	2	120	5.2	70	6.7	220	18	0.54	0.44	0.32	0.22	0.48	5.6	0.65	16
	Average	97	6.5	400	8.7	200	59	1700	31	1.1	1	0.76	0.66	0.71	17	4.6	120
	P95	170	11	1000	14	480	120	3400	51	1.6	2	1.6	1.4	1.1	24	12	330
	Max	190	11	1200	16	560	120	3700	56	1.7	2.3	1.8	1.6	1.2	25	15	390
Basal mudstone (n = 8)	Min	7	4.8	100	2.3	10	7.6	200	3.2	0.1	0.2	0.2	0.08	0.46	1	<0.05	2
	P5	8.4	5	100	2.5	42	9.5	310	3.8	0.14	0.38	0.24	0.084	0.5	1.4	0.089	2.4
	Average	24	14	110	9.2	160	23	8900	8.6	0.55	2.3	0.35	0.34	0.94	4.5	0.28	21
	P95	59	28	170	16	230	41	22000	18	1.2	5.2	0.47	0.68	1.4	11	0.55	58
	Max	78	32	200	18	240	43	25000	19	1.3	6.5	0.5	0.73	1.5	13	0.59	70

Indicates less than 3 times average crustal abundance
Indicates between 3 and 6 times average crustal abundance
Indicates between 6 and 12 times average crustal abundance
Indicates greater than 12 times average crustal abundance

Note: P5 = 5th Percentile, P95=95th percentile

Source: Grassy Mountain Static Test Database Rev14

6.1.2 Acid Base Accounting

Acid Base Accounting was performed in order to assess the balance of acid producing and acid neutralizing minerals in the underground development rock (waste rock and ore). The results are summarized in Table 6-2 and are provided in full in Appendix B. Plots showing acid generating characteristics of the samples are provided in Figure 6-1 through 6-5.

Table 6-2: Summary of Acid Base Accounting Results Waste Rock and Ore

Material Type		pH	Total sulfur	Sulfate sulfur[1]	Sulfide sulfur[2]	AP[3]	NP	NNP[5]	NPR[6]
		s.u.	wt%	wt%	wt%	kg $CaCO_3$/t	kg $CaCO_3$/t	-	-
Sandstone (n = 40)	Min	5.3	<0.01	<0.01	<0.01	<0.3	<0.3	-30	0.03
	P5	5.4	0.01	0.01	0.01	0.3	0.3	-8	0.04
	Average	6.1	0.25	0.15	0.094	2.9	2.3	-0.7	0.77
	P95	8	0.56	0.3	0.25	7.9	3.2	2.8	10
	Max	8.4	1.2	0.35	0.88	27	57	57	190
Breccia (n = 7)	Min	5.4	0.14	0.082	<0.01	<0.3	<0.3	-10	0.03
	P5	5.6	0.14	0.086	0.015	0.45	0.3	-10	0.033
	Average	6.2	0.32	0.17	0.12	3.7	0.33	-3	0.088
	P95	7.3	0.6	0.28	0.33	10	0.44	-0.01	1.3
	Max	7.4	0.63	0.3	0.36	11	0.5	0.2	1.7
Siltstone (n = 33)	Min	3.3	<0.01	<0.01	<0.01	<0.3	<0.3	-30	0.01
	P5	5	0.011	0.011	0.01	0.3	0.3	-10	0.026
	Average	4.8	0.3	0.17	0.12	3.9	2.9	-0.9	0.76
	P95	7.4	0.83	0.4	0.38	12	3.7	3.4	9.7
	Max	7.8	1.1	0.62	0.83	26	73	65	15
Sinter (n = 11)	Min	6.3	<0.01	0.01	<0.01	<0.3	<0.3	-5	0.18
	P5	6.4	0.012	0.011	0.01	0.3	0.3	-3	0.2
	Average	6.8	0.083	0.054	0.032	0.99	2.5	1.5	2.6
	P95	7.8	0.25	0.15	0.11	3.5	7.9	7.5	20
	Max	8	0.32	0.16	0.18	5.5	8.6	8.2	22
Mud/clay (n = 5)	Min	5.4	0.014	0.014	<0.01	<0.3	<0.3	-3	0.13
	P5	5.5	0.026	0.022	0.012	0.38	0.34	-3	0.18
	Average	6.1	0.19	0.12	0.067	2.1	1.6	-0.5	0.76
	P95	8	0.38	0.2	0.15	4.5	3.7	1.7	2
	Max	8	0.41	0.21	0.16	5.1	4.1	2.1	2.1
Basal mudstone (n = 8)	Min	3	0.017	0.017	<0.01	<0.3	<0.3	-60	0.01
	P5	3.1	0.028	0.022	0.012	0.37	0.3	-50	0.01
	Average	3.7	0.95	0.29	0.64	20	0.39	-20	0.019
	P95	7	2.4	0.7	1.7	53	0.76	-0.07	0.86
	Max	7.1	2.7	0.82	1.9	58	1	0	1

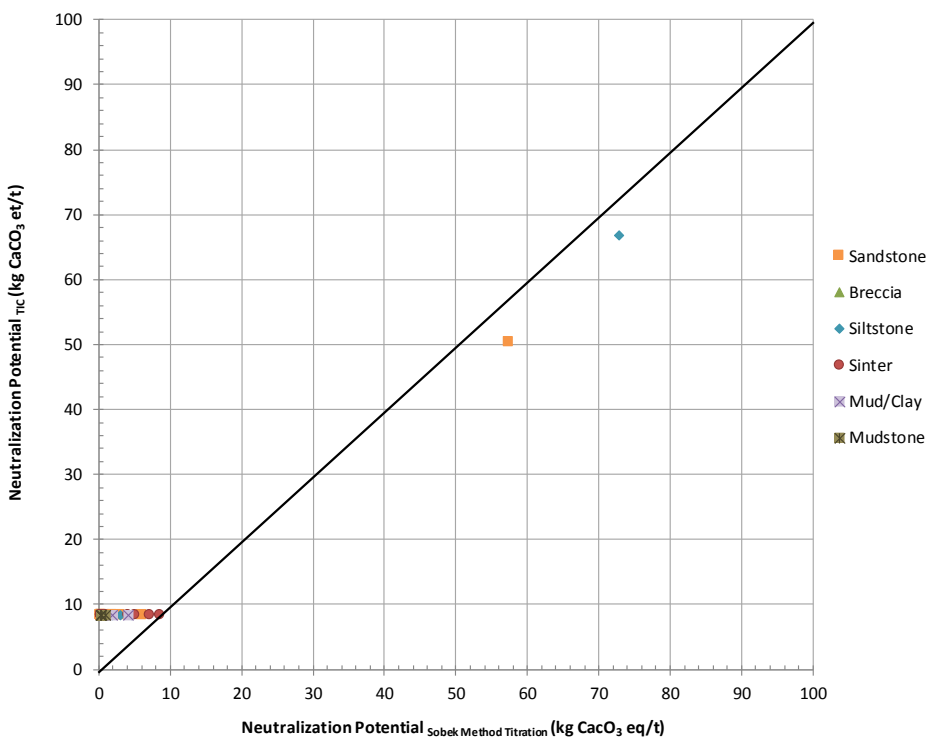
Source: Grassy Mountain Static Test Database Rev14. Note: P5 = 5th Percentile, P95=95th percentile.

[1] Sulfate sulfur concentrations determined by hot water extraction.
[2] Sulfide sulfur concentrations calculated from non-sulfate sulfur values determined by hot water extraction.
[3] Neutralization Potential (NP) determined from titration according to the modified Sobek method.
[4] Acidification Potential (AP) calculated from sulfide sulfur.
[5] Net Neutralization Potential (NNP) = NP-AP.
[6] Neutralization Potential Ratio (NPR) = NP/AP.

Determination of Neutralization Potential

The determination of NP is a critical part of material characterization and predicting the potential for ARD/ML. In some cases, laboratory titration methods, like those used in the modified Sobek method, can overestimate acid neutralization because silicates in the sample provide some neutralization capacity during titration. The procedures for determining NP involve addition of hydrochloric acid resulting in strongly acidic conditions which dissolves many common rock forming minerals (e.g., alumino-silicates) in addition to calcium carbonate. Therefore, the Sobek NP typically accounts for both carbonate and silicate minerals present. In reality, carbonate minerals provide the only source of buffering unless the acid generation rates are extremely slow because silicate minerals react slowly (Sverdrup, 1990). Direct determination of total inorganic carbonate (TIC) provides a second measure of NP and can help determine the influence of silicate dissolution on the Sobek NP.

The neutralization capacity of the Grassy Mountain waste rock and ore samples is low and NP values from the modified Sobek for all of the samples were fairly consistent, averaging 2.2 kg $CaCO_3$ eq/ton with a standard deviation of 9.0 kg $CaCO_3$ eq/ton resulting from two samples with NP values significantly greater than 10 kg $CaCO_3$ eq/ton The TIC results confirm the low NP of the material with inorganic carbon content below detection (<0.01%) for all but two of the samples. A comparison of the NP from the modified Sobek method to the NP calculated from the TIC indicates that silicate dissolution does not contribute appreciably to the NP values reported by the Sobek method (Figure 6-1). The discussion of results in the following sections relates to NP determined by the modified Sobek method (i.e., titration).

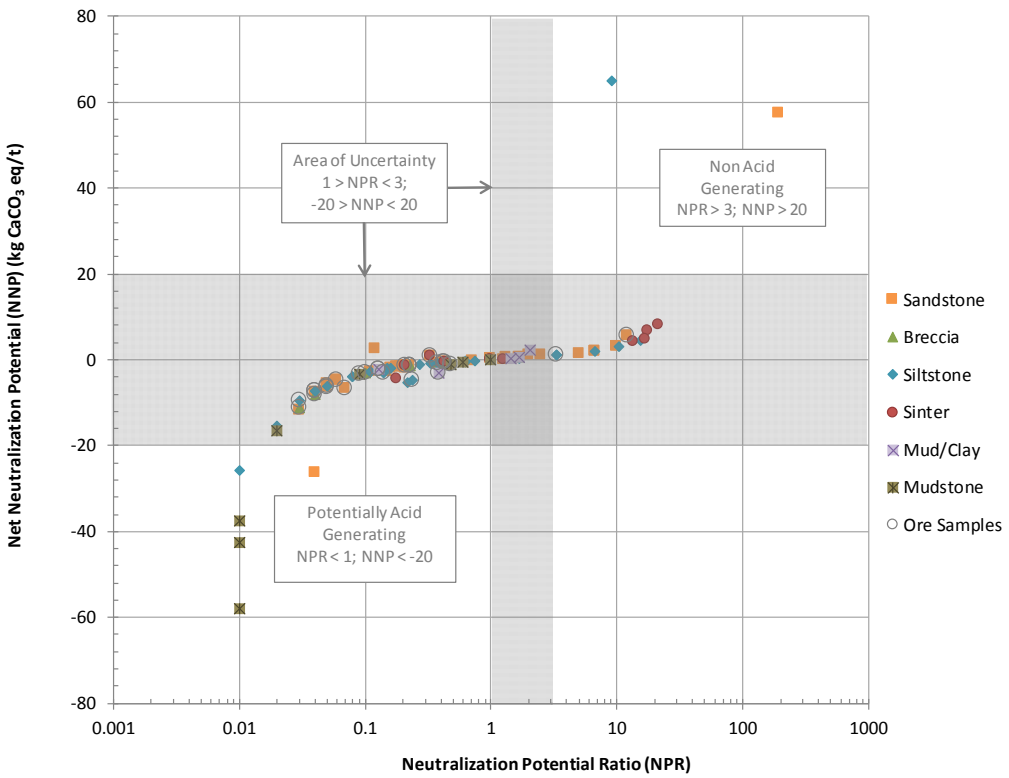


Source: Grassy Mountain Static Test Database Rev14

Figure 6-1: Comparison of Methods for Determination of Neutralization Potential

Acid Generation Potential based on BLM Criteria

The majority of samples tested (93%) show an uncertain potential for acid generation based on the BLM criteria (Figure 6-2). Only 2% of samples tested meet the BLM criteria and can be classified as non-acid generating materials based on a net neutralizing potential greater than 20 kg $CaCO_3$ eq/ton and greater than three-fold excess of neutralizing capacity. Five percent (5%) of samples tested are clearly acid generating materials based on NPR values less than 1 (i.e., no excess neutralizing capacity) and a net neutralization potential of less than -20 kg $CaCO_3$ eq/ton (Figure 6-2). Most of the samples that fall within the potentially acid generating category are samples of the mudstone from the base of the deposit which relates to the higher sulfide content of this material. In addition, one sample of siltstone and one sample of sandstone are also potentially acid generating.



Source: Grassy Mountain Static Test Database Rev14

Figure 6-2: Neutralization Potential Ratio vs. Net Neutralizing Potential

Control of Sulfide Sulfur on ARD Potential

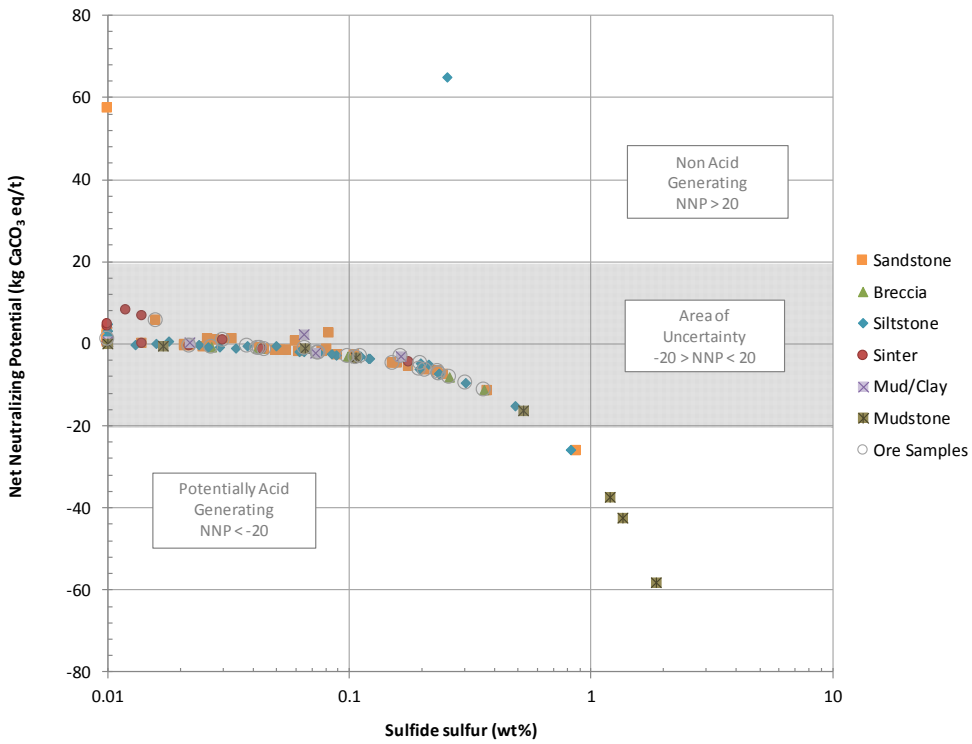
The sulfide sulfur content of the Grassy Mountain waste rock samples varies from below analytical detection limits (<0.01 wt%) to a maximum of 1.86 wt% which equates to AP values ranging from 0.03 kg $CaCO_3$ eq/ton up to 58 kg $CaCO_3$ eq/ton.

As described above, the Grassy Mountain waste rock and ore materials have very limited acid neutralizing capacity due to the low TIC content. In the absence of NP, the acid generating potential of the materials is directly related to the sulfide content (Figure 6-3 and Figure 6-4). As shown in Figure 6-3, samples with a sulfide content greater than 0.5 wt% are acid generating with NNP values less than -20 kg $CaCO_3$ eq/ton. Figure 6-4 shows there is a near linear relationship

between NPR and sulfide sulfur content and the potential for acid generation increases with increasing sulfide sulfur.

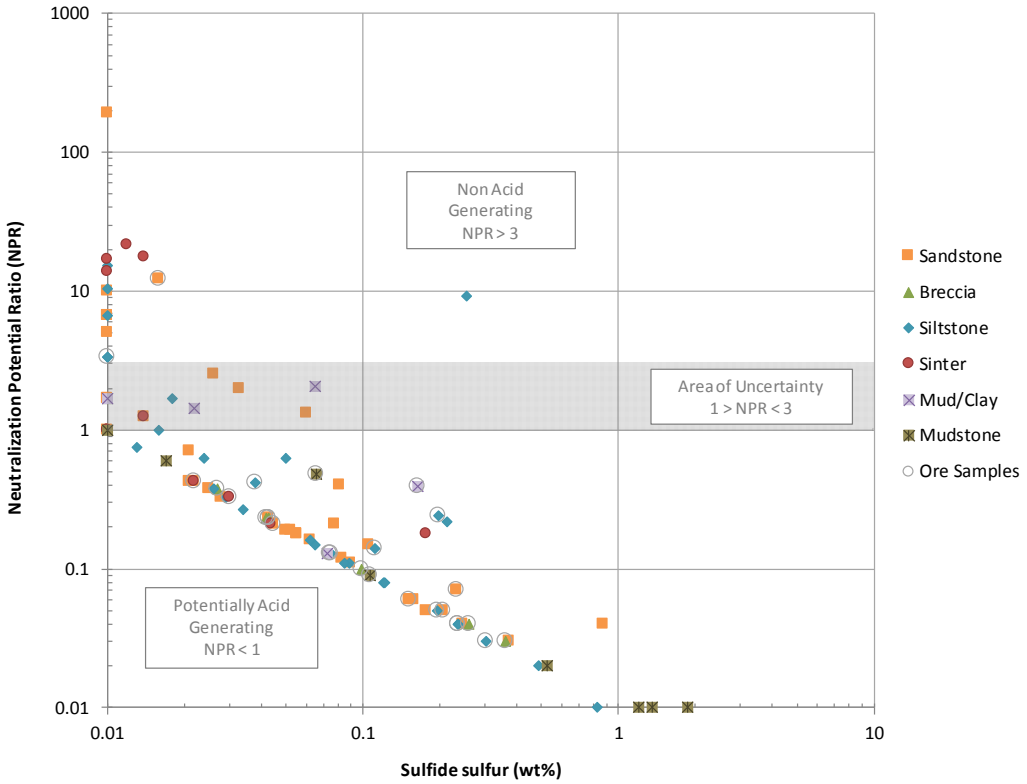
The presence of sulfide sulfur in higher concentrations increases the potential for the materials to produce acid where insufficient neutralizing potential is present. However, both the NPR and NNP criteria are less meaningful in the case where both NP and AP are low or near detection (i.e., inert from an ABA perspective) and the low NNP and NPR values may be misleading. In these cases, kinetic testing is important to better understand the actual acid generating potential of the materials.

For each waste rock material type, there is a wide range in sulfide content and predicted acid generation and there are no clear trends in acid generation by rock type. However, in general the sinter samples show a lower potential for acid formation and the mudstone samples show the greatest potential for acid formation. The sulfide sulfur results for the ore grade material are comparable to sulfide sulfur results for waste rock samples of the same lithology. Therefore, the ore grade material does not show a higher risk for ARD/ML in comparison to the waste rock material.



Source: Grassy Mountain Static Test Database Rev14

Figure 6-3: Sulfide Sulfur vs. Net Neutralizing Potential



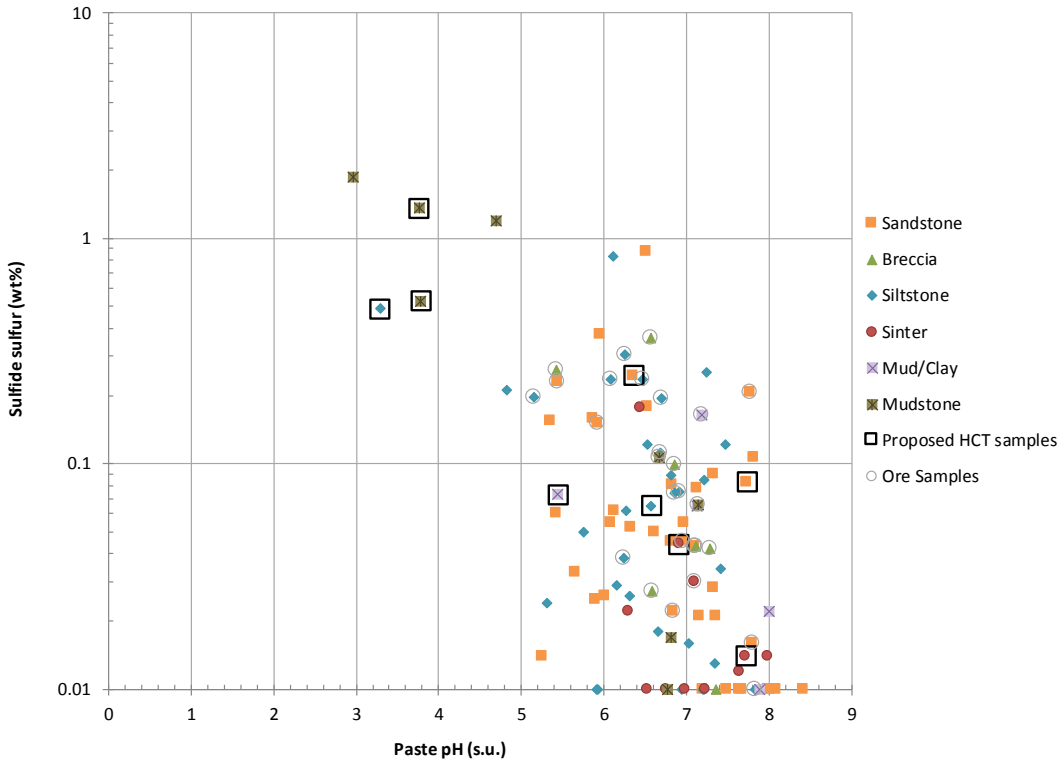
Source: Grassy Mountain Static Test Database Rev14

Figure 6-4: Sulfide Sulfur vs. Neutralization Potential Ratio

Paste pH Results

Measurements of paste pH from the ABA test provide an indication of the immediate reactivity of the samples. The results are plotted in Figure 6-5 and show that the majority of samples have neutral to alkaline paste pH values (pH 6 - 8) indicating minimal presence of readily soluble acid sulfate salts from prior oxidation. However, paste pH results cannot rule out the potential presence of acid-generating sulfate phases due to the short duration of the mixing times (10 minutes) and slow dissolution kinetics of some acid-generating sulfates (Price, 2009).

Only one sample of siltstone and a few samples of the mudstone produced more acidic paste pH values (pH 3-5). These samples also had the highest sulfide sulfur content.



Source: Grassy Mountain Static Test Database Rev14

Figure 6-5: Paste pH vs. Sulfide Sulfur

6.1.3 Net Acid Generation

Static NAG testing was undertaken on the development rock (waste rock and ore) to provide an empirical estimate of field acid generation. The results are summarized in Table 6-3 and are presented in Figure 6-6 and Figure 6-7. In general, a NAG pH less than 4.5 and a NAG value greater than 1 kg H_2SO_4 eq/ton are indicative of potentially acid generating characteristics.

Based on the NAG test results, seven out of the 104 waste rock samples (i.e., 7%) show higher a higher capacity for acid generation; 3 samples of siltstone, 3 samples of mudstone and one sample of sandstone. All but one of these samples show the highest potential for acid generation based on ABA testing. Forty-two samples (i.e. 40%) show a low to moderate capacity for acid generation.

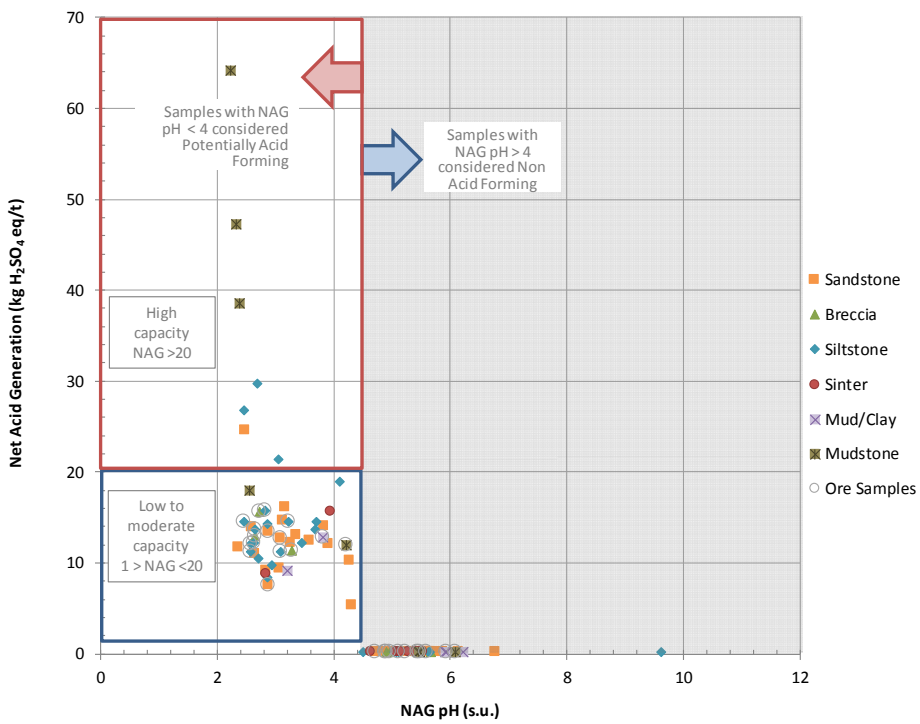
Figure 6-7 and Figure 6-8 shows that the NAG results are consistent with the ABA results. In Figure 6-7 NAG pH is strongly controlled by the sulfide content, with higher sulfide materials generating more acidic NAG pH values. In general, waste materials containing greater than 0.5% sulfide show a greater potential for acid generation based on the NAG test results (Figure 6-8). Samples with NAG values between 1 and 20 kg H_2SO_4 eq/ton have a low to moderate capacity for acid generation and sulfide sulfur concentrations between 0.05 and 0.5 wt%. Kinetic testing is required to define the acid generation potential for samples in this range, particularly for samples with NAG values less than 10 kg H_2SO_4 eq/ton. By convention, any NAG value below 10 kg H_2SO_4 eq/ton of material are considered inconclusive because a blank hydrogen peroxide solution can generate a NAG artifact value up to 10 kg H_2SO_4 eq/ton.

As with the ABA results, there is a wide range in predicted acid generation for each waste material type. However, in general, the sinter samples show a lower potential for acid formation and the mudstone samples from the base of the deposit show the greatest potential for acid formation.

Table 6-3: Summary of Net Acid Generation Results Waste Rock and Ore

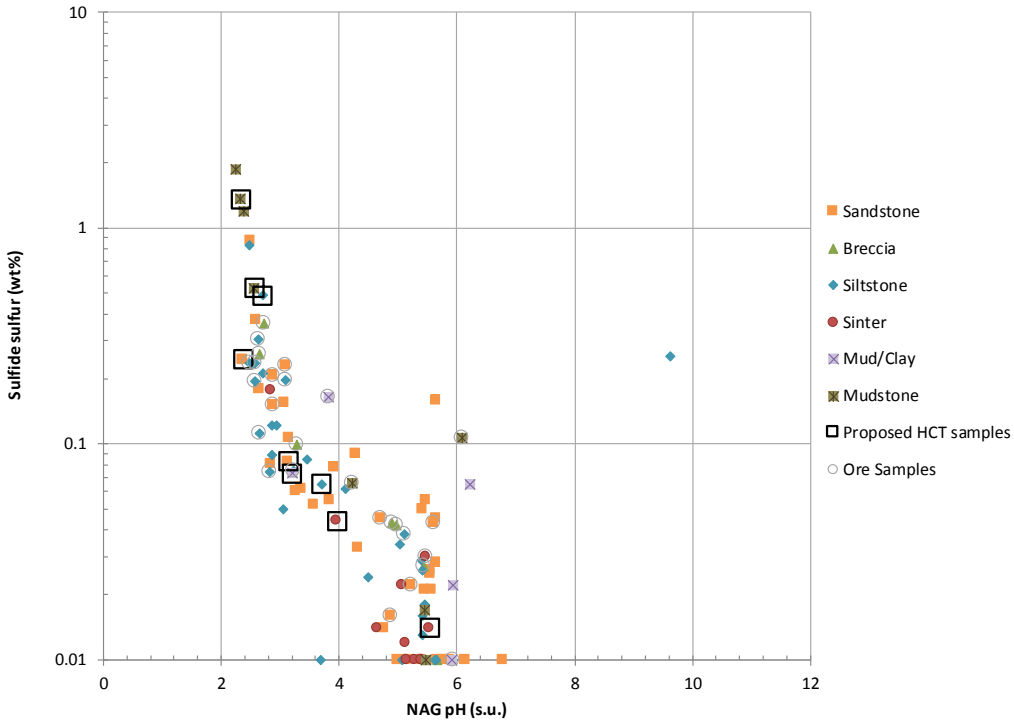
Material Type	NAG pH (s.u.)			Total NAG (kg H_2SO_4 eq/t)		
	Mean	Min.	Max	Mean	Min.	Max
Sandstone (n = 40)	4.47	2.37	6.78	5.71	0	24.6
Breccia (n = 7)	4.24	2.66	5.66	5.81	0	15.6
Siltstone (n = 33)	4.11	2.47	9.62	8.73	0	29.7
Sinter (n = 11)	4.90	2.84	5.54	2.38	0	15.6
Mud/clay (n = 5)	5.02	3.20	6.23	4.52	0	12.8
Mudstone (n = 8)	3.85	2.24	6.08	22.6	0	64.1

Source: Grassy Mountain Static Test Database Rev14



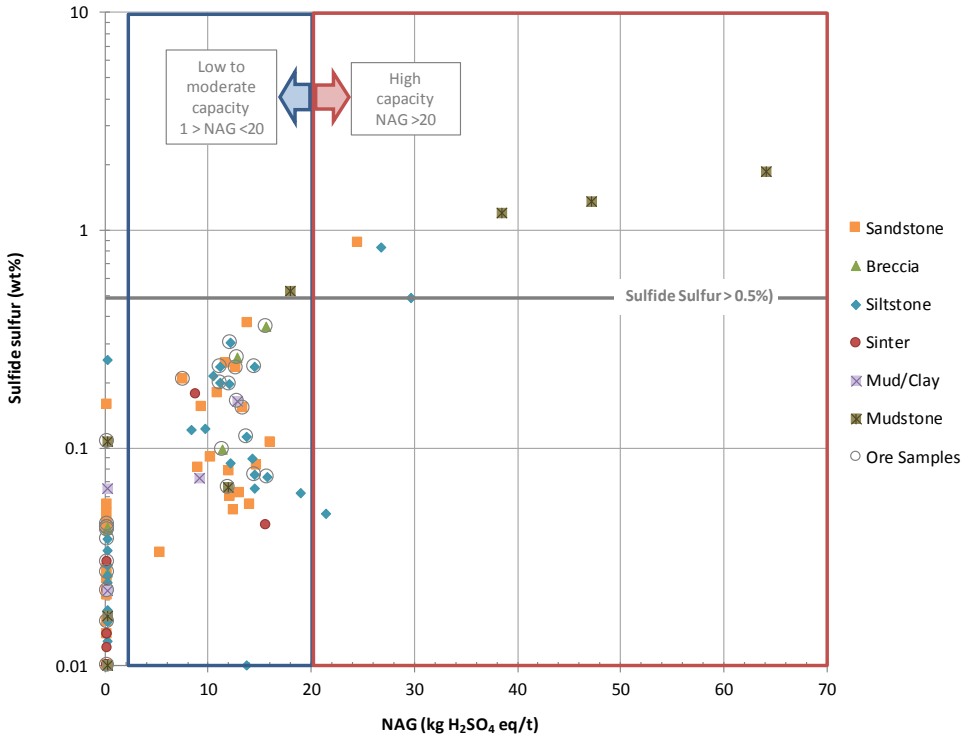
Source: Grassy Mountain Static Test Database Rev14

Figure 6-6: NAG pH vs. NAG



Source: Source: Grassy Mountain Static Test Database Rev14

Figure 6-7: NAG pH vs. Sulfide Sulfur



Source: Source: Grassy Mountain Static Test Database Rev14

Figure 6-8: NAG vs. Sulfide Sulfur

6.1.4 Mineralogy

A total of 12 samples of waste rock and ore were submitted for XRD. The samples submitted for this analysis represent the range of material types associated with the Grassy Mountain deposit and are summarized in Table 6-4. The dominant mineral in all samples was quartz with minor (<20%) orthoclase in the sinter, sandstone and siltstone and minor (<20%) illite in the mudstone and one sandstone sample. Carbonate minerals were not detected with the exception of 1% calcite in one sinter sample. Sulfides were not detected with the exception of 2% pyrite in one siltstone and one mudstone sample.

Analysis for the presence of erionite was included in the XRD and SEM analysis and petrography. The results of the mineralogical analysis are provided in Appendix C along with a memo describing the results of the erionite analysis.

Table 6-4: X-Ray Diffraction Results Waste Rock and Ore

Mineral Phase	Sinter		Sandstone			Siltstone			Mudstone			Breccia
	CAL 001 (380 - 400)	CAL 002 (177 - 187)	CAL 001 (487 - 505)	CAL 002 (86 - 95)	CAL 004 (860 - 875)	CAL 001 (750 - 762)	GMC 003 (485 - 495)	GMC 014 (176 - 184)	CAL 003 (675 - 685)	CAL 004 (295 - 315)	GMC 012 (832 - 851)	CAL 002 (430 - 438)
Quartz	98	98	84	89	80	75	89	82	50	88	66	72
Orthoclase	1	2	8	11	12	14	7					9
Calcite	1											
Illite			8		8	11	4	7	42	6		
Albite										2		10
Muscovite											32	9
Kaolinite									6			
Pyrite								2	2			
Magnetite										2		
Goethite										2		
Anorthoclase											2	
Rectorite								9				

Note: Results presented as percentages of total mineral phases present.

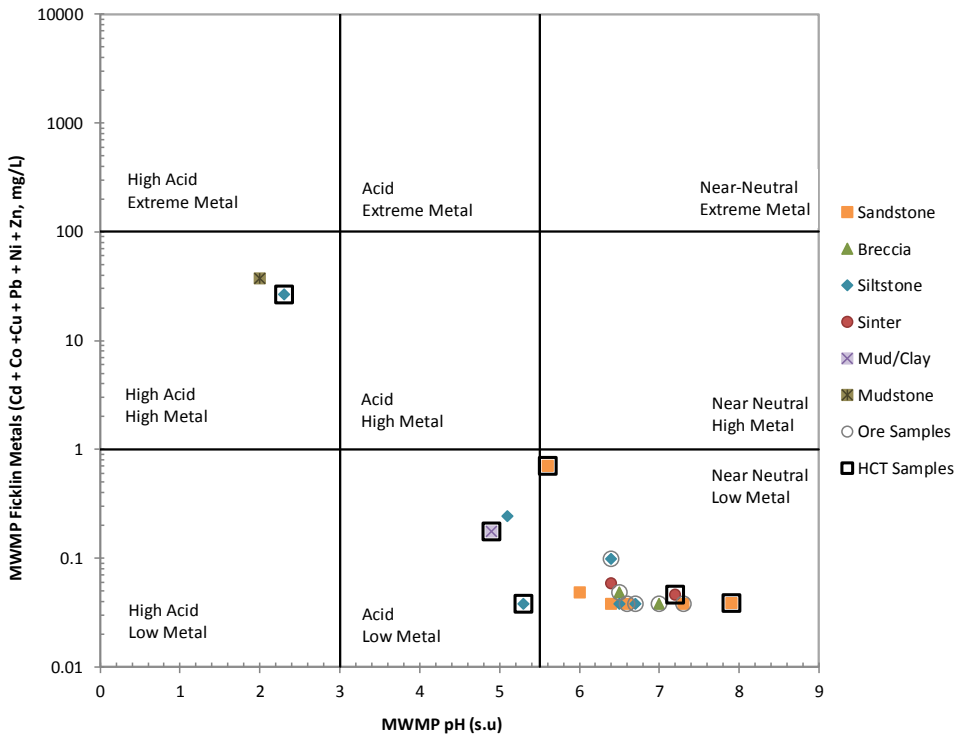
6.1.5 Meteoric Water Mobility Procedure

MWMP leach tests were conducted on a total of 13 waste rock samples and 6 ore samples to provide an indication of short-term elemental mobility and metal(loid) release from the Grassy Mountain materials. Full results are presented in Appendix B.

The majority of the leachates generated during the MWMP tests of waste rock and ore were classified as “near-neutral, low-metal waters” based on pH values typically between 7 and 9 and total Ficklin metal release less than 1 mg/L (Figure 6-9). However, two samples of siltstone material and one sample of interbedded mud/clay were classified as “acid, low metal” and one sample each of mudstone and siltstone were classified as “high acid, high metal”. The higher release of acidity and metals from these samples therefore likely represents the flushing of soluble acidic sulfate weathering salts from the material surface.

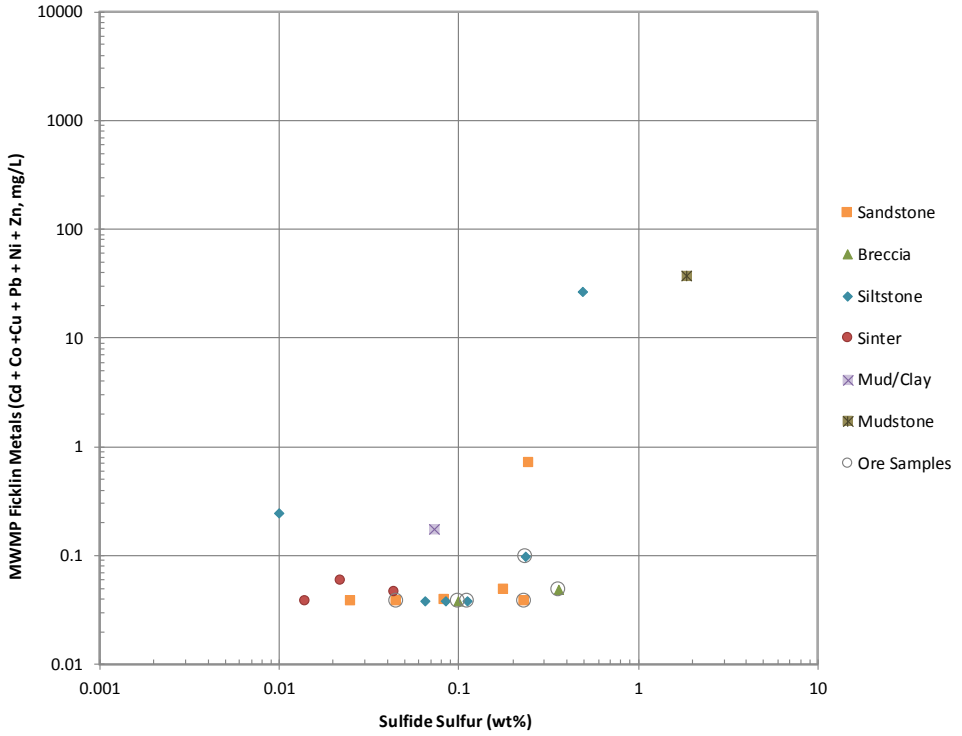
Samples were compared to the OGWQG (OAR 340-40-020) in Table 6-5. Under low pH conditions, the following parameters were found to exceed the most stringent OGWQG for one or more sample: pH, total dissolved solids (TDS), sulfate, arsenic, cadmium, chromium, copper, fluoride, iron, manganese, selenium and zinc. For samples with neutral pH (i.e., pH >7) all of the constituents were below the OGWQG.

One sample of siltstone waste rock (GMC-014 176-184) and one sample of mudstone (GMC-012 919-946) waste rock leached significantly higher concentrations of metal(loid)s in comparison to all other samples submitted for MWMP testing. Theses samples also have the highest sulfide sulfur concentrations (Figure 6-10). The highest concentration of arsenic was from the mudstone waste rock sample, GMC-012 (919-946) at 18.5 mg/L. Due to differences in the liquid to solid ratio used in the MWMP tests compared to typical site conditions, the test results only provide a qualitative estimate of elemental concentrations in the resulting leachates and are not considered conclusive or to represent actual predictions of water quality.



Source: Source: Grassy Mountain Static Test Database Rev14

Figure 6-9: Ficklin Metals MWMP vs. MWMP pH



Source: Source: Grassy Mountain Static Test Database Rev14

Figure 6-10: Sulfide Sulfur vs. Ficklin Metals MWMP

Table 6-5: Summary of MWMP Results Waste Rock and Ore

Parameter	Oregon Groundwater Quality Guidelines	Sandstone						Breccia		Siltstone						Sinter			Mud/Clay	Mudstone
		Ore		Waste Rock				Ore		Ore		Waste Rock				Waste Rock			Waste Rock	Waste Rock
		GMC-006 (593-613)	CAL-001 (487-505.4)	CAL-004 (445-455)	GMC-012 (780-800)	CAL-002 (86-95)	CAL-004 (860-875)	CAL-002 (480-496)	CAL-002 (430-438.2)	CAL-002 (235-255)	GMC-003 (485-495)	GMC-014 (44-59)	CAL-001 (750-762)	CAL-002 (697-706)	GMC-014 (176-184)	CAL-001 (380-400)	GMC-014 (208-215)	CAL-002 (177-187)	CAL-004 (295-315)	GMC-012 (919-946)
pH	*6.5-8.5*	7.30	6.60	6.40	6.00	5.60	7.90	7.00	6.50	6.70	6.40	5.10	5.30	6.50	2.30	9.40	6.40	7.20	4.90	2.00
TDS	*500*	24	20	130	<10	242	42	34	24	20	28	1,440	<10	<10	8,680	150	24	52	556	9,100
SO4	*250*	2.4	<1	48.7	2.4	139	10.8	4.6	2.2	3.8	5	732	5.5	1.1	5,360	35.1	8.4	26.8	329	5,060
As	*0.05*	0.010	0.0012	0.0039	0.00040	0.041	0.028	0.021	0.0048	0.0066	0.0027	0.030	0.0011	0.0025	16.7	0.18	0.0015	0.0084	0.051	18.5
Ba	*1*	0.0070	0.016	<0.003	<0.003	0.064	0.10	0.0050	0.0050	0.0040	0.010	0.015	<0.003	<0.003	<0.02	0.026	<0.003	0.012	0.030	<0.02
Cd	*0.01*	<0.0001	<0.0001	<0.0001	<0.0001	0.00050	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00080	<0.0001	<0.0001	0.053	<0.0001	<0.0001	<0.0001	0.00030	0.14
Cl	*250*	0.60	0.70	4.50	0.70	5.20	1.00	0.90	0.80	0.80	<0.5	144	0.60	0.60	3.90	0.80	<0.5	1.40	15.4	2.10
Cr	*0.05*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.14	<0.01	<0.01	<0.01	<0.01	0.15
Cu	*1*	<0.01	<0.01	<0.01	<0.01	0.020	<0.01	<0.01	<0.01	<0.01	0.020	<0.01	<0.01	<0.01	6.73	<0.01	0.020	<0.01	0.050	3.07
F	*4*	0.080	<0.05	0.12	<0.05	0.21	0.48	0.20	<0.05	<0.05	<0.05	0.36	0.060	0.060	11.0	0.33	0.050	0.23	0.56	<5
Fe	*0.3*	<0.02	<0.02	<0.02	0.090	11.1	0.22	0.030	0.040	<0.02	0.44	<0.02	0.13	<0.02	479	<0.02	<0.02	<0.02	0.73	773
Pb	*0.05*	<0.0001	0.00030	<0.0001	0.00040	0.00040	0.00050	<0.0001	0.00010	<0.0001	0.00020	0.0024	<0.0001	<0.0001	0.0096	0.00010	0.00040	0.00020	0.00040	0.0098
Mn	*0.05*	0.0060	<0.005	0.032	<0.005	0.29	<0.005	<0.005	0.0090	<0.005	0.0090	0.50	<0.005	<0.005	6.43	<0.005	0.0060	0.0060	0.50	1.02
Hg	*0.002*	<0.0002	<0.0002	0.00030	<0.0002	<0.0002	0.00050	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
NO_3	*10*	0.08	0.14	0.13	0.02	0.06	0.14	0.04	0.02	<0.02	0.14	2.56	0.04	0.08	0.10	0.07	0.03	0.05	0.46	0.08
Se	*0.01*	0.00090	0.00010	0.016	<0.0001	0.0094	0.0037	0.0018	0.00060	0.00010	0.00070	0.0089	0.00030	0.00010	0.044	0.011	<0.0001	0.0091	0.036	0.034
Ag	*0.05*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.050
Zn	*5*	0.010	0.010	<0.01	0.020	0.040	<0.01	0.010	0.020	<0.01	0.060	0.19	0.010	<0.01	12.5	<0.01	0.020	0.010	0.070	24.5

All units in mg/L except pH, which is in standard units (s.u.)

Pink shaded cells = Concentration exceeds Oregon Groundwater Quality Guidelines (OAR 340-40-020)

Grey shaded cells = Analytical limit of detection exceeds Oregon Water Quality Standard

Source: Grassy Mountain Static Test Database Rev14

6.1.6 Kinetic Test Results

Kinetic testing has been completed on nine samples of waste rock as summarized in Table 6-6. The samples selected for kinetic testing are summarized in Table 5-110 along with the corresponding static test data. Time series plots of elemental release are presented in Appendix D along with a tabulation of the humidity cell test results.

Eight of the nine humidity cells developed acidic conditions throughout the duration of the test and initial neutralization potential was consumed in all cells. The two cells that did not develop acidic conditions were HC-8 and HC-9, both of which are sinter. Sulfate and metals concentrations from these cells were generally lower compared to the other HCTs, related to the lower sulfide associated with this material type. HC-3 (mudstone) developed the most acidic conditions with pH values as low as 1.67 s.u. and had the highest leaching rates of parameters mobilized under acidic conditions (e.g., aluminum, copper, iron and nickel).

Humidity cell leachate concentrations were compared to OGWQG (Table 6-2). As shown in Table 6-7, HC-3 (mudstone) had the greatest number of parameters that exceeded the guidelines and HC-8 and HC-9 (sinter) had the least. The majority of cells that developed acidic conditions leached copper, iron, manganese, arsenic and sulfate at concentrations greater than the guidelines, indicating these elements are mobile under acidic pH conditions. Other constituents that were leached above OGWQG during the first few weeks of the test include cadmium, chromium, copper, fluoride, lead, selenium, silver and zinc. The tailings cell leached metals in the range of that observed for the waste rock cells. Mercury concentrations were below the OGWQG for all samples with the exception of the first few weeks for HC-2 (Sandstone).

The results of the HCT program are described below for each material type.

Table 6-6: Summary of HCT Status

Material Type	Primary Lithology	Cell ID	Sample ID	Status
Waste Rock	Sandstone	HC-1	CAL-002 (86-95)	Terminated week 87
		HC-2	CAL-004 (860-875)	Terminated week 87
	Mudstone	HC-3	CAL-003 (675-685)	Terminated week 87
		HC-4	GMC-012 (832-851)	Terminated week 87
	Mud/Clay	HC-5	CAL-004 (295-315)	Terminated week 87
	Siltstone	HC-6	CAL-001 (750-762)	Terminated week 87
		HC-7	GMC-014 (176-184)	Terminated week 87
	Sinter	HC-8	CAL-001 (380-400)	Terminated week 87
		HC-9	CAL-002 (177-187)	Terminated week 87

Sandstone (HC-1 and HC-2)

The two sandstone cells were initially characterized by neutral pH conditions. However, effluent pH rapidly declined and acidic conditions (pH<5) developed in the cells by week 3 (HC-1) and week 21 (HC-2). This is partly a function of the rapid consumption of the limited neutralizing potential (NP) in the cells, with the available NP having been completely consumed by week 6. Effluent pH for both cells was stable at ~pH 3 to 3.5 in cell HC-1 and increased in cell HC-2 from 3.0 to 4.0 from week 40 onwards.

A number of constituents are mobilized under the acidic conditions, with iron, manganese and arsenic frequently being elevated above Oregon Groundwater Quality Guidelines. Chromium and fluoride were also sporadically elevated and an initial flush of mercury above the guidelines was observed for HC-2. Effluent pH for HC-1 was consistently below the minimum guideline of pH 6.5 for the duration of the test and for HC-2 was below the guideline from week 18 onwards.

Mudstone (HC-3 and HC-4)

The two mudstone samples produced acidic leachates throughout the humidity cell test, with effluent pH between 1.7 and 3.6. These acidic conditions reflect the initial sulfide content (1.4% and 0.5% for HC-3 and HC-4, respectively) and lack of neutralizing potential in these samples. Both cells show elevated sulfate and iron release (up to 2200 mg/kg/week and 520 mg/kg/week, respectively following the initial flush) indicating that active sulfide oxidation occurred in the cells.

Several constituents were mobilized under the acidic conditions, with iron, manganese, sulfate and TDS being consistently elevated above their respective guidelines. Arsenic was consistently elevated in HC-3 and HC-4 throughout the test. Manganese, arsenic, sulfate and TDS were elevated less often in HC-4 when compared to HC-3 Effluent pH was consistently below the minimum guideline for both cells. There was also an initial flush in several constituents (including cadmium, chromium, copper, lead and zinc), however these constituents were typically depleted within the first few leach cycles. In general, constituent release from HC-3 was higher than HC-4, which reflects the higher initial sulfide content of this sample.

A rapid depletion of sulfur minerals occurred within the first few weeks of the test for both cells and the flushing of sulfide oxidation products declined over time.

Mud/Clay (HC-5)

The sample of mud/clay material produced acidic leachates (pH 2.8 to 4.2) throughout the humidity cell test, which reflects the lack of initial neutralizing capacity in this sample. Effluent pH is consistently below the Oregon minimum pH guideline.

Several constituents are mobilized under the acidic conditions, with iron and manganese being consistently elevated above their respective Oregon Groundwater Quality Guidelines. Arsenic and fluoride were sporadically elevated and selenium was elevated between weeks zero and four. Sulfate and TDS were also elevated in the initial flush from the cell (week zero).

Siltstone (HC-6 and HC-7)

The two siltstone samples exhibited different geochemical behavior during the humidity cell test. HC-7 was acidic from the beginning of the test, with effluent pH consistently between pH 2 and 3. This likely reflects the lack of initial acid buffering minerals in this sample. A comparison of leachate chemistry for HC-7 to OGWQG indicates arsenic, iron and manganese were consistently elevated above their respective guidelines, sulfate and TDS were frequently elevated, and cadmium, chromium, copper, selenium, silver and zinc were elevated in the initial flush from the cell (weeks zero to two). A rapid depletion of sulfur minerals occurred within the first few weeks of the test and the flushing of sulfide oxidation products declined over time. At the end of the test, less than 20% of the initial sulfur minerals were remaining.

HC-6 initially exhibited neutral (pH 6 to 7) chemistry, reflecting buffering of solution pH by neutralizing minerals. However, the consumption of available NP by week 20 resulted in a decline

in effluent pH from week 20 onwards from a pH of 6 to a pH of 3.8. Several constituents were mobilized from HC-6 at concentrations above OGWQG including pH that has been consistently below the minimum guideline, selenium that was elevated between weeks 0 and 12, and iron that was elevated from week 36 onwards. In general, constituent release was lower from HC-6 in comparison to HC-7, which likely reflects the lower sulfide content of this sample.

Sinter (HC-8 and HC-9)

The two sinter samples produced circum-neutral leachates (pH 6 to 8) for the first 20 weeks of the humidity cell test. For HC-8, these circum-neutral conditions were maintained throughout the test duration. However, HC-9 showed a slight decline towards more acidic conditions from week 20 onwards, with effluent pH stable around pH 5.

Both sinter samples showed generally low levels of constituent release, with many parameters being at or below analytical detection limits, including beryllium, bismuth, boron, cadmium, cobalt, copper, mercury, molybdenum, silver, uranium and zinc. All parameters were below Oregon Groundwater Quality Guidelines. The only exception is pH for HC-9, which was generally below the minimum pH guideline of 6.5 from week 10 onward.

Table 6-7: Summary of HCT Leachate Concentration (mg/L) Compared to Oregon Groundwater Quality Guidelines

Parameter	OGWQG	HC-1	HC-2	HC-3	HC-4	HC-5	HC-6	HC-7	HC-8	HC-9	HC-10
		Sandstone	Sandstone	Mudstone	Mudstone	Mud/Clay	Siltstone	Siltstone	Sinter	Sinter	Tailings
pH	*6.5-8.5*	X	X	X	X	X	X	X	O	X	X
As	*0.05*	X	O	X	O	O		X			
Ag	*0.05*										
Ba	*1*										
Cd	*0.01*			O	O			O			
Cu	*1*			O	O						O
Cl	*250*										
Cr	*0.05*	O	O	O	O			O			
F	*4*	O	O	X	O	O	O	O	O	O	O
Fe	*0.3*	X	X	X	X	X	X	X			X
Pb	*0.05*					O		O			
Hg	*0.002*		O								
Mn	*0.05*	O	O	X	O	X		X			X
NO_3	*10*										
Se	*0.01*		O	O	O	O	O	O			
SO4	*250*			X	O			O			
TDS	*500*			X	O			O			
Zn	*5*			O	O			O			

Source: Grassy Mountain HCT Database Rev02

Notes:
X indicates greater than 50% of measurements exceeded the Oregon Groundwater Quality Guidelines.
O indicates between 25% and 50% of measurements exceeded the Oregon Groundwater Quality Guidelines.
Blank cells Indicate measurements are all below the Oregon Groundwater Quality Guidelines.
All samples appeared to exceed as silver detection limit was higher than the standard.
Note: Due to differences in the liquid to solid ratio used in the test compared to typical site conditions HCT results only provide a qualitative estimate of elemental concentrations in the resulting leachates and are not considered conclusive or to represent actual predictions of water quality.

6.1.7 Comparison of Static Test Results to HCT Results

A comparison of the static test results to the corresponding HCT results provides an indication of the effectiveness of the static tests in predicting longer term behavior (Table 6-8). Humidity cells with effluent pH values at or above 5 s.u. are considered non-acid generating since the pH of the extraction fluid (i.e., deionized water) is also around 5 s.u.

As shown in Table 6-8, samples with NNP values greater than -20 but less than 20 kg $CaCO_3$ eq/ton (i.e., uncertain) generated acid in the HCT. This suggests that using the NNP value to define acid generation potential, tends to under predict acid generation. A slightly better correlation between predicted acid generation and observed acid generation is seen for the NPR values; however, for one cell (e.g., HC-9) the NPR value over predicts acid generation potential. The best correlation is seen for the NAG results that are generally consistent with the HCT program, with samples with the highest NAG values resulting in the lowest HCT pH values.

Table 6-8: Comparison of Humidity Cell Test and Static Tests Results

Cell	Sample ID	Lithology	Sulfide Sulfur (wt%)	NNP (kg $CaCO_3$ eq/t)	NPR	NAG pH (s.u.)	Total NAG (kg H_2SO_4 eq/t)	Final HCT pH	HCT Prediction
1	CAL-002 (86-95)	Sandstone	0.246	-7.7	0.04	2.37	11.7	3.37	Acidic
2	CAL-004 (860-875)	Sandstone	0.083	2.6	0.12	3.14	14.7	3.82	Acidic
3	CAL-003 (675-685)	Mudstone	1.36	-42.5	0.01	2.33	47.2	2.29	Acidic
4	GMC-012 (832-851)	Mudstone	0.526	-16.4	0.02	2.56	18	3.18	Acidic
5	CAL-004 (295-315)	Mud/clay	0.073	-2.3	0.13	3.2	9.2	3.41	Acidic
6	CAL-001 (750-762)	Siltstone	0.065	-2.0	0.15	3.7	14.5	3.71	Acidic
7	GMC-014 (176-184)	Siltstone	0.488	-15.3	0.02	2.7	29.7	2.59	Acidic
8	CAL-001 (380-400)	Sinter	0.014	0.1	1.25	5.54	0	6.88	Non-acidic
9	CAL-002 (177-187)	Sinter	0.044	-1.4	0.21	3.96	15.6	5.03	Non-acidic

Criteria for AP Predictions:

ABA Criteria	PAG	NNP<-20 or NPR<1
	Low PAG	NP between -20 and +20 or NPR between 1 and 3
	Non-PAG	NNP>20 or NPR >3
NAG Criteria	PAG	NAG>20
	Low to Moderate PAG	NAG between 1 and 20
	Non-PAG	NAG<1
HCT Criteria	Acidic	HCT pH < 5
	Non-acidic	HCT pH > 5

Source: Grassy Mountain HCT Database Rev02

PAG = Potentially Acid Generating, Low PAG = Uncertain Potential/Lower Capacity, Non-PAG = Non-Acid Generating

6.1.8 HCT Termination Test Results

To determine the level of reactivity in the cells during the humidity cell test, a series of termination tests were completed on the HCT residue material to measure changes in mineralogy, mass of key elements, and acid generation potential. Termination test results for the humidity cells are provided in Appendix E and are summarized below.

Upon completion of the HCT, the columns were dismantled and the test residues were homogenized and split into sub-samples. These HCT residue samples were submitted for multi-

element analysis, ABA and NAG testing. The methods used were the same as those used for the pre-leach (i.e., feed) material as described above.

Mineralogy is typically conducted on HCT residues to explain trends in the kinetic test results that cannot be explained by other static test methods. For example, if a sample shows a potential for acid generation from the ABA results, but produces neutral pH conditions throughout the duration of the HCT program, a split of the residues would be submitted for mineralogical analysis to determine the factors, such as encapsulation of sulfides in silicate minerals that contributed to the observed conditions.

For the Grassy Mountain HCTs, samples that contained low NP and low to moderate AP developed acidic conditions during the tests. These results are corroborated by the NAG results that showed these samples had a potential to generate acidic conditions. The results of the HCT program are conclusive without additional mineralogical analysis and indicate the majority of the waste rock and ore material will generate acid and leach metals. Under low pH conditions, metals release increased as expected and constituents that would be expected to be elevated as a result of sulfide oxidation (i.e., iron, manganese and sulfate). Furthermore, the acid generating potential of the materials is directly related to the sulfide content. Therefore, mineralogy on the test residues is not considered necessary and would not provide any additional information that would support interpretation of the geochemical characterization testwork data.

Acid Base Accounting

The pre- and post-leach ABA results for the Grassy Mountain HCT samples are summarized in Table 6-9. Paste pH decreased in all samples except HC-4. As shown in Table 6-9, the post-leach sulfide sulfur concentrations are significantly lower than the initial concentrations, indicating the sulfur minerals were effectively oxidized during the test. These results are consistent with the sulfate and metals release observed during the HCT with greatest reduction in sulfur content seen for those cells that demonstrated the highest metal and sulfate release. The exceptions to this are two samples (HC-6 and HC-7) that contain post-leach sulfide sulfur greater than initial sulfide sulfur content.

For HC-6, a review of the total sulfur data from the ABA test indicates that total sulfur concentrations also increase for the post-leach sample, but are still within a reasonable range due to the inherent heterogeneity of geologic material (i.e., a Relative Percent Difference, RPD, of 20-35% is not uncommon for soil/sediment duplicate samples). The total sulfur results from multi-element analysis are comparable to the total sulfur from ABA and suggest the pre-leach sulfide sulfur results for HC-6 are a laboratory error. For HC-7, the RPD between the pre-leach and post-leach sulfide sulfur content is about 28 percent, likely reflects the heterogeneity of geologic material since this sample generated acid and leach metals during the HCT and a reduction in sulfide sulfur is expected under these conditions.

Table 6-9: Pre- and Post-HCT Sulfide Sulfur and Total Sulfur Results

HCT ID	Lithology	Acid Base Accounting Sulfide Sulfur (wt%)			Acid Base Accounting Total Sulfur (wt%)			Multi-element Analysis Total Sulfur (wt%)		
		Initial assay	Residue assay	% Loss	Initial assay	Residue assay	% Loss	Initial assay	Residue assay	% Loss
1	Sandstone	0.25	0.05	80%	0.471	0.15	68%	0.44	0.16	64%
2	Sandstone	0.083	0.02	76%	0.251	0.09	64%	0.23	0.11	52%
3	Mudstone	1.4	0.43	68%	1.86	0.87	53%	1.77	0.88	50%
4	Mudstone	0.53	0.48	9%	0.883	0.67	24%	0.85	0.65	24%
5	Mud/clay	0.073	0.01	86%	0.181	0.02	89%	0.18	0.03	83%
6	Siltstone	0.065	0.31	-380%	0.38	0.48	-26%	0.35	0.49	-40%
7	Siltstone	0.49	0.65	-33%	1.11	0.76	32%	1.06	0.75	29%
8	Sinter	0.014	0.01	29%	0.025	0.03	-20%	0.03	0.04	-33%
9	Sinter	0.044	0.02	55%	0.084	0.05	40%	0.07	0.06	14%

Source: Grassy Mountain HCT Database Rev02

Net Acid Generation Testing

Table 6-10 presents the NAG test results for the post-leach HCT residues. These results indicate that the NAG pH values for the residue samples are acidic to moderately acidic with slightly lower values than the initial analysis. The exception to this is Cell HC-8 that showed a greater decrease in NAG pH, likely due to the consumption of neutralization capacity during the test.

Total NAG values were generally higher in the residue analysis indicating sulfides are more available for reaction during the NAG test as a result of being exposed to oxidizing conditions. The exception to this is HC-3 and HC-7 that have a lower NAG value in the residue compared to the initial sample. As with the sulfur data, this likely reflects the heterogeneity of geologic material.

Table 6-10: Pre- and Post-leach NAG Test Results

Cell ID	Material type	NAG pH (s.u.)		NAG Value (kg H_2SO_4 eq/t)	
		Initial	Residue	Initial	Residue
HC-1	Sandstone	2.37	2.35	11.7	26
HC-2	Sandstone	3.14	3.99	14.7	35.1
HC-3	Mudstone	2.33	2.41	47.2	25.1
HC-4	Mudstone	2.56	2.32	18	32.5
HC-5	Mud/Clay	3.2	3.22	9.2	36.7
HC-6	Siltstone	3.7	2.32	14.5	15.9
HC-7	Siltstone	2.7	2.43	29.7	25.3
HC-8	Sinter	5.54	4.17	0.2	33.7
HC-9	Sinter	3.96	3.56	15.6	35.9

Source: Grassy Mountain HCT Database Rev02

Multi-Element Analysis

The pre- and post-leach multi-element results for key parameters are summarized in Table 6-11 through Table 6-16 which show the number of key parameters relating to ARD/ML leaching during the HCT. For most parameters, typically less than five percent and often much less than one percent of the original (head) assay was leached/mobilized during the 87 weeks of testing. The primary exceptions to this include cadmium, cobalt, copper, nickel and zinc that showed a range of mobilization ranging from less than 1% to as much as 80% presumably from the leaching of sulfides. Manganese and uranium demonstrated moderate mobilization with 1 to 15% of the original (head) assay being leached during the test.

The most significant decreases in elemental concentrations between the initial (i.e., pre-leach) and residual (i.e., post-leach) material were generally observed for HC-7 (siltstone) that also has the lowest pH values. The lowest constituent release was observed for the samples of sinter that did not generate acid during the test.

Table 6-11: Pre- and Post-leach Multi-Element Assay Results (Aluminum, Arsenic, Cadmium)

Cell ID	Material type	Aluminium				Arsenic				Cadmium			
		Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT	Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT	Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT
HC-1	Sandstone	29000	29000	13	0.047%	160	160	0.63	0.40%	0.087	0.08	0.0068	7.8%
HC-2	Sandstone	45000	45000	13	0.028%	110	110	0.32	0.28%	0.058	0.05	0.0085	14%
HC-3	Mudstone	82000	82000	480	0.59%	240	210	31	13%	0.12	0.02	0.097	83%
HC-4	Mudstone	78000	78000	320	0.41%	110	100	2.6	2.5%	0.053	0.02	0.033	62%
HC-5	Mud/Clay	25000	25000	12	0.046%	240	240	0.25	0.11%	0.038	0.03	0.008	21%
HC-6	Siltstone	53000	53000	0.85	0.0016%	66	66	0.033	0.05%	0.021	0.02	0.001	4.9%
HC-7	Siltstone	85000	84000	1400	1.6%	430	400	37	8.5%	0.14	0.02	0.12	86%
HC-8	Sinter	6500	6500	0.35	0.0053%	32	32	0.18	0.56%	0.031	0.03	0.001	3.3%
HC-9	Sinter	13000	13000	0.33	0.0025%	47	47	0.038	0.081%	0.031	0.03	0.0011	3.4%

Table 6-12: Pre- and Post-leach Multi-Element Assay Results (Cobalt, Copper, Chromium)

Cell ID	Material type	Cobalt				Copper				Chromium			
		Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT	Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT	Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT
HC-1	Sandstone	2.1	1.3	0.76	37%	7	6.5	0.45	6.5%	180	180	0.27	0.15%
HC-2	Sandstone	5.5	4.3	1.2	22%	15	14	1.2	7.8%	83	83	0.2	0.24%
HC-3	Mudstone	11	0.7	10	93%	12	2.6	9.2	78%	14	14	0.28	2.0%
HC-4	Mudstone	3.5	0.6	2.9	83%	16	4.1	12	75%	58	57	0.6	1.0%
HC-5	Mud/Clay	1.3	1	0.31	24%	9.1	8.3	0.84	9.2%	140	140	0.12	0.085%
HC-6	Siltstone	1	0.9	0.11	11%	25	22	2.2	9.0%	67	67	0.1	0.15%
HC-7	Siltstone	9.1	0.9	8.2	90%	22	6.5	16	71%	30	29	0.56	1.90%
HC-8	Sinter	0.8	0.7	0.1	13%	6.7	6.6	0.1	1.5%	280	280	0.1	0.036%
HC-9	Sinter	1.3	1.2	0.11	8.1%	5.9	5.8	0.11	1.8%	170	170	0.11	0.063%

Table 6-13: Pre- and Post-leach Multi-Element Assay Results (Iron, Mercury, Manganese)

Cell ID	Material type	Iron				Mercury				Manganese			
		Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT	Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT	Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT
HC-1	Sandstone	8600	8500	140	1.70%	6.8	6.8	0.0044	0.07%	27	26	1.2	4.5%
HC-2	Sandstone	6900	6800	55	0.80%	2.8	2.8	0.012	0.45%	57	49	8.3	14%
HC-3	Mudstone	18000	13000	5400	30%	5.1	5.1	0.0047	0.094%	210	210	3.7	1.7%
HC-4	Mudstone	17000	16000	910	5.40%	1.3	1.3	0.0019	0.15%	64	60	4	6.3%
HC-5	Mud/Clay	12000	12000	26	0.21%	3.4	3.4	0.0023	0.066%	58	53	4.6	8.0%
HC-6	Siltstone	12000	12000	3	0.03%	2.4	2.4	0.0031	0.13%	45	45	0.24	0.52%
HC-7	Siltstone	17000	15000	1900	11%	1.9	1.9	0.0021	0.11%	100	85	15	15%
HC-8	Sinter	3400	3400	0.36	0.01%	0.61	0.6	0.0024	0.39%	21	21	0.053	0.25%
HC-9	Sinter	4800	4800	0.34	0.01%	1.3	1.3	0.002	0.15%	27	27	0.11	0.42%

Table 6-14: Pre- and Post-leach Multi-Element Assay Results (Molybdenum, Nickel, Lead)

Cell ID	Material type	Molybdenum				Nickel				Lead			
		Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT	Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT	Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT
HC-1	Sandstone	5.1	4.9	0.22	4.2%	7.7	5.1	2.6	34%	12	12	0.01	0.086%
HC-2	Sandstone	17	17	0.43	2.5%	4.2	3.7	0.5	12%	13	13	0.02	0.16%
HC-3	Mudstone	50	47	3.1	6.3%	12	2.1	9.4	82%	25	24	1.1	4.50%
HC-4	Mudstone	26	25	0.48	1.9%	6.3	2.6	3.7	59%	23	23	0.025	0.11%
HC-5	Mud/Clay	12	12	0.24	2.0%	4.4	3.9	0.46	11%	6.6	6.6	0.021	0.32%
HC-6	Siltstone	55	55	0.2	0.37%	3.7	3.3	0.4	11%	21	21	0.0051	0.025%
HC-7	Siltstone	6.9	6.3	0.57	8.3%	11	2.1	8.5	80%	24	24	0.038	0.16%
HC-8	Sinter	8.6	8.4	0.2	2.4%	16	16	0.086	0.54%	2.2	2.2	0.0016	0.071%
HC-9	Sinter	2.9	2.7	0.21	7.3%	11	9.4	1.1	11%	4	4	0.0042	0.10%

Table 6-15: Pre- and Post-leach Multi-Element Assay Results (Antimony Selenium, Thallium)

Cell ID	Material type	Antimony				Selenium				Thallium			
		Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT	Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT	Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT
HC-1	Sandstone	95	95	0.16	0.17%	2	2	0.03	1.5%	1.6	1.6	0.072	4.4%
HC-2	Sandstone	33	33	0.12	0.38%	2	2	0.049	2.4%	1.5	1.5	0.016	1.1%
HC-3	Mudstone	81	81	0.098	0.12%	5.2	5	0.24	4.5%	2.5	2.4	0.082	3.3%
HC-4	Mudstone	28	28	0.021	0.077%	2.1	2	0.067	3.2%	1.3	1.2	0.02	1.6%
HC-5	Mud/Clay	76	76	0.019	0.025%	3.1	3	0.14	4.5%	0.54	0.53	0.0054	1.0%
HC-6	Siltstone	14	14	0.0055	0.039%	2.1	2	0.096	4.6%	1.2	1.2	0.0023	0.19%
HC-7	Siltstone	71	71	0.062	0.087%	2.1	2	0.077	3.7%	1.9	1.8	0.05	2.7%
HC-8	Sinter	41	41	0.017	0.040%	2	2	0.011	0.55%	0.32	0.32	0.001	0.32%
HC-9	Sinter	85	85	0.014	0.017%	2	2	0.029	1.4%	1.3	1.3	0.0077	0.58%

Table 6-16: Pre- and Post-leach Multi-Element Assay Results (Uranium, Zinc)

Cell ID	Material type	Uranium				Zinc			
		Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal release during HCT	% Mobilized during HCT	Head Assay* (mg/kg)	Residue Assay (mg/kg)	Cumulative Metal Release during HCT	% Mobilized during HCT
HC-1	Sandstone	1	1	0.015	1.5%	23	22	1.2	5.0%
HC-2	Sandstone	1.8	1.8	0.048	2.6%	17	15	1.8	11%
HC-3	Mudstone	5	4.8	0.19	3.9%	36	24	12	33%
HC-4	Mudstone	4.4	3.6	0.77	18%	18	9	9.4	51%
HC-5	Mud/Clay	1.6	1.5	0.054	3.4%	20	19	0.86	4.3%
HC-6	Siltstone	3.4	3.4	0.015	0.4%	4.4	4	0.4	9.2%
HC-7	Siltstone	4.7	4.5	0.22	4.6%	47	14	33	70%
HC-8	Sinter	0.2	0.2	0.001	0.5%	4.1	4	0.11	2.6%
HC-9	Sinter	0.4	0.4	0.0011	0.3%	7.1	7	0.13	1.9%

Source: Grassy Mountain HCT Database Rev02

* Reconstituted head calculated from residue assay plus cumulative metal release during HCT

6.2 Borrow Material

6.2.1 Multi-Element Analysis

Multi-element assay was completed on the borrow source material to assess their bulk geochemical composition and identify any parameters elevated above average crustal concentrations. The results for key parameters related to ARD/ML are summarized in Table 6-17and compared to average crustal concentrations using the Geochemical Abundance Index (GAI). Full results are provided in Appendix F.

Statistical analysis of the multi-element data indicates that many environmentally significant elements are below or close to their relative natural abundance in the samples. However, average values of selenium are elevated above three or more times crustal abundance in all material types except the sand and clay samples.

Table 6-17: Summary of Multi-Element Assay Results Borrow Material (mg/kg)

Material Type		Ag	Al	As	Au	B	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K	Li	Mg
	Average crustal abundance (Mason, 1966)	*0.07*	*81,300*	*2*	*0.004*	*10*	*425*	*36,300*	*0.2*	*25*	*100*	*55*	*50,000*	*0.08*	*25,900*	*20*	*20,900*
Andesitic Basalt (n = 7)	Min	0.02	46000	0.6	<0.02	<10	50	30000	0.04	36	21	71	56000	<0.01	500	6.5	28000
	P5	0.02	46000	0.66	<0.02	<10	50	30000	0.04	36	22	72	56000	<0.01	560	6.5	30000
	Average	0.03	48000	2.1	<0.02	<10	71	37000	0.053	38	43	77	58000	<0.01	810	12	34000
	P95	0.04	51000	5	<0.02	<10	90	53000	0.088	40	79	81	59000	<0.01	1200	18	38000
	Max	0.04	52000	6.1	<0.02	<10	90	60000	0.1	40	86	81	59000	<0.01	1300	18	38000
Vesicular Basalt (n = 4)	Min	0.02	41000	1.3	<0.02	<10	90	34000	0.04	32	67	60	43000	<0.01	600	8.5	8600
	P5	0.02	42000	1.4	<0.02	<10	96	34000	0.043	32	69	61	43000	<0.01	600	9.1	9100
	Average	0.025	48000	2.5	<0.02	<10	170	41000	0.18	34	81	68	48000	0.013	680	20	16000
	P95	0.037	54000	4	<0.02	<10	270	50000	0.39	36	93	75	55000	0.019	790	33	27000
	Max	0.04	55000	4.3	<0.02	<10	280	52000	0.42	37	95	76	56000	0.02	800	35	30000
Basalt (n=2)	Min	0.04	55000	0.7	<0.02	<10	40	36000	0.03	37	32	67	55000	<0.01	600	4.7	37000
	P5	0.04	55000	0.7	<0.02	<10	41	36000	0.03	37	33	67	55000	<0.01	640	4.8	37000
	Average	0.04	56000	0.7	<0.02	<10	45	37000	0.03	37	40	67	56000	<0.01	950	5.4	37000
	P95	0.04	57000	0.7	<0.02	<10	50	37000	0.03	38	47	67	57000	<0.01	1300	6	38000
	Max	0.04	57000	0.7	<0.02	<10	50	38000	0.03	38	48	67	58000	<0.01	1300	6.1	38000
Clay (n = 1)	Value	0.02	43000	2.4	<0.02	<10	150	100000	0.1	37	81	71	50000	<0.01	1600	64	18000
Sand and Clay (n = 1)	Value	0.02	22000	3.6	<0.02	20	280	8200	0.18	10	17	24	21000	<0.01	4400	40	9600
Sediments (n=5)	Min	0.03	10000	3.1	<0.02	<10	200	3000	0.19	5.6	17	10	15000	0.02	2000	12	2500
	P5	0.034	12000	3.3	<0.02	12	200	3500	0.19	5.6	18	12	15000	0.02	2500	13	3300
	Average	0.06	23000	4.4	<0.02	24	310	7300	0.3	7.1	34	21	21000	0.068	4600	40	7600
	P95	0.092	32000	5.3	<0.02	30	430	11000	0.48	9.1	54	26	28000	0.12	5900	68	12000
	Max	0.1	32000	5.4	<0.02	30	450	11000	0.51	9.4	56	26	29000	0.12	5900	69	13000

- Indicates less than 3 times average crustal abundance
- Indicates between 3 and 6 times average crustal abundance
- Indicates between 6 and 12 times average crustal abundance
- Indicates greater than 12 times average crustal abundance

Note: P5 = 5th Percentile, P95=95th percentile

Source: Grassy Mountain Static Test Database Rev14

Table 6-17: Summary of Multi-Element Assay Results Borrow Material (mg/kg) Continued

Material Type		Mn	Mo	Na	Ni	P	Pb	S (Total)	Sb	Sc	Se	Sn	Tl	U	V	W	Zn
	Average crustal abundance (Mason, 1966)	*950*	*1.5*	*28,300*	*75*	*1,050*	*13*	*260*	*0.2*	*22*	*0.05*	*2*	*0.5*	*1.8*	*135*	*1.5*	*70*
Andesitic Basalt (n = 7)	Min	760	0.35	5500	150	1000	0.7	<100	0.05	3.1	0.2	0.2	<0.02	0.1	21	<0.05	61
	P5	760	0.35	5600	150	1000	0.73	100	0.05	3.1	0.2	0.2	0.02	0.1	23	0.05	62
	Average	840	0.86	6300	160	1100	0.96	100	0.11	3.4	0.36	0.29	0.024	0.12	34	0.22	66
	P95	980	1.8	6800	160	1100	1.2	100	0.3	3.7	0.67	0.4	0.041	0.14	47	0.55	68
	Max	1000	2	6900	160	1100	1.3	100	0.38	3.8	0.7	0.4	0.05	0.14	47	0.67	68
Vesicular Basalt (n = 4)	Min	800	0.75	6000	150	700	0.9	<100	0.25	3.4	0.2	0.3	0.02	0.11	44	0.37	44
	P5	810	0.75	6100	150	730	0.92	100	0.26	3.5	0.2	0.3	0.023	0.12	44	0.49	44
	Average	1300	1	6800	170	920	1	100	0.37	4.9	0.25	0.33	0.098	0.24	50	1.1	51
	P95	2100	1.5	7600	190	1100	1.2	100	0.54	6.9	0.37	0.39	0.18	0.36	62	1.6	60
	Max	2200	1.6	7700	190	1100	1.2	100	0.58	7.2	0.4	0.4	0.18	0.37	65	1.7	61
Basalt (n=2)	Min	800	0.5	6700	160	970	0.7	<100	0.05	3.3	0.2	0.2	0.02	0.11	38	0.08	57
	P5	800	0.52	6700	160	970	0.71	100	0.051	3.3	0.22	0.2	<0.02	0.11	38	0.08	57
	Average	820	0.75	6900	160	980	0.8	100	0.055	3.5	0.35	0.2	0.02	0.12	38	0.08	60
	P95	830	0.97	7000	160	980	0.89	100	0.06	3.6	0.49	0.2	0.02	0.12	38	0.08	62
	Max	830	0.99	7000	160	980	0.9	100	0.06	3.6	0.5	0.2	0.02	0.12	38	0.08	62
Clay (n = 1)	Value	850	0.53	5600	190	760	1.2	<100	0.26	6.8	0.2	0.3	0.06	0.27	94	0.78	56
Sand and Clay (n = 1)	Value	320	0.38	900	20	960	9.8	<100	0.52	4.9	0.2	1.1	0.22	0.77	29	0.3	65
Sediments (n=5)	Min	200	0.25	400	10	200	7	<100	0.47	3.2	0.2	0.8	0.22	0.57	27	0.27	47
	P5	240	0.28	420	11	240	7.3	100	0.48	3.4	0.2	0.82	0.22	0.61	28	0.29	47
	Average	500	0.83	780	14	780	11	100	0.58	5.4	0.26	1.4	0.34	0.96	40	0.55	65
	P95	850	1.6	1400	17	1600	14	100	0.68	7.7	0.38	2.2	0.51	1.5	52	0.88	84
	Max	940	1.6	1600	17	1700	14	100	0.7	7.8	0.4	2.3	0.52	1.6	53	0.94	85

Indicates less than 3 times average crustal abundance
Indicates between 3 and 6 times average crustal abundance
Indicates between 6 and 12 times average crustal abundance
Indicates greater than 12 times average crustal abundance

Note: P5 = 5th Percentile, P95=95th percentile

Source: Grassy Mountain Static Test Database Rev14

6.2.2 Acid Base Accounting

Acid Base Accounting was performed in order to assess the balance of acid producing and acid neutralizing minerals in the borrow source material. The results are summarized in Table 6-18 and are provided in full in Appendix F.

All samples had neutral to slightly alkaline paste pH and total sulfur was measured at below the detection limit (0.01%) in all samples. All but three samples were classified as non-acid generating when compared to the BLM criteria. One sample of vesicular basalt, one sample of sand and clay and all sediment samples were classified as uncertain with an NNP of less than -20 kg $CaCO_3$ eq/ton. However, these samples are not expected to generate acid as total sulfur was below the detection limit in all cases.

Table 6-18: Summary of Acid Base Accounting Results Borrow Material

Material Type		pH	Total sulfur	Sulfate sulfur[1]	Sulfide sulfur[2]	AP[3]	NP	NNP[5]	NPR[6]
		s.u.	wt%	wt%	wt%	kg $CaCO_3$/t	kg $CaCO_3$/t	kg $CaCO_3$/t	-
Andesitic Basalt (n = 7)	Min	9	<0.01	<0.01	<0.01	<0.3	25	24	82
	P5	8.8	<0.01	<0.01	<0.01	<0.3	25	25	83
	Average	8.5	<0.01	<0.01	<0.01	<0.3	56	56	190
	P95	8.3	<0.01	<0.01	<0.01	<0.3	140	140	480
	Max	8.2	<0.01	<0.01	<0.01	<0.3	170	170	570
Vesicular Basalt (n = 4)	Min	8.9	<0.01	<0.01	<0.01	<0.3	20	19	66
	P5	8.9	<0.01	<0.01	<0.01	<0.3	22	22	74
	Average	8.5	<0.01	<0.01	<0.01	<0.3	36	36	120
	P95	8.3	<0.01	<0.01	<0.01	<0.3	50	50	170
	Max	8.3	<0.01	<0.01	<0.01	<0.3	52	52	170
Basalt (n=2)	Min	8.7	<0.01	<0.01	<0.01	<0.3	27	26	88
	P5	8.7	<0.01	<0.01	<0.01	<0.3	27	27	89
	Average	8.6	<0.01	<0.01	<0.01	<0.3	30	29	99
	P95	8.5	<0.01	<0.01	<0.01	<0.3	32	32	110
	Max	8.5	<0.01	<0.01	<0.01	<0.3	33	32	110
Clay (n = 1)	Value	8.1	<0.01	<0.01	<0.01	<0.3	240	240	790
Sand and Clay (n = 1)	Value	8	<0.01	<0.01	<0.01	<0.3	14	13	45
Sediments (n=5)	Min	8.3	<0.01	<0.01	<0.01	<0.3	3.2	2.9	11
	P5	8.2	<0.01	<0.01	<0.01	<0.3	4.3	4	14
	Average	7.7	<0.01	<0.01	<0.01	<0.3	9.3	9	31
	P95	7.4	<0.01	<0.01	<0.01	<0.3	12	12	40
	Max	7.4	<0.01	<0.01	<0.01	<0.3	12	12	40

Source: Grassy Mountain Static Test Database Rev14. Note: P5 = 5th Percentile, P95=95th percentile.

[1] Sulfate sulfur concentrations determined by hot water extraction.
[2.] Sulfide sulfur concentrations calculated from non-sulfate sulfur values determined by hot water extraction.
[3] Neutralization Potential (NP) determined from titration according to the modified Sobek method.
[4] Acidification Potential (AP) calculated from sulfide sulfur.
[5] Net Neutralization Potential (NNP) = NP-AP.
[6] Neutralization Potential Ratio (NPR) = NP/AP.

6.2.3 Net Acid Generation

Static NAG testing was undertaken on the borrow source material to provide an empirical estimate of field acid generation. All samples were classified as non-potentially acid generating with an average NAG pH of greater than 4.5 (values ranged from 5.5 to 10) and a total NAG value of 0.2 kg H_2SO_4 eq/ton in all samples. These results confirm the borrow source material does not have a potential to generate acid, consistent with the ABA results.

6.2.4 Mineralogy

A total of eight samples of borrow material were submitted for XRD are summarized in Table 6-19. The dominant minerals in all samples were plagioclase, smectite and pyroxene. Calcite was detected in two samples of vesicular basalt (7.8% and trace) and one sample of clay (18.8%). The XRD results confirm the ABA results with sulfides below detection.

Analysis for the presence of erionite was included in the XRD and SEM analysis and petrography. The results of the mineralogical analysis are provided in Appendix C along with a memo describing the results of the erionite analysis.

Table 6-19: X-Ray Diffraction Results Borrow Material

Mineral Phase	Andesitic basalt	Vesicular basalt	Vesicular basalt	Vesicular basalt	Basalt	Clay	Sediments	Sediments
	1446354	1446342	1446350	1446356	1446344	1446351	1446346	1446358
	Basalt B3 48-53	Basalt B1 59-63	Basalt B2 86-89	Basalt B3 101-107	Basalt B1 93.7-98	Basalt B2 101-103	Basalt B1 123-125	Basalt B3 151-156
Smectite	21.4	7.2	14.7	20.7	24.3	33.2	18.9	62.4
Illite+Mica							12	
Chlorite	2.7							
Serpentine								
Quartz	1.1	1.1	**1**	1.6		0.7	34.5	18.8
Plagioclase	39.3	45.5	48.9	50.6	44.8	27.9	29.7	15.8
Pyroxene	21.1	23.3	26.3	20	22.9	16	4.9	3
Olivine	5		1.8		5.4			
Calcite		7.8		TR		18.8		
Ilmenite	3	1.9						
Magnetite	6.3	TR						
Hematite		13.3	7.4		2.7	3.5		
Erionite	TR							
Total	100	100	100	100	100	100	100	100

Note: Results presented as percentages of total mineral phases present. TR indicates the mineral was tentatively identified in the sample.

6.2.5 Meteoric Water Mobility Procedure

MWMP leach tests were conducted on a total of nine borrow material samples to provide an indication of short-term elemental mobility and metal(loid) release. Full results are presented in Appendix F.

All of the leachates generated during the MWMP tests were classified as “near-neutral, low-metal waters” based on pH values between 7 and 9 and total Ficklin metal release less than 1 mg/L (Figure 6-11). Samples were compared to the OGWQG (OAR 340-40-020) in Table 6-20Table 6-5 and all parameters were below the OGWQG.

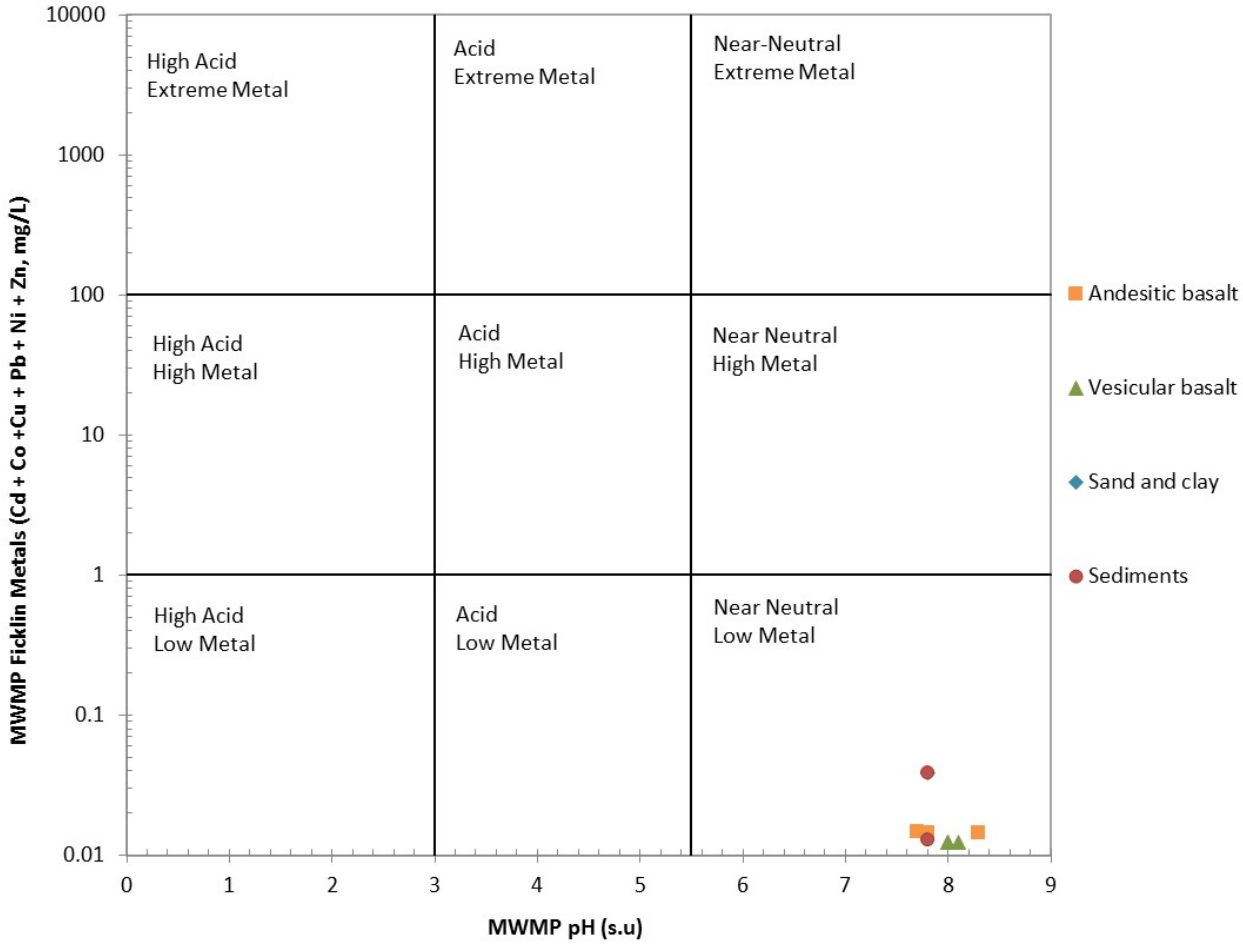


Figure 6-11: Ficklin Metals MWMP vs. MWMP pH Borrow Material

Table 6-20: Summary of MWMP Results Borrow Source

Parameter	Oregon Groundwater Quality Guidelines	Andesitic basalt	Andesitic basalt	Andesitic basalt	Vesicular basalt	Vesicular basalt	Vesicular basalt	Sand and Clay	Sediments	Sediments
		Basalt B1 0-30	Basalt B2 30-50	Basalt B3 41-61	Basalt B1 56-67	Basalt B2 87-95	Basalt B3 96-110	Basalt B2 109-114	Basalt B1 115-121	Basalt B3 159-170
pH	*6.5-8.5*	8.3	7.8	7.7	8.0	8.1	8.0	7.8	7.8	7.8
TDS	*500*	106	22	<20	44	54	58	44.2	53.7	50
SO_4	*250*	1.1	<1	<1	2.0	1.1	1.6	2.8	11.4	8.5
As	*0.05*	0.0091	0.0022	0.0017	0.0023	0.0045	0.0069	0.006	0.0078	0.0105
Ba	*1*	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	0.009	0.011	<0.007
Cd	*0.01*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Cl	*250*	0.8	<0.5	<0.5	<0.5	<0.5	0.5	0.7	2.4	2.5
Cr	*0.05*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.01	<0.01	<0.0005
Cu	*1*	0.0026	0.0033	0.0028	0.0012	0.001	<0.0008	<0.01	<0.01	0.001
F	*4*	0.5	<0.4	<0.4	0.2	0.2	0.5	1.1	1.4	2.3
Fe	*0.3*	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Pb	*0.05*	0.0009	0.0003	0.001	0.0002	0.0004	0.0006	0.0006	0.0006	0.001
Mn	*0.05*	<0.0004	0.0008	0.0012	<0.0004	0.0007	0.0009	<0.01	<0.01	0.0008
Hg	*0.002*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
NO_3	*10*	0.04	<0.02	<0.02	<0.02	0.09	0.05	<0.02	<0.02	0.99
Se	*0.01*	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Ag	*0.05*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0002
Zn	*5*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

All units in mg/L except pH, which is in standard units (s.u.)

Pink shaded cells = Concentration exceeds Oregon Groundwater Quality Guidelines (OAR 340-40-020)

Source: Grassy Mountain Static Test Database Rev14

6.3 Access Road Cut Material

6.3.1 Multi-Element Analysis

Multi-element assay was completed on the access road material to assess their bulk geochemical composition and identify any parameters elevated above average crustal concentrations. The results for key parameters related to ARD/ML are summarized in Table 6-21 compared to average crustal concentrations using the Geochemical Abundance Index (GAI). Full results are provided in Appendix F.

Statistical analysis of the multi-element data indicates that many environmentally significant elements are below or close to their relative natural abundance in the samples. However, Average values of selenium are elevated above three or more times crustal abundance in all material types. Single elevated values of arsenic and cadmium also occurred.

Table 6-21: Summary of Multi-Element Assay Results Access Road (mg/kg)

Material Type		Ag	Al	As	Au	B	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K	Li	Mg
	Average crustal abundance (Mason, 1966)	*0.07*	*81,300*	*2*	*0.004*	*10*	*425*	*36,300*	*0.2*	*25*	*100*	*55*	*50,000*	*0.08*	*25,900*	*20*	*20,900*
Access Road (Basalt)	#1	0.02	30000	4.9	<0.02	<10	40	21000	0.04	35	84	46	69000	<0.01	500	13	22000
	#2	0.02	19000	1.9	<0.02	<10	80	17000	2.2	26	61	67	43000	0.05	600	11	9200
	#3	0.03	13000	2.9	<0.02	<10	50	19000	0.08	27	66	55	60000	<0.01	900	13	10000
	#4	0.03	16000	0.4	<0.02	<10	40	13000	0.06	35	67	63	75000	<0.01	800	6	24000
	#5	0.02	19000	0.9	<0.02	<10	30	13000	0.04	37	71	71	76000	<0.01	600	8	26000
	#6	0.01	17000	11	<0.02	<10	80	14000	0.06	38	72	47	74000	<0.01	700	8.9	19000
	#7	0.02	17000	1.1	<0.02	<10	50	13000	0.08	39	76	63	81000	<0.01	900	8.9	25000

Table 6-20: Summary of Multi-Element Assay Results Access Road (mg/kg) Continued

Material Type		Mn	Mo	Na	Ni	P	Pb	S (Total)	Sb	Sc	Se	Sn	Tl	U	V	W	Zn
	Average crustal abundance (Mason, 1966)	*950*	*1.5*	*28,300*	*75*	*1,050*	*13*	*260*	*0.2*	*22*	*0.05*	*2*	*0.5*	*1.8*	*135*	*1.5*	*70*
Access Road (Basalt)	#1	980	1.1	2500	77	2300	2.3	100	0.23	3.6	0.2	0.6	<0.02	0.31	140	0.16	99
	#2	1800	0.95	2900	48	2000	2.7	100	0.3	6.3	0.4	0.7	0.05	1.3	180	0.07	110
	#3	670	0.98	2200	53	2300	1.9	100	0.36	5.5	<0.2	0.5	0.02	0.4	200	0.2	85
	#4	950	1.1	2600	70	2300	1.4	100	<0.05	3	<0.2	0.6	<0.02	0.1	220	0.11	110
	#5	950	1.2	2500	72	2100	1.9	100	<0.05	3.8	0.4	0.7	<0.02	0.1	230	0.09	110
	#6	1000	2.1	2400	70	2300	1.6	100	0.09	4.6	0.7	0.8	<0.02	0.24	260	0.16	110
	#7	1100	1.3	2500	82	2300	1.5	100	<0.05	3.7	0.4	0.8	<0.02	0.12	260	0.14	110

- Indicates less than 3 times average crustal abundance
- Indicates between 3 and 6 times average crustal abundance
- Indicates between 6 and 12 times average crustal abundance
- Indicates greater than 12 times average crustal abundance

Source: Grassy Mountain Static Test Database Rev14

6.3.2 Acid Base Accounting

Acid Base Accounting was performed in order to assess the balance of acid producing and acid neutralizing minerals in the access road material. The results are summarized in Table 6-22 and are provided in full in Appendix F.

All samples had slightly alkaline paste pH and total sulfur was measured at below the detection limit (0.01%) in all samples. The majority of samples were classified as non-acid generating when compared to the BLM criteria with the exception of three samples which were classified as uncertain as they contained a net neutralization potential of less than -20 kg $CaCO_3$ eq/ton. However, these samples are not expected to generate acid as total sulfur was below the detection limit in all cases.

Table 6-22: Summary of Acid Base Accounting Results Access Road

Material Type	Sample Name	pH	Total sulfur	Sulfate sulfur[1]	Sulfide sulfur[2]	AP[3]	NP	NNP[5]	NPR[6]
		s.u.	wt%	wt%	wt%	kg $CaCO_3$/t	kg $CaCO_3$/t	kg $CaCO_3$/t	-
Access Road	#1	8.1	<0.01	<0.01	<0.01	<0.3	24	23	78
	#2	8.1	<0.01	<0.01	<0.01	<0.3	21	21	71
	#3	8.3	<0.01	<0.01	<0.01	<0.3	31	31	100
	#4	8.4	<0.01	<0.01	<0.01	<0.3	17	17	56
	#5	8.2	<0.01	<0.01	<0.01	<0.3	27	27	89
	#6	8.2	<0.01	<0.01	<0.01	<0.3	15	15	50
	#7	8.3	<0.01	<0.01	<0.01	<0.3	17	17	58

Source: Grassy Mountain Static Test Database Rev14.

[1] Sulfate sulfur concentrations determined by hot water extraction.
[2] Sulfide sulfur concentrations calculated from non-sulfate sulfur values determined by hot water extraction.
[3] Neutralization Potential (NP) determined from titration according to the modified Sobek method.
[4] Acidification Potential (AP) calculated from sulfide sulfur.
[5] Net Neutralization Potential (NNP) = NP-AP.
[6] Neutralization Potential Ratio (NPR) = NP/AP.

6.3.3 Net Acid Generation

Static NAG testing was undertaken on the access road material to provide an empirical estimate of field acid generation. All samples were classified as non-potentially acid generating with an average NAG pH of greater than 4.5 (values ranged from 6.2 to 7.9) and a total NAG value of 0.2 kg H_2SO_4 eq/ton in all samples.

6.3.4 Mineralogy

All samples of access road material were submitted for XRD are summarized in Table 6-23. All samples had similar compositions with the dominant minerals being plagioclase, pyroxene with minor (<5%) quartz. The dominant minerals in all samples were plagioclase, smectite and pyroxene. XRD confirmed the ABA results and no carbonates or sulfides were detected.

Analysis for the presence of erionite was included in the XRD and SEM analysis and petrography. The results of the mineralogical analysis are provided in Appendix C.

Table 6-23: X-Ray Diffraction Results Access Road Cut Material

Mineral Phase	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt
	1446360	1446361	1446362	1446363	1446364	1446365	1446366
	#1	#2	#3	#4	#5	#6	#7
Smectite	23.2	18.6	14.6		16.2		
Serpentine	5.3				TR		
Quartz	1.6	1.2	1.8	2	1.6	1.4	2.2
Plagioclase	36.9	55.1	50.7	56.9	50.7	62.7	58.7
Pyroxene	36	23.1	20.8	28.1	25.6	27.8	28.7
Olivine	2.5	2	7	8.3	3.5	5.8	8
Ilmenite	4.6			4.7	2.4	2.3	3
Magnetite				TR			
Hematite			5.1		TR	TR	TR
Erionite		TR					
Total	100	100	100	100	100	100	100

Note: Results presented as percentages of total mineral phases present. TR indicates the mineral was tentatively identified in the sample.

6.3.5 Meteoric Water Mobility Procedure

MWMP leach tests were conducted on a total of seven access road samples to provide an indication of short-term elemental mobility and metal(loid) release. Full results are presented in Appendix F. All of the leachates generated during the MWMP tests were classified as “near-neutral, low-metal waters” based on pH values between 6.5 and 8 and total Ficklin metal release less than 1 mg/L (Figure 6-12). Samples were compared to the OGWQG (OAR 340-40-020) and none of the parameters were measured at concentrations above the OGWQG in Table 6-24.

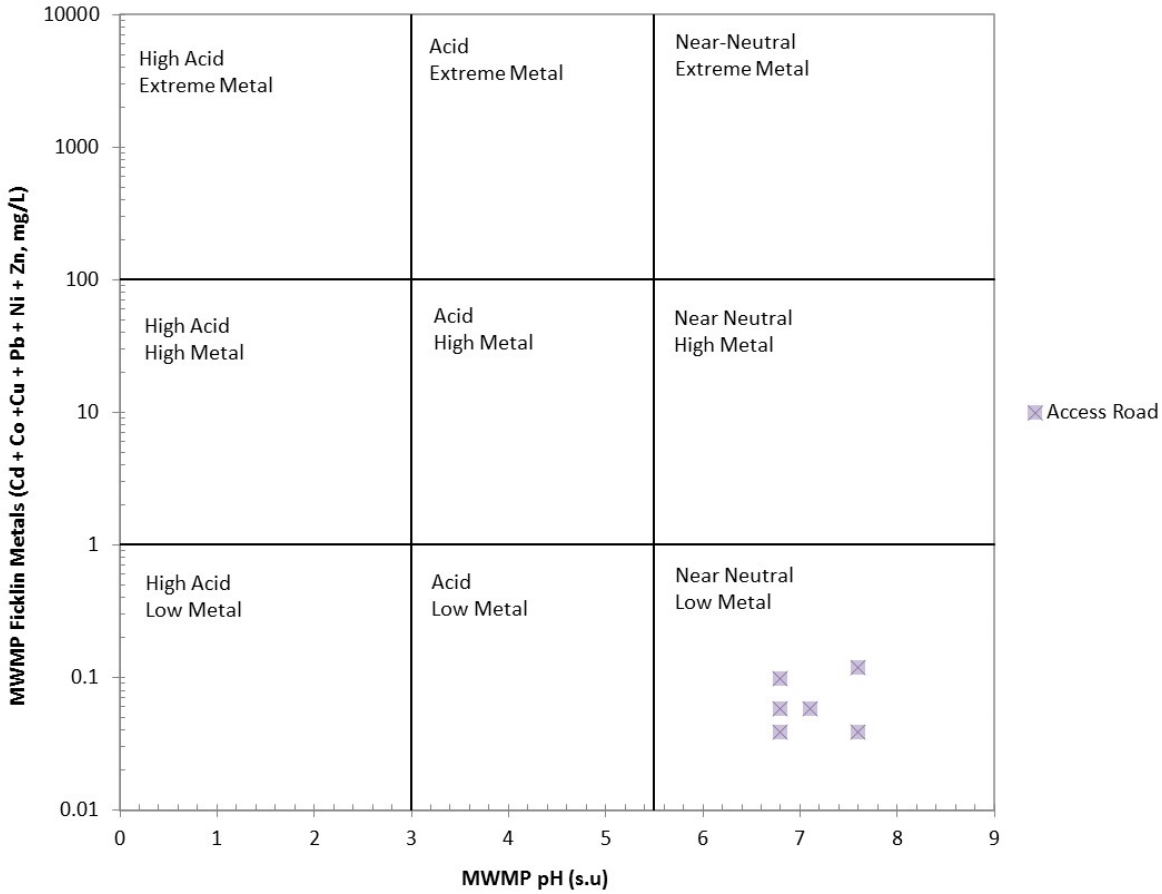


Figure 6-12: Ficklin Metals MWMP vs. MWMP pH Access Road

Table 6-24: Summary of MWMP Results – Access Road Material

Parameter	Oregon Groundwater Quality Guidelines	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt
		#1	#2	#3	#4	#5	#6
pH	*6.5-8.5*	7.6	7.6	6.8	6.8	7.1	6.8
TDS	*500*	24.2	22.3	11.4	4.17	6.91	5.08
SO_4	*250*	3.3	<1	<1	<1	<1	<1
As	*0.05*	0.0039	0.0029	0.0122	0.0009	0.0045	0.001
Ba	*1*	0.007	0.008	0.032	<0.007	0.04	0.061
Cd	*0.01*	<0.00005	0.00009	<0.00005	<0.00005	<0.00005	<0.00005
Cl	*250*	0.5	<0.5	0.7	<0.5	<0.5	0.6
Cr	*0.05*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cu	*1*	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
F	*4*	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Fe	*0.3*	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Pb	*0.05*	0.0005	0.0011	0.0006	0.0007	0.0003	0.0005
Mn	*0.05*	<0.01	0.04	0.03	<0.01	<0.01	0.02
Hg	*0.002*	<0.0002	0.0002	0.0002	<0.0002	<0.0002	0.0002
NO_3	*10*	0.18	<0.02	<0.02	<0.02	0.16	0.04
Se	*0.01*	0.0001	0.0005	0.0001	<0.0001	<0.0001	<0.0001
Ag	*0.05*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zn	*5*	<0.01	0.09	0.03	<0.01	0.03	0.07

All units in mg/L except pH, which is in standard units (s.u.)

Pink shaded cells = Concentration exceeds Oregon Groundwater Quality Guidelines (OAR 340-40-020)

Source: Grassy Mountain Static Test Database Rev14

6.4 Tailings Material

6.4.1 Acid Base Accounting

Acid Base Accounting results are available for tailings material from the 2015 metallurgical test program (1 sample) and the 2018 metallurgical test program (3 samples) and are provided in Table 6-25. Full results are provided in Appendix G.

The tailings samples are characterized by a relatively low sulfide content around 0.1 wt%, and show uncertain acid generating characteristics due to the low NP with the lowest NP values obtained from the 2015 tailings sample. The low NP values are attributed to the cyanide destruction process that was used (i.e., Inco process). The Inco process uses sodium bisulfite as a SO_2 source, which lowers the pH. Even though lime was added to control pH during the metallurgical program, the addition of sodium bisulfite was enough to offset any neutralizing capacity from the lime that was added.

The results for the 2018 tailings samples in Table 6-25 were used to determine the amount of additional lime that will need to be added prior to deposition in order to meet Oregon guidelines as described in Section 6.4.4.

Table 6-25: Acid Base Accounting Results - Tailings

Sample	Year	Paste pH	Total sulfur	Sulfate sulfur[1]	Sulfide sulfur[2]	AP[3]	NP	NNP[5]	NPR[6]
		s.u.	wt%	wt%	wt%	kg $CaCO_3$/t	kg $CaCO_3$/t	kg $CaCO_3$/t	-
Calico Leach Res. After CN Destruct.	2015	6.8	0.35	0.26	0.089	2.8	0.3	-3	0.11
Arkose (1 of 2)	2018	8	0.36	0.26	0.09	2.8	4.2	1.4	1.5
MLDWT (1 of 2)	2018	8.1	0.43	0.24	0.19	5.9	4.7	-1.2	0.8
SLST (1 of 2)	2018	8.1	0.42	0.24	0.18	5.6	4.5	-1.1	0.8

Source: Grassy Mountain Static Test Database Rev14. Note: P5 = 5th Percentile, P95=95th percentile.

[1] Sulfate sulfur concentrations determined by hot water extraction.
[2] Sulfide sulfur concentrations calculated from non-sulfate sulfur values determined by hot water extraction.
[3] Neutralization Potential (NP) determined from titration according to the modified Sobek method.
[4] Acidification Potential (AP) calculated from sulfide sulfur.
[5] Net Neutralization Potential (NNP) = NP-AP.
[6] Neutralization Potential Ratio (NPR) = NP/AP.

6.4.2 Net Acid Generation

Net Acid Generation results are available for unamended tailings material from the 2015 metallurgical test program (1 sample) and the 2018 metallurgical test program (3 samples). Full results are provided in Appendix G.

The NAG results are provided in Table 6-26 and show two of the four tailings samples have the potential for acid formation; however, the capacity for acid generation is low and less than 10 kg H_2SO_4/t for both samples.

Table 6-26: Net Acid Generation Results – Tailings

Sample	Year	NAG pH	NAG
		s.u.	kg H_2SO_4/t
Calico Leach Res. After CN Destruct.	2015	3.21	4.60
Arkose (1 of 2)	2018	5.56	0
MLDWT (1 of 2)	2018	5.76	0
SLST (1 of 2)	2018	2.94	7

Source: Grassy Mountain Static Test Database Rev14

6.4.3 Mineralogy

The tailings sample from the 2015 metallurgical test was submitted for XRD. The results of the XRD analysis are summarized in Table 6-27 and show the tailings material is primarily comprised of quartz with lesser amounts of orthoclase and muscovite. These results show that the sulfides and iron sulfate minerals were effectively removed from the material during the metallurgical test. In addition, no neutralizing phases (e.g., calcite) are present.

Analysis for the presence of erionite was included in the XRD and SEM analysis and petrography. The full results of the mineralogical analysis are provided in Appendix C.

Table 6-27: Mineralogy Results - Tailings

Phase Found	Percentage
Quartz	75
Orthoclase	14
Muscovite	11

6.4.4 Lime Amendment

Hydrated lime was added to the 2018 tailings samples at McClelland Laboratories to generate material representative of amended tailings. The results of the ABA tests in Section 6.4.1 above were used to determine the quantity of hydrated lime that needs to be added to the tailings samples to produce a sample of tailings that is net neutralizing based on the criteria specified in the OAR 340-043-0130 (2).

The amount of hydrated lime required to neutralization the tailings to meet the regulatory requirement of an NPR > 3 and an NNP > 20 kg $CaCO_3$/t was calculated based on the AP and

NP from the ABA results and are summarized for each sample in Table 6-28. For all three samples, the lime requirement needed to meet the NNP criteria is higher than the lime requirement to meet the NPR criteria. This reflects the low inherent buffering in the sample. Therefore, the lime rate required to produce a sample with an NNP value > 20 kg $CaCO_3$/t was selected to be consistent with the regulatory requirements.

A 1 kg split of each sample was amended with hydrated lime by adding the dry lime to the dry sample and thoroughly blending using a roll cloth. Each amended sample was then split to obtain a sample for ABA testing to determine if the criteria for neutralization were met. In addition, a split was obtained from each amended sample for leach testing described below.

For the first lime amendment step, hydrated lime was added at a rate to achieve an NPR >3 and an NNP > 20 kg $CaCO_3$/t as calculated from the original ABA results and summarized in Table 6-28. The amended MLDWT sample met the NNP requirement. However, for the remaining two samples (Arkose and SLST), the initial calculated lime amendment rate did not achieve the desired NNP values. This was attributed to slight variations in the sulfide sulfur and NP content of the tailings material. For these two samples, a second amended sample was generated from the raw sample material and amended with 10% excess lime above the initial estimated addition to achieve an NNP >20 kg $CaCO_3$/t. For the second lime amendment step, the Arkose sample met the NNP requirement but the SLST sample did not. Therefore, a third sample was generated from the raw sample material for SLST with 20% excess lime above the initial estimated addition. The liming rates for each lime addition and corresponding ABA results are summarized in Table 6-29 below for each sample.

The ABA results for the tailings material demonstrate that there is some inherent variation in the sulfide sulfur and NP content of the tailings materials that is likely to occur during mining operations. In order to take into account the slight variation in NP and sulfide sulfur in the tailings material, the amount of lime amendment needs to exceed the minimum amount required to ensure that the neutralization criteria specified in the OAR 340-043-0130 (2) is met. Based on the testing conducted to date, the lime amendment rate needs to include the amount of lime required to neutralize the tailings to meet the regulatory guideline plus an additional 20%.

Table 6-28: Calculated Lime Amendment Rates

Sample Name	ABA Results on Initial Sample					Lime Addition - NPR >3		Lime Addition - NNP >20	
	Sulfide Sulfur (wt%)	AGP (kg $CaCO_3$/t)	ANP (kg $CaCO_3$/t)	NNP (kg $CaCO_3$/t)	NPR	Net NP needed (kg $CaCO_3$/t)	$Ca(OH)_2$ Addition (g/kg)	Net NP needed (kg $CaCO_3$/t)	$Ca(OH)_2$ Addition (g/kg)
Arkose (1of 2)	0.09	2.81	4.2	1.4	1.5	4.2375	3.2	18.6	14.0
MLDWT (1of 2)	0.19	5.94	4.7	-1.2	0.8	13.1125	9.8	21.2	15.9
SLST (1of 2)	0.18	5.63	4.5	-1.1	0.8	12.375	9.3	21.1	15.8

Table 6-29: Lime Amendment Steps and Corresponding ABA Results

Parameter	Units	Arkose				MLDWT				SLST			
		No Lime Addition	1st Lime Addition	2nd Lime Addition	3rd Lime Addition	No Lime Addition	1st Lime Addition	2nd Lime Addition	3rd Lime Addition	No Lime Addition	1st Lime Addition	2nd Lime Addition	3rd Lime Addition
Lime addition rate (hydrated lime)	g $Ca(OH)_2$/kg	--	14.0	15.4	--	--	15.9	--	--	--	15.8	17.4	19
Paste pH	s.u.	8	12	12.1	--	8.1	12	--	--	8.1	12	11.9	12.3
Total Sulfur	wt %	0.36	0.27	0.28	--	0.43	0.34	--	--	0.42	0.33	0.27	0.34
Sulfate Sulfur	wt %	0.26	0.18	0.2	--	0.24	0.16	--	--	0.24	0.18	0.08	0.15
Pyritic Sulfur	wt %	0.09	0.09	0.1	--	0.19	0.18	--	--	0.18	0.16	0.2	0.2
Acid Generation Potential (AGP)	kg $CaCO_3$/t	2.8	2.8	3.1	--	5.9	5.6	--	--	5.6	5.0	6.3	6.3
Acid Neutralization Potential (ANP)	kg $CaCO_3$/t	4.2	20.6	33	--	4.7	25.7	--	--	4.5	22.5	23.1	26.7
Net Neutralization Potential (NNP)	kg $CaCO_3$/t	1.4	17.8	29.9	--	-1.2	20.1	--	--	-1.1	17.5	16.8	20.4
Neutralization Potential Ratio (NPR)	--	1.5	7.36	10.65	--	0.8	4.59	--	--	0.8	4.50	3.67	4.24

1st lime addition - hydrated lime required to achieve a NNP of 20 kg $CaCO_3$/t

2nd lime addition - hydrated lime required to achieve a NNP of 20 kg $CaCO_3$/t + 10%

3rd lime addition - hydrated lime required to achieve a NNP of 20 kg $CaCO_3$/t + 20%

-- criteria for neutralization met by previous lime addition and further testing was not conducted.

6.4.5 Meteoric Water Mobility Procedure and Modified SPLP

The tailings sample from the 2015 metallurgical test program that was not amended with lime was submitted for the modified MWMP test. In addition, amended tailings samples that meet the regulatory guideline for neutralization of tailings material (i.e., NPR >3 and NNP >20 kg $CaCO_3$/t) were submitted for the modified SPLP to evaluate metal release under the alkaline conditions.

Leach test results are summarized in Table 6-20, full results provided in Appendix G and are compared to the OGWQG (OAR 340-40-020). The tailings sample without lime amendment has a slightly acidic pH (pH 4.5) with several constituents elevated above OGWQG including copper, iron, manganese, selenium, sulfate and TDS. Due to differences in the liquid to solid ratio used in the test compared to typical site conditions, the MWMP and SPLP results only provide a qualitative estimate of elemental concentrations in the resulting leachates and are not considered conclusive or to represent actual predictions of water quality.

The lime amended tailings samples had alkaline pH ranging from 12.1 to 12.2 with generally lower metal release in comparison to the tailings sample without lime amendment. In comparison to the OGWQG, all samples show elevated selenium. Sulfate was also slightly elevated above the OGWQG for the arkose sample and chromium was slightly elevated above the OGWQG for the MLDWT sample. All other parameters were below the OGWQG.

Although arsenic and mercury were elevated in the supernatant solution, these constituents are leached from the tailings at concentrations below the OGWQG in the MWMP and SPLP tests. Furthermore, the addition of lime does not result in an increase in these constituents.

Table 6-30: Summary of Modified MWMP and SPLP Results

Parameter	Oregon Groundwater Quality Guidelines	Modified MWMP	Modified SPLP		
		Calico Leach Res. After CN Destruct.	Arkose (1/2)	MLDWT (1/2)	SLST (1/2)
Arsenic	*0.05*	0.0046	0.0053	0.0076	0.0031
Barium	*1*	0.045	0.277	0.332	0.339
Cadmium	*0.01*	0.003	<0.0001	<0.0001	<0.0001
Chloride	*250*	1.6	14.8	44.8	20.6
Chromium	*0.05*	<0.01	0.05	0.07	0.04
Copper	*1*	15.1	0.04	0.03	0.02
Fluoride	*4*	0.9	<1	<1	<1
Iron	*0.3*	1.24	<0.02	0.02	<0.02
Lead	*0.05*	0.0028	0.0009	0.0009	0.0025
Manganese	*0.05*	5.6	<0.005	<0.005	<0.005
Mercury	*0.002*	<0.0002	<0.0002	<0.0002	<0.0002
Nitrate/Nitrite as N	*10*	0.17	0.29	0.37	0.28
pH (s.u.)	*6.5-8.5*	4.5	12.1	12.2	12.2
Selenium	*0.01*	0.012	0.0244	0.033	0.0218
Silver	*0.05*	<0.01	<0.01	<0.01	<0.01
Sulfate	*250*	606	286	178	3.6
TDS	*500*	948	<0.005	<0.005	0.005
Zinc	*5*	0.55	<0.01	<0.01	<0.01

All units in mg/L except pH, which is in standard units (s.u.)
Pink shaded cells = Concentration exceeds Oregon Groundwater Quality Guidelines (OAR 340-40-020)
Source: Grassy Mountain Static Test Database Rev14

6.4.6 Kinetic Test Results

The tailings sample from the 2015 metallurgical test program that was not amended with lime was submitted for humidity cell testing. The tailings sample (HC-10) produced acidic leachates throughout the humidity cell test, with pH declining from 4.3 initially to pH~3 by week 40 and increased slightly from week 40 onwards to ~3.6. The iron leaching rates (up to 10 mg/kg/week) indicate that active sulfide oxidation occurred in this sample. Several constituents were mobile under these acidic conditions, with iron and manganese consistently elevated above OGWQG throughout the duration of the test and copper was elevated above the guideline between weeks zero and 24.The tailings cell also showed an initial flush (week zero) for a few additional constituents, including sulfate, aluminum, cadmium, fluoride, nickel, selenium, sulfate and zinc which likely reflects the removal of soluble oxidation products from the material surfaces. Of these, constituents that exceeded the OGWQG in week zero included selenium, sulfate and TDS. All other constituents that were elevated in week zero either did not have an associated water quality guideline (i.e., aluminum) or were not elevated relative to guidelines. These were typically flushed during the first couple of leach cycles. In addition, WAD cyanide was detected in the first two weeks of testing at 0.011 mg/L and was measured at below the detection limit of 0.003 mg/L every other week.

6.4.7 Metallurgical Test Decant Solution

Decant solution from each of the tailings buckets (two buckets per sample) were analyzed to represent the supernatant solution. Samples were compared to the OGWQG. All samples had slightly alkaline pH (ranging from 8.1 to 8.4). Arsenic, selenium, sulfate and TDS occurred in the supernatant solution at concentrations above the most stringent OGWQG in all samples. Mercury was above the OGWQG for the siltstone samples and one sample of both the arkose and MLDWT tailings.

Table 6-31: Summary of Metallurgical Test Decant Solution Results

Parameter	Oregon Groundwater Quality Guidelines	Samples					
		Arkose (1/2)	Arkose (2/2)	MLDWT (1/2)	MLDWT (2/2)	SLST (1/2)	SLST (2/2)
Arsenic	*0.05*	0.244	0.213	0.455	0.314	0.69	0.643
Barium	*1*	0.052	0.057	0.065	0.059	0.054	0.055
Cadmium	*0.01*	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Chloride	*250*	12.8	11.9	16.1	7.5	11.9	13.6
Chromium	*0.05*	0.001	0.001	0.001	0.001	0.001	0.001
Copper	*1*	0.0085	0.007	0.0076	0.0065	0.048	0.0468
Fluoride	*4*	0.24	1	0.31	0.25	0.31	0.29
Iron	*0.3*	0.02	0.02	0.04	0.04	0.02	0.03
Lead	*0.05*	0.0007	0.001	0.0004	0.0005	0.0007	0.0002
Manganese	*0.05*	0.0398	0.0366	0.038	0.0258	0.0375	0.0369
Mercury	*0.002*	0.0066	0.0007	0.036	0.0009	0.028	0.0072
Nitrate/Nitrite as N	*10*	0.21	0.21	0.24	0.21	0.21	0.21
pH, stu	*6.5-8.5*	8.1	8.1	8.2	8.1	8.4	8.4
Selenium	*0.01*	0.0625	0.0573	0.0527	0.0423	0.0277	0.0277
Silver	*0.05*	0.0003	0.0001	0.0014	0.0001	0.0001	0.0001
Sulfate	*250*	1370	1400	1640	1590	1450	1330
TDS	*500*	2110	2140	2510	2450	2310	2170
Zinc	*5*	0.01	0.01	0.06	0.02	0.01	0.01

All units in mg/L except pH, which is in standard units (s.u.)

Pink shaded cells = Concentration exceeds Oregon Groundwater Quality Guidelines (OAR 340-40-020)

Source: Grassy Mountain Static Test Database Rev14

7 Conclusions

SRK Consulting (US) Inc. (SRK) has completed a mine waste characterization program for Calico as part of the planning and impact assessment for the Grassy Mountain Project. Geochemical testing of mine waste materials provides a basis for assessment of the potential for ARD/ML prediction of contact water quality, and evaluation of options for design, construction, and closure of the mine facilities. The characterization effort focused on the assessment of development rock (waste rock and ore), borrow material, access road and geochemistry and evaluation of tailings material from mineral beneficiation.

The following sections provide a summary of the geochemical characterization results for the Grassy Mountain Project.

7.1 Waste Rock and Ore

The Grassy Mountain underground waste rock shows variable geochemical behavior and each material type has a wide range of sulfide content and predicted acid generation from the static test results. Overall, the waste rock has very limited acid neutralizing capacity due to the low inorganic carbon content and as such the predicted acid generating potential is strongly related to sulfide content. The characterization results for the ore grade material are comparable to the waste rock material.

Based on the ABA results, the majority of samples tested (93%) show an uncertain potential for acid generation based on the BLM criteria (BLM, 2004). Only 2% of samples tested meet the BLM criteria for non-acid generating materials based on a net neutralizing potential greater than 20 kg $CaCO_3$ eq/ton and greater than three-fold excess of neutralizing capacity. Five percent (5%) of samples tested are clearly acid generating materials based on NPR values less than 1 (i.e., no excess neutralizing capacity) and a net neutralization potential of less than -20 kg $CaCO_3$ eq/ton. The Grassy Mountain waste rock and ore materials have very limited acid neutralizing capacity due to the low TIC content. In the absence of NP, the acid generating potential of the materials is directly related to the sulfide content. Samples with a sulfide content greater than 0.5 wt% are acid generating with NNP values less than -20 kg $CaCO_3$ eq/ton. There is a near linear relationship between NPR and sulfide sulfur content and the potential for acid generation increases with increasing sulfide sulfur.

The presence of sulfide sulfur in higher concentrations increases the potential for the materials to produce acid where insufficient neutralizing potential is present. However, both the NPR and NNP criteria are less meaningful in instances where both NP and AP are low or near detection (i.e., inert from an ABA perspective) and the low NNP and NPR values may be misleading. In these cases, kinetic testing is important to better understand the actual acid generating potential of the materials.

The NAG results are consistent with the ABA data and show that samples with sulfide sulfur greater than 0.5 wt% are predicted to have a higher capacity for acid generation with NAG values greater than 20 kg H_2SO_4 eq/ton. Samples with sulfide sulfur content between 0.05 and 0.5 wt% show a low to moderate potential for acid generation with NAG values between 1 and 20 kg H_2SO_4 eq/ton.

Based on the MWMP test, the majority of the samples have neutral to alkaline paste pH values (pH 6 - 8) indicating minimal readily soluble acid sulfate salts from prior oxidation of the core material. The exceptions are a few samples of mudstone and siltstone with the highest sulfide sulfur content that generated acidic leachate. Constituents above OGWQG under the low pH conditions include sulfate, arsenic, cadmium, chromium, copper, fluoride, iron, manganese, selenium and zinc. For samples with neutral pH (i.e., pH >7) all constituents were below the OGWQG.

Eight of the nine humidity cell tests generated acidic leachate throughout the test and indicate that samples with an uncertain potential for acid generation from the ABA will generate acid under long term weathering conditions. The only two samples that maintained neutral conditions during the HCT program were sinter material. All other material types are considered to be acid generating including the sandstone, siltstone and mudstone. A comparison of the HCT leachate chemistry to OGWQG indicates the mudstone (HC-3 and HC-4) had the greatest number of parameters that exceeded guidelines and the sinter cells (HC-8 and HC-9) had the least. Most cells that developed acidic conditions leached copper, iron, manganese, arsenic and sulfate at concentrations greater than the guidelines, indicating these elements can be mobilized from these samples under acidic pH conditions. Other constituents that were leached above OGWQG during the first few weeks of the test include cadmium, chromium, copper, fluoride, lead, selenium, silver and zinc.

In summary, the results of the Grassy Mountain geochemical characterization program indicate that the majority of the waste rock and unprocessed ore material will generate acid and leach metals under long term weathering conditions. The exceptions to this include the sinter material that shows a low potential for acid generation. This can be attributed to the lower sulfide sulfur content associated with this material type.

7.2 Access Road Cut and Borrow Material

The borrow material from the proposed basalt quarry has no potential for acid generation with total sulfur values below the detection limit of 0.01% for all samples. In addition, all samples were classified as near-neutral, low metal waters in the MWMP tests and all parameters were below the OGWQG.

The results for the access road cut materials were similar to the borrow material and total sulfur values were below the detection limit of 0.01% indicating bedrock that could be encountered during the access road development has no potential for acid generation. All access road cut samples were classified as near-neutral, low metal waters in the MWMP tests and all parameters were below the OGWQG.

7.3 Tailings Material

Geochemical testing included tailings material from the 2015 metallurgical test program (1 sample) and the 2018 metallurgical test program (3 samples). The results indicate that despite low sulfide sulfur, the tailings material has a potential to generate acid due to the low NP. The potential for tailings material to generate acid and leach metals was confirmed by the HCT results for the unamended tailings sample from the 2015 metallurgical test program. Under low pH conditions, iron, manganese and copper were mobile at concentrations greater than the OGWQ.

In addition, there was an initial flush of several other constituents, including sulfate, aluminum, cadmium, fluoride, nickel, selenium, sulfate and zinc which likely reflects the removal of soluble oxidation products from the tailings material surfaces. Supernatant samples had slightly alkaline pH and exceeded the OGWQG for arsenic, selenium, sulfate and TDS.

ABA test results were used to determine the amount of lime required to neutralize the tailings to meet the regulatory requirement of an NPR > 3 and an NNP > 20 kg $CaCO_3$/t. The ABA results for the tailings material demonstrate that there is some inherent variation in the sulfide sulfur and NP content of the tailings materials that is likely to occur during mining operations. In order to take into account the slight variation in NP and sulfide sulfur in the tailings material, the amount of lime amendment needs to exceed the minimum amount required to ensure that the neutralization criteria specified in the OAR 340-043-0130 (2) is met.

Leach test results from tailings samples amended with lime indicate that selenium is leached under alkaline conditions at concentrations above the OGWQG. Sulfate and chromium were also slightly elevated above the OGWQG for one sample and all other parameters were below the OGWQG. However, the tailings impoundment will be lined, reducing the potential for the tailings to impact groundwater.

In summary, the tailings material associated with the Grassy Mountain project requires lime amendment to achieve non-acid generating characteristics. A tailings management plan will need to be developed to collect samples of tailings on a routine basis for geochemical testing in order to adjust the liming rate during operations.

7.4 Cemented Rock Fill

During operations, approximately equal amounts of rock fill (RF) and cemented rock fill (CRF) will be placed as backfill in the underground workings. Calico's proposed mine plan indicates that a portion of the RF and CRF will be placed below the groundwater table. Sources of aggregate include the borrow material (i.e., basalt) and waste rock. Due to the benign nature of the basalt, this material will be used as either RF or CRF aggregate.

Based on the waste rock characterization program described herein, the majority of the waste rock associated with the project has a potential to generate acid and leach metals. Based on Calico's proposed mine plan, an estimated mix of five percent cement will be added to the waste rock CRF. The addition of lime will provide some neutralization capacity to the CRF; however, samples representative of CRF with waste rock have not undergone geochemical characterization. Therefore, CRF containing waste rock will only be placed above the saturated zone and will not become saturated once the groundwater recovers in the mine area, thereby minimizing the potential to impact groundwater.

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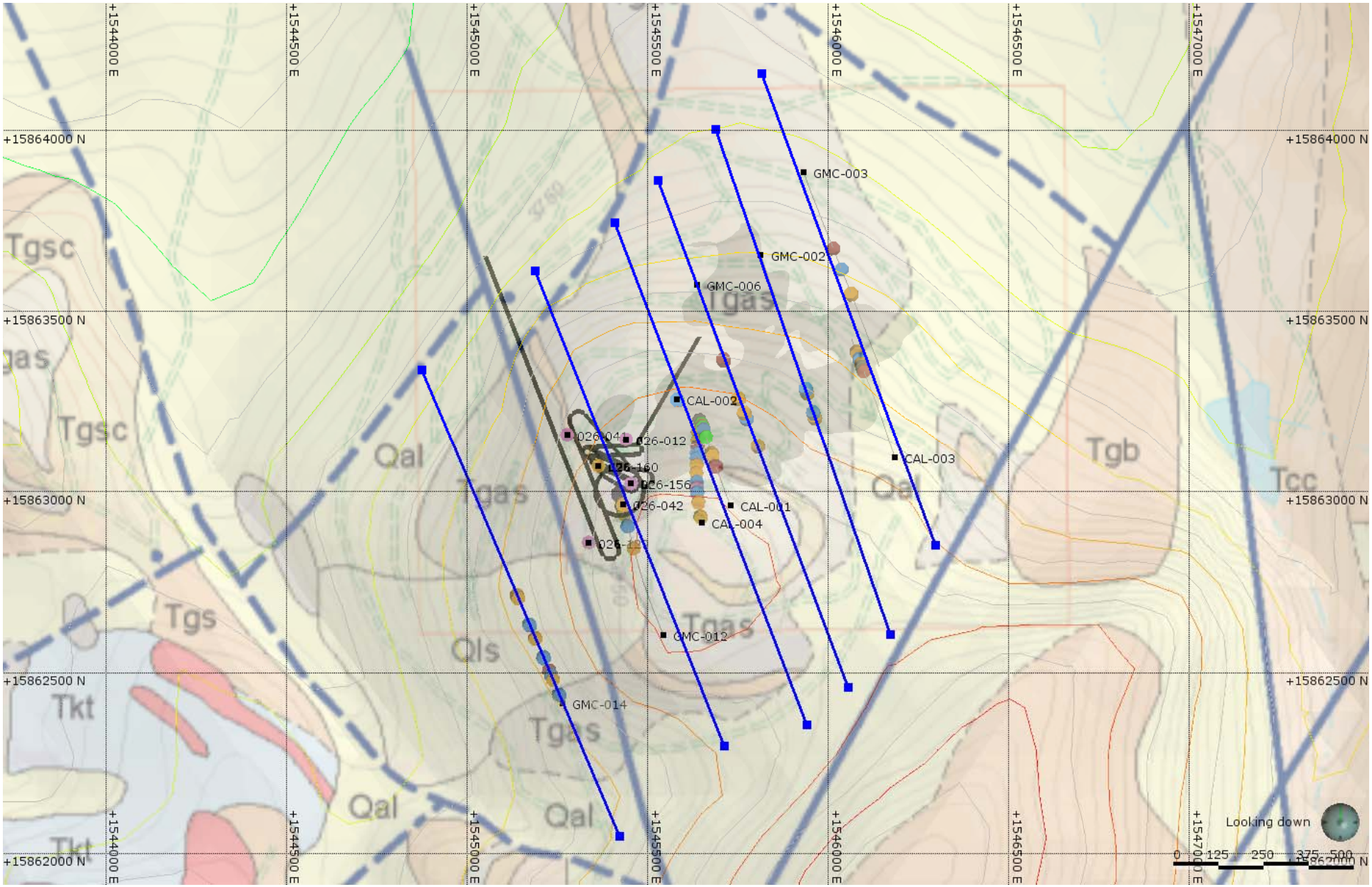
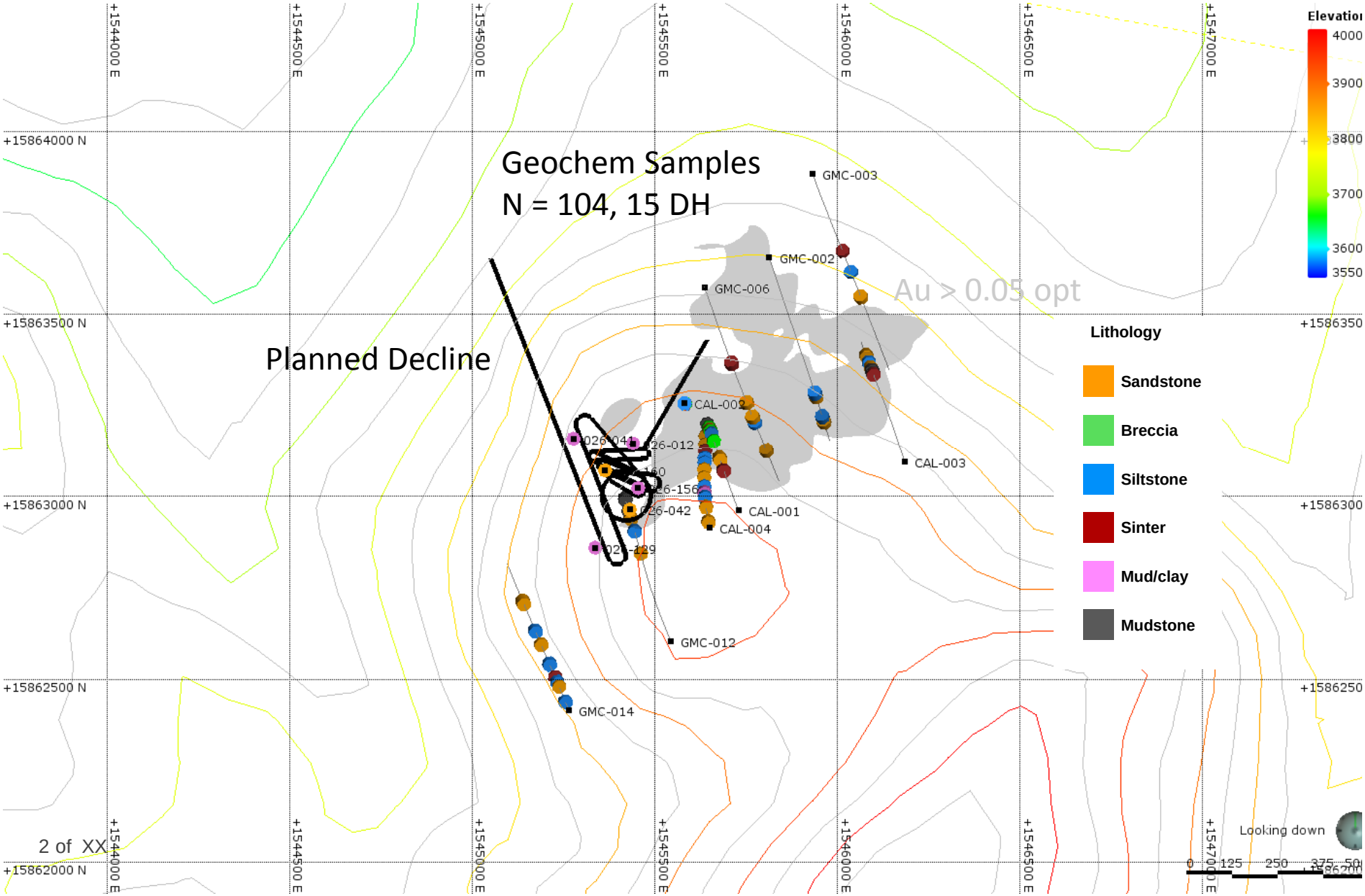
Appendices

Appendix A
Sample Distribution

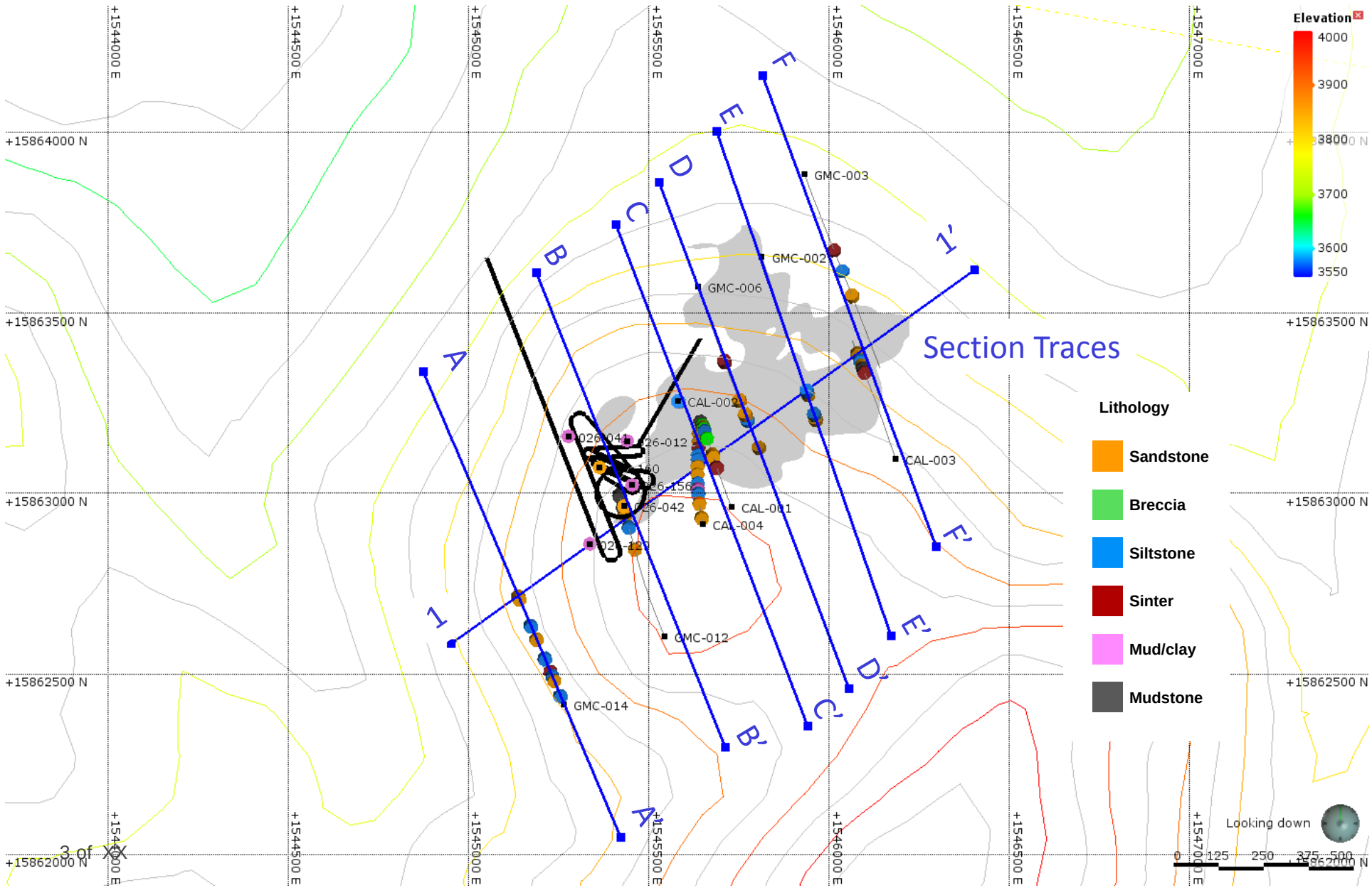
Plan View with Geology



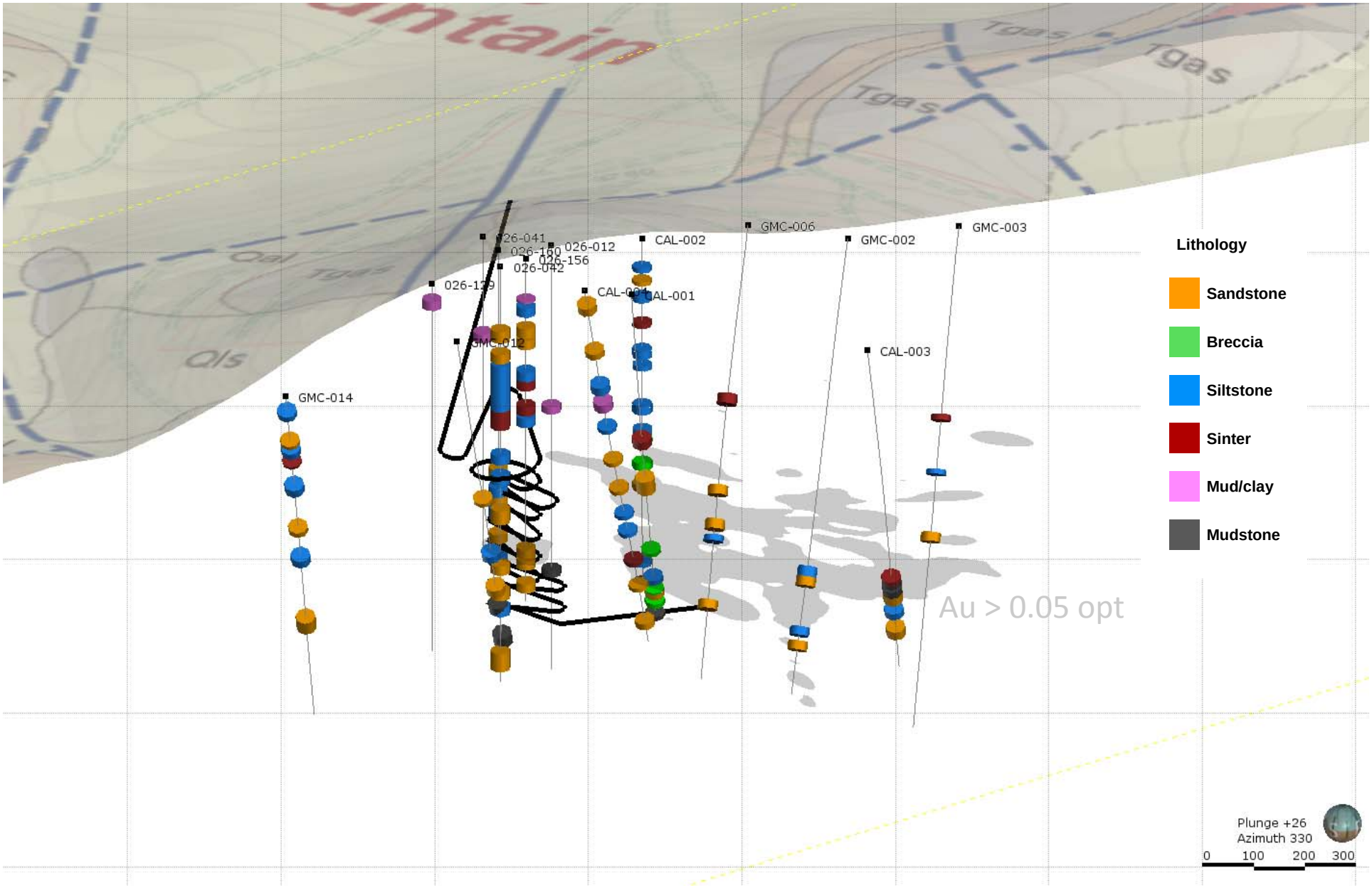
Plan View with Ore Outline



Plan View with Section Traces



Oblique View (Looking NW and Down)



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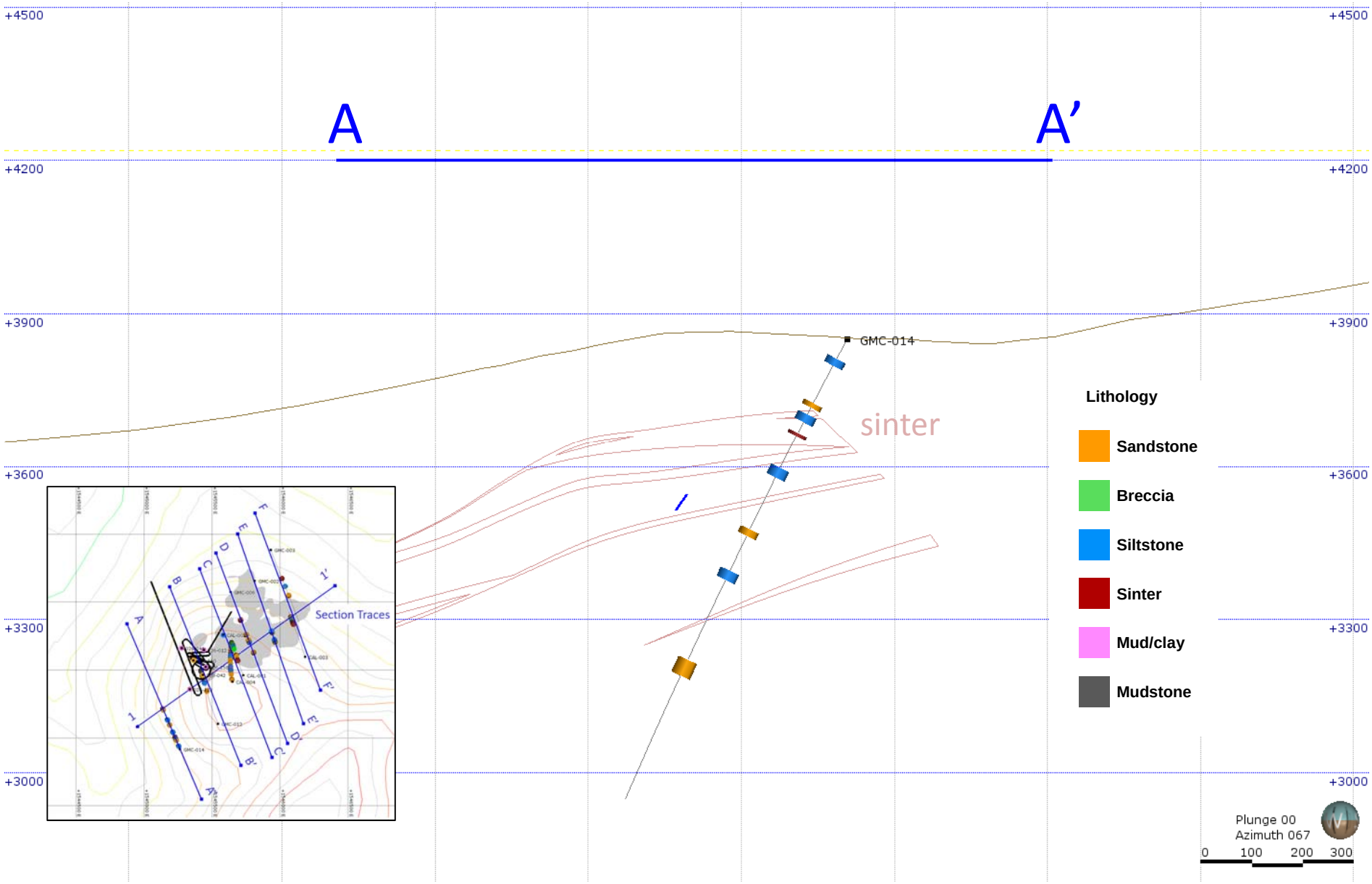

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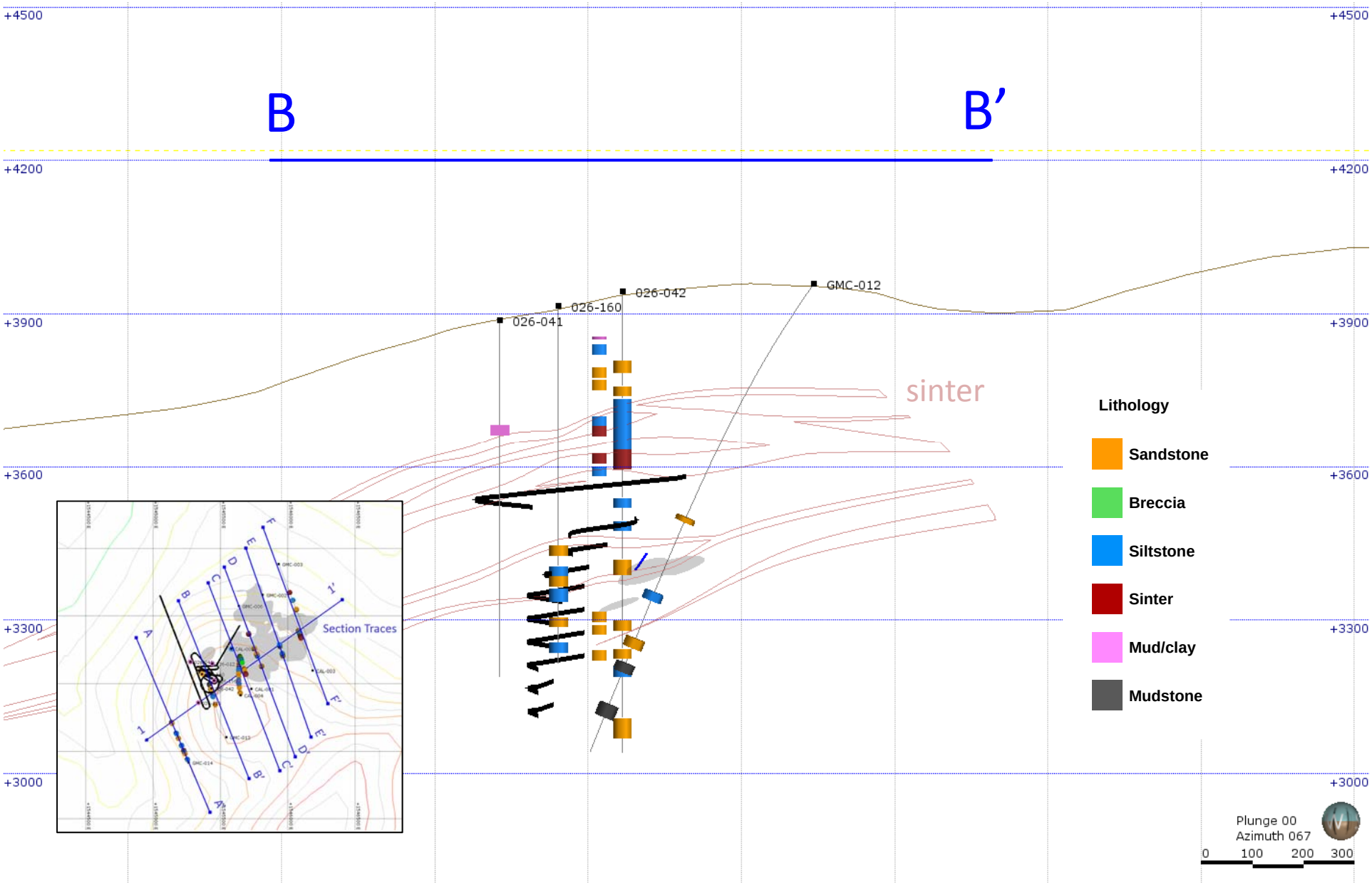

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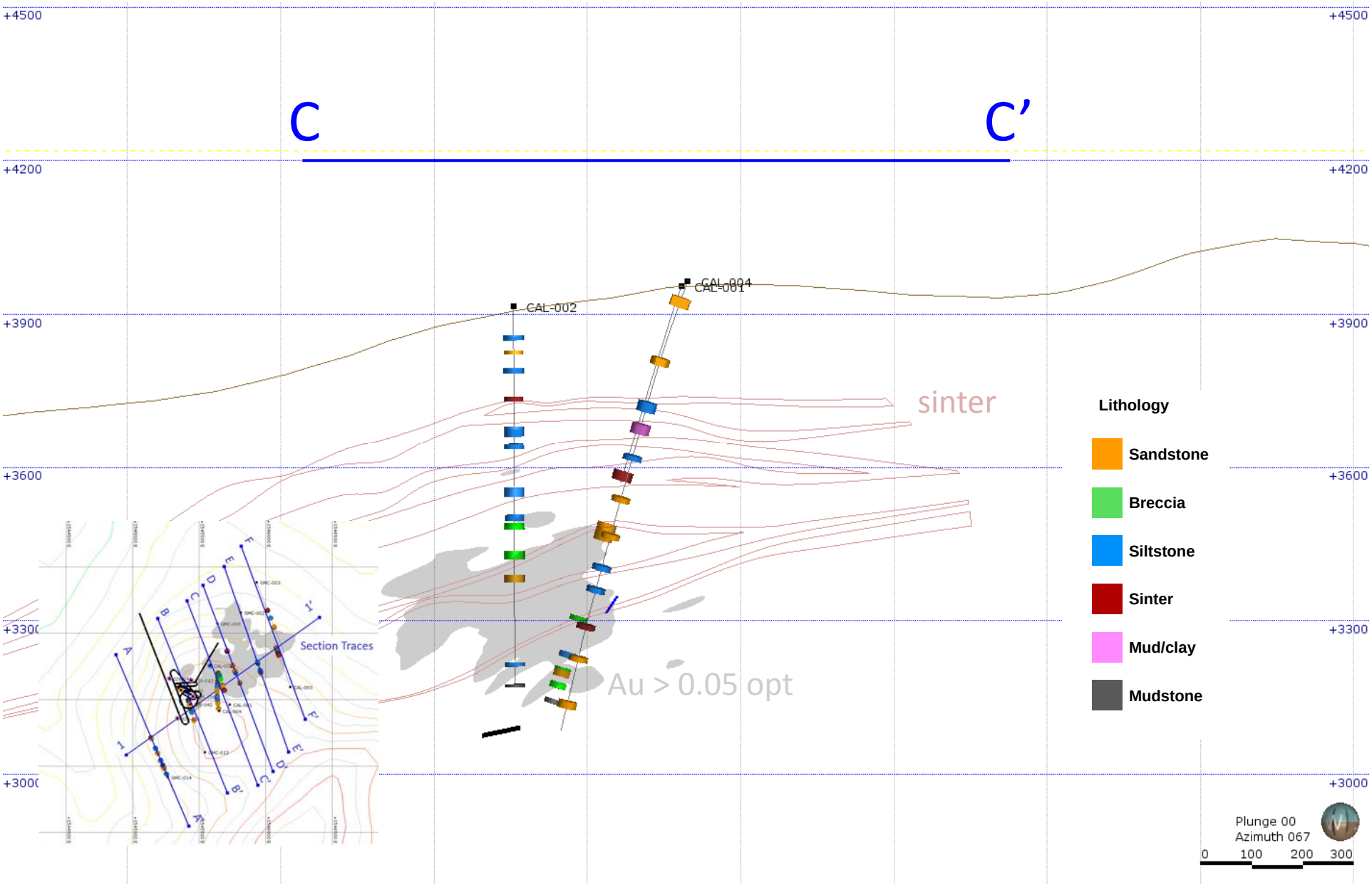

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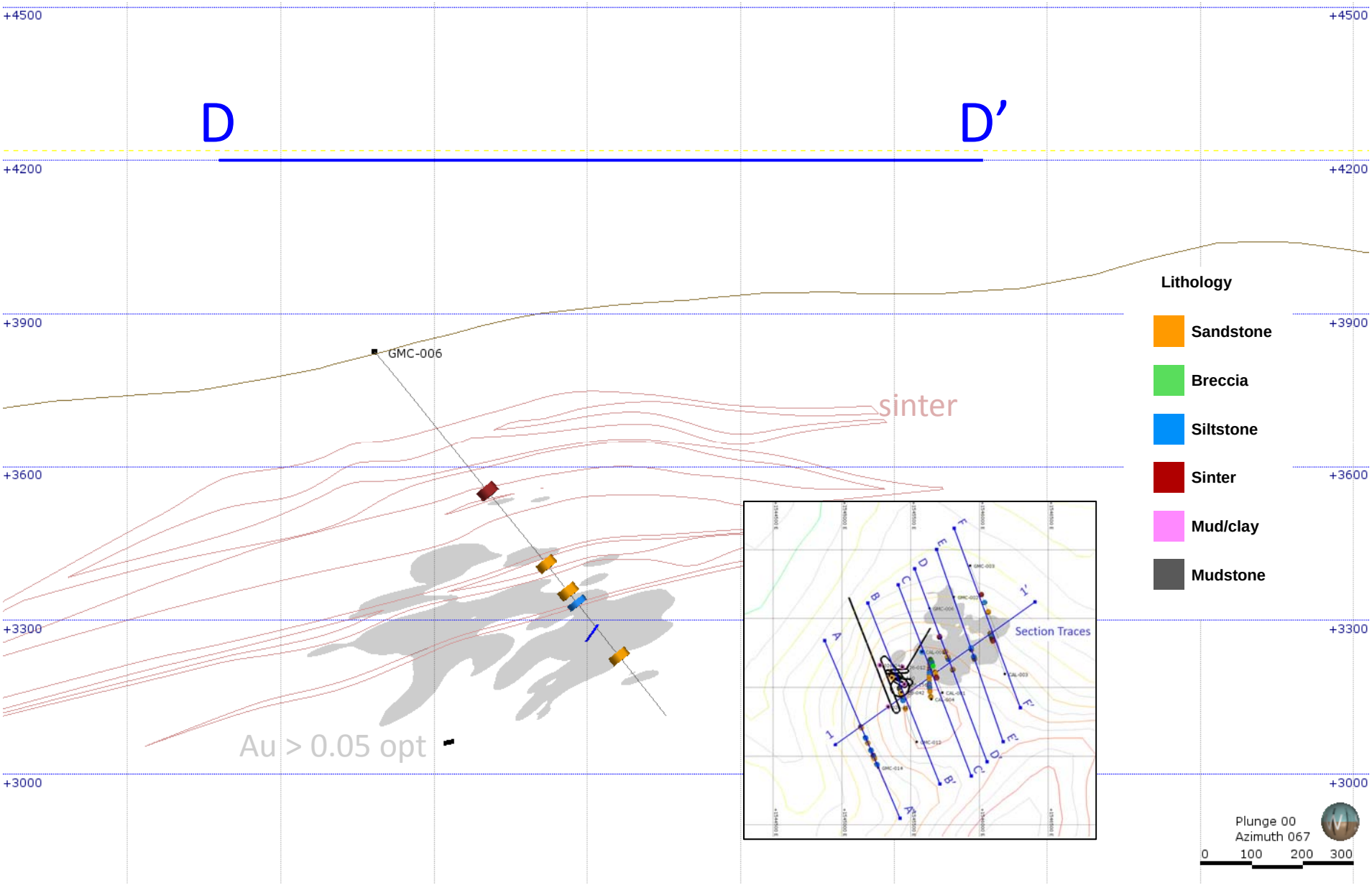

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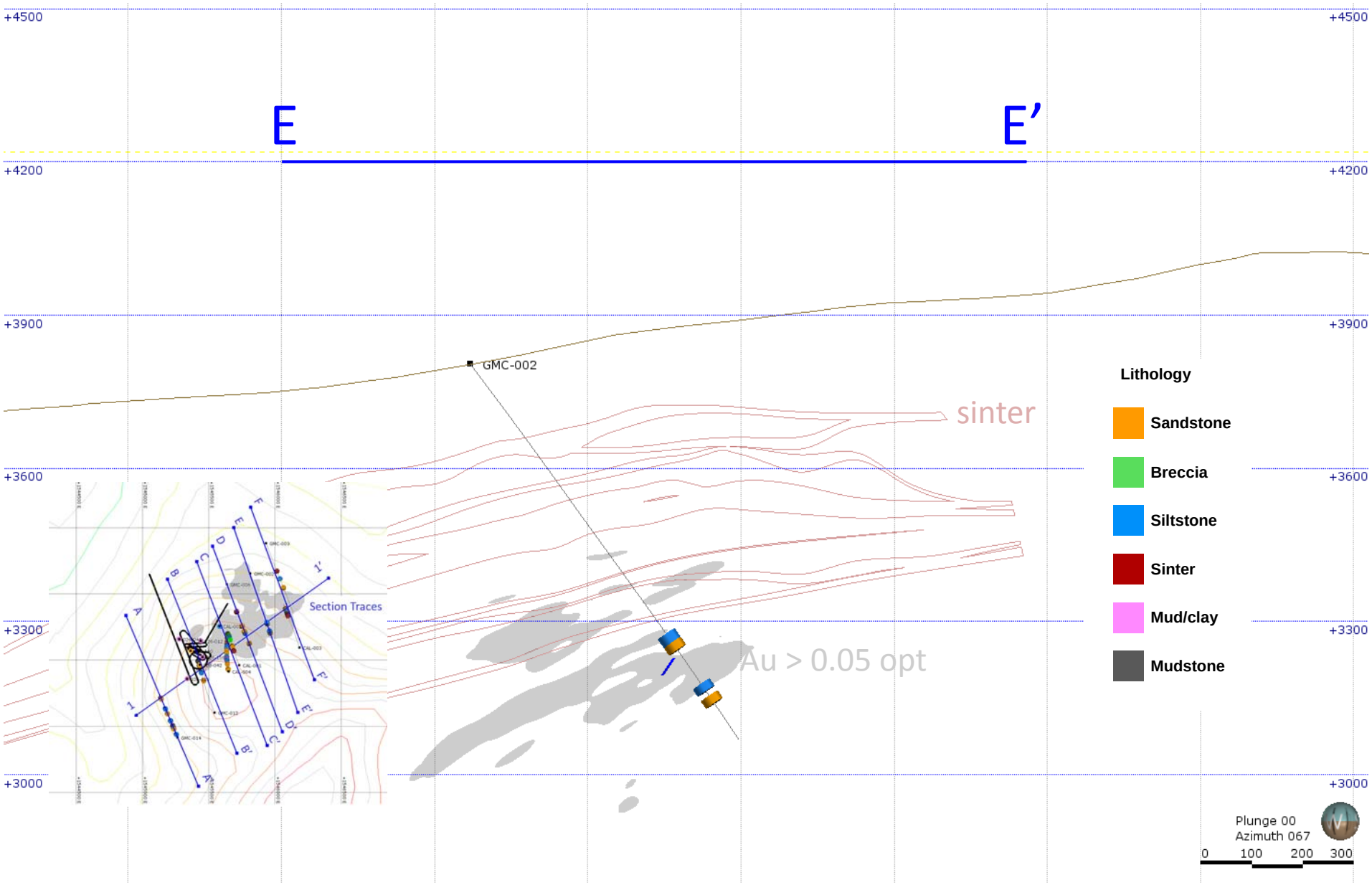

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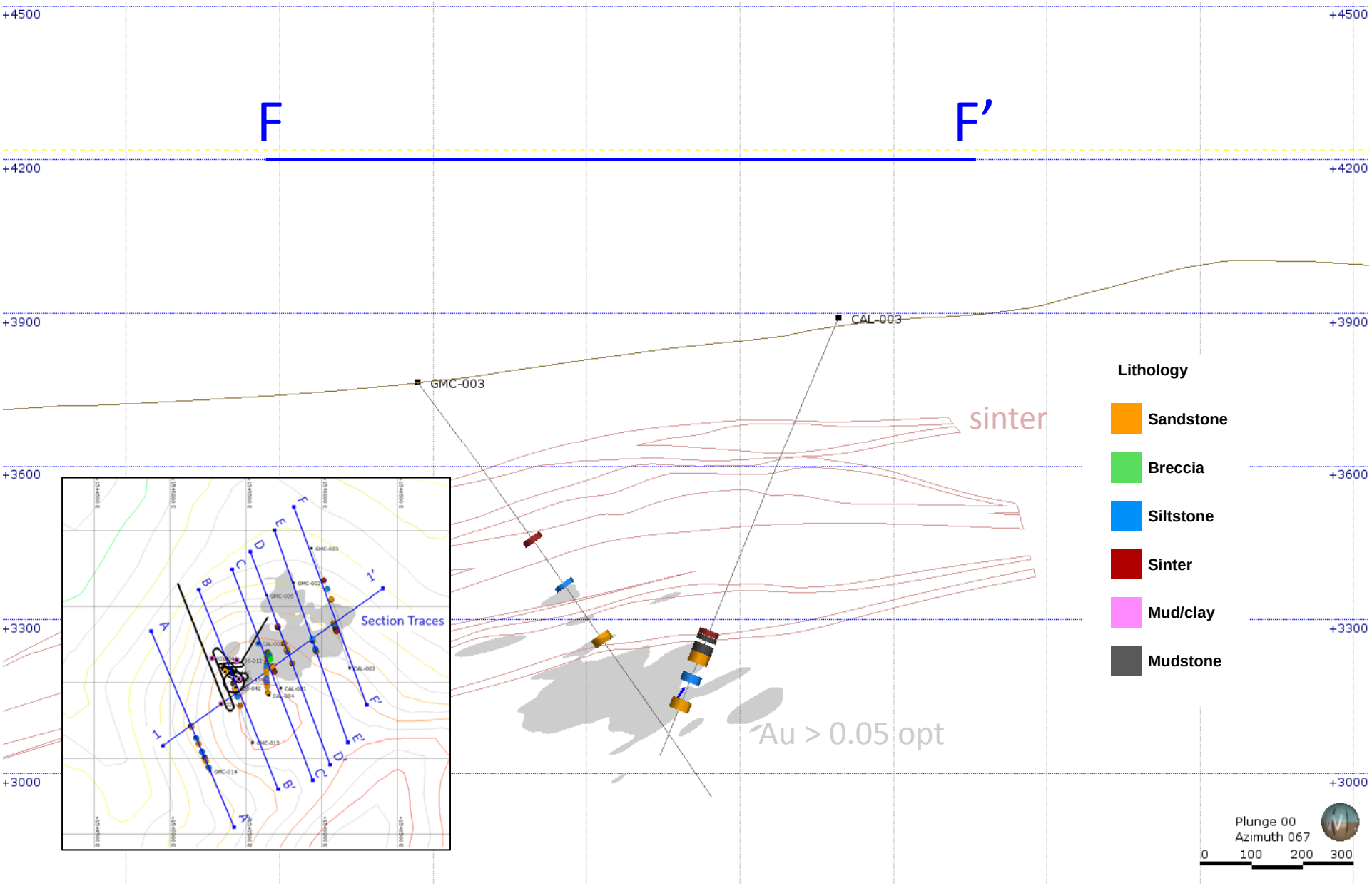
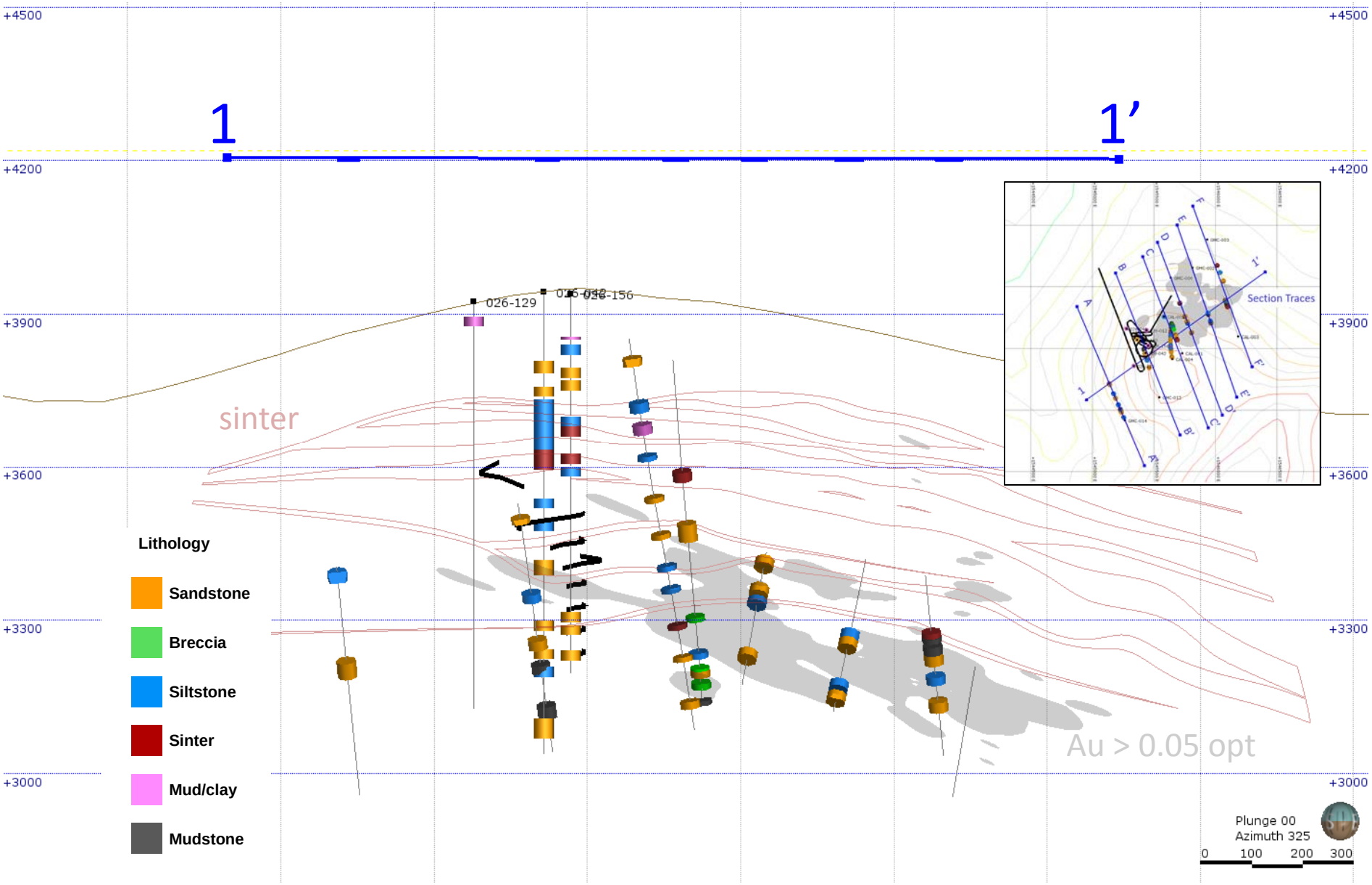


Longitudinal Section 1 – 1’



Appendix B

Waste Rock and Ore Static Test Laboratory Reports

Appendix B1

Tabulated Static Test Data

Appendix B1
Tabulated Acid Base Accounting Results

Sample I.D.	Lithology	Ore/ Waste	Material Type	Paste pH	Sulfur, weight percent (as S)					AGP[1]	ANP	NNP[2]	NPR[3]	NAG pH	NAG			Total Inorganic Carbon	NP (TIC)
					Total	Sulfate	Pyritic	Non-Ext	Non Sulfate						@ pH 4.5	@ pH 7	Total NAG		
				s.u.	wt%					kg $CaCO_3$ eq/t				s.u.	kg H_2SO_4 eq/t			wt%	kg H_2SO_4 eq/t
CAL-001 (487-505.4)	Sandstone	Ore	Core	5.44	0.411	0.155	0.232	0.024	0.256	7.3	0.5	-6.8	0.07	3.09	2.3	10.4	12.7	<0.1	<8.3
CAL-003 (710-732)	Sandstone	Ore	Core	7.1	0.13	0.087	0.043	<0.01	0.043	1.3	<0.3	-1.3	<0.23	5.6	<0.1	<0.1	0.2	<0.1	<8.3
CAL-004 (520-530)	Sandstone	Ore	Core	5.92	0.44	0.275	0.152	0.013	0.165	4.8	<0.3	-4.8	<0.06	2.88	3.2	10.2	13.4	<0.1	<8.3
GMC-003 (610-628)	Sandstone	Ore	Core	6.84	0.138	0.102	0.022	0.015	0.036	0.7	<0.3	-0.7	<0.43	5.23	<0.1	<0.1	0.2	<0.1	<8.3
GMC-006 (593-613)	Sandstone	Ore	Core	6.96	0.105	0.06	0.045	<0.01	0.045	1.4	<0.3	-1.4	<0.21	4.71	<0.1	<0.1	0.2	<0.1	<8.3
CAL-001 (505.4-523)	Sandstone	Waste	Core	5.95	0.562	0.176	0.374	0.012	0.386	11.7	<0.3	-11.7	<0.03	2.59	10	3.9	13.9	<0.1	<8.3
CAL-001 (787-801)	Sandstone	Waste	Core	7.36	0.167	0.123	0.021	0.023	0.044	0.7	0.5	-0.2	0.71	5.46	<0.1	<0.1	0.2	<0.1	<8.3
CAL-002 (86-95)	Sandstone	Waste	Core	6.36	0.471	0.225	0.246	<0.01	0.246	7.7	<0.3	-7.7	<0.04	2.37	9.2	2.5	11.7	<0.1	<8.3
CAL-002 (527-541.5)	Sandstone	Waste	Core	7.13	0.143	0.064	0.078	<0.01	0.078	2.4	0.5	-1.9	0.21	3.91	0.4	11.7	12.1	<0.1	<8.3
CAL-003 (808-830)	Sandstone	Waste	Core	7.64	0.016	0.016	<0.01	<0.01	<0.01	<0.3	0.5	0.5	1.67	5.79	<0.1	<0.1	0.2	<0.1	<8.3
CAL-004 (35-55)	Sandstone	Waste	Core	7.99	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	3	3	10.00	6.14	<0.1	<0.1	0.2	<0.1	<8.3
CAL-004 (160-175)	Sandstone	Waste	Core	8.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	1.5	1.5	5.00	5.88	<0.1	<0.1	0.2	<0.1	<8.3
CAL-004 (445-455)	Sandstone	Waste	Core	5.9	0.292	0.232	0.025	0.035	0.06	0.8	<0.3	-0.8	<0.38	5.55	<0.1	<0.1	0.2	<0.1	<8.3
GMC-002 (675-693)	Sandstone	Waste	Core	7.16	0.251	0.21	0.021	0.02	0.041	0.7	<0.3	-0.7	<0.43	5.57	<0.1	<0.1	0.2	<0.1	<8.3
GMC-002 (802-820)	Sandstone	Waste	Core	6.97	0.124	0.069	0.055	<0.01	0.055	1.7	<0.3	-1.7	<0.18	3.84	0.4	13.7	14.1	<0.1	<8.3
GMC-006 (525-544)	Sandstone	Waste	Core	6.33	0.216	0.148	0.052	0.015	0.068	1.6	<0.3	-1.6	<0.19	3.58	0.6	11.9	12.5	<0.1	<8.3
GMC-006 (755-773)	Sandstone	Waste	Core	6.81	0.351	0.264	0.045	0.042	0.087	1.4	<0.3	-1.4	<0.21	5.64	<0.1	<0.1	0.2	<0.1	<8.3
GMC-012 (523-533)	Sandstone	Waste	Core	6.13	0.177	0.115	0.062	<0.01	0.062	1.9	<0.3	-1.9	<0.16	3.36	0.8	12.3	13.1	<0.1	<8.3
GMC-012 (780-800)	Sandstone	Waste	Core	6.53	0.568	0.354	0.178	0.036	0.214	5.6	<0.3	-5.6	<0.05	2.65	5.5	5.5	11	<0.1	<8.3
GMC-014 (420-434)	Sandstone	Waste	Core	5.87	0.512	0.328	0.158	0.026	0.184	4.9	0.3	-4.9	<0.06	5.64	<0.1	<0.1	0.2	<0.1	<8.3
CAL-004 (770-780)	Sandstone	Waste	Core	7.33	0.188	0.145	0.028	0.016	0.043	0.9	<0.3	0.9	<0.33	5.65	<0.1	<0.1	0.2	<0.1	<8.3
CAL-004 (860-875)	Sandstone	Waste	Core	7.73	0.251	0.157	0.083	0.012	0.094	2.6	<0.3	2.6	<0.12	3.14	1.6	13.1	14.7	<0.1	<8.3
GMC-014 (142-152)	Sandstone	Waste	Core	6.62	0.165	0.115	0.05	<0.01	0.05	1.6	0.3	-1.6	<0.19	5.41	<0.1	<0.1	0.2	<0.1	<8.3
GMC-014 (703-737)	Sandstone	Waste	Core	7.33	0.296	0.206	0.09	<0.01	0.09	2.8	0.3	-2.8	<0.11	4.28	0.2	10.1	10.3	<0.1	<8.3
026-042 (155-160)	Sandstone	Ore	Pulps	7.8	0.046	0.03	0.016	<0.01	0.016	0.5	6.1	5.6	12.2	4.88	<0.1	<0.1	0.2	<0.1	<8.3
026-042 (700-720)	Sandstone	Ore	Pulps	7.77	0.465	0.259	0.206	<0.01	0.206	6.4	<0.3	-6.4	<0.05	2.88	2.5	5.1	7.6	<0.1	<8.3
026-042 (135-155)	Sandstone	Waste	Pulps	7.67	0.015	0.015	<0.01	<0.01	<0.01	<0.3	0.5	0.5	1.67	4.99	<0.1	<0.1	0.2	<0.1	<8.3
026-042 (185-205)	Sandstone	Waste	Pulps	8.08	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	2	2	6.67	5.14	<0.1	<0.1	0.2	<0.1	<8.3
026-042 (645-665)	Sandstone	Waste	Pulps	6.83	0.374	0.255	0.081	0.038	0.119	2.5	1	-1.5	0.4	2.85	1.7	7.4	9.1	<0.1	<8.3
026-042 (835-855)	Sandstone	Waste	Pulps	6.51	1.17	0.295	0.875	<0.01	0.875	27.3	1	-26.3	0.04	2.49	19.4	5.2	24.6	<0.1	<8.3
026-156 (145-165)	Sandstone	Waste	Pulps	7.2	0.01	0.01	<0.01	<0.01	<0.01	<0.3	2	2	6.67	5.66	<0.1	<0.1	0.2	<0.1	<8.3
026-156 (650-670)	Sandstone	Waste	Pulps	6.01	0.286	0.235	0.026	0.025	0.051	0.8	2	1.2	2.5	5.55	<0.1	<0.1	0.2	<0.1	<8.3
026-160 (470-490)	Sandstone	Waste	Pulps	5.43	0.187	0.127	0.06	<0.01	0.06	1.9	2.5	0.6	1.32	3.27	1	11.2	12.2	<0.1	<8.3
026-160 (530-550)	Sandstone	Waste	Pulps	5.65	0.199	0.152	0.033	0.014	0.047	1	2	1	2	4.32	0.2	5.2	5.4	<0.1	<8.3
026-160 (610-630)	Sandstone	Waste	Pulps	5.26	0.26	0.216	0.014	0.03	0.044	0.4	0.5	0.1	1.25	4.77	<0.1	<0.1	0.2	<0.1	<8.3
026-042 (535-555)	Sandstone	Waste	Pulps	8.42	0.025	0.025	<0.01	<0.01	<0.01	<0.3	57.4	57.4	191.33	6.78	<0.1	<0.1	0.2	0.605	50.4
026-042 (855-875)	Sandstone	Waste	Pulps	7.81	0.166	0.06	0.106	<0.01	0.106	3.3	0.5	-2.8	0.15	3.16	1.2	14.9	16.1	<0.1	<8.3
026-156 (170-190)	Sandstone	Waste	Pulps	7.48	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	1	5.39	<0.1	<0.1	0.2	<0.1	<8.3
026-156 (625-645)	Sandstone	Waste	Pulps	5.35	0.45	0.296	0.154	<0.01	0.154	4.8	<0.3	-4.8	<0.06	3.08	3.7	5.7	9.4	<0.1	<8.3
026-156 (700-720)	Sandstone	Waste	Pulps	6.09	0.291	0.236	0.055	<0.01	0.055	1.7	<0.3	-1.7	<0.18	5.48	<0.1	<0.1	0.2	<0.1	<8.3
CAL-001 (782-801)	Breccia	Waste	Core	7.36	0.178	0.148	<0.01	0.024	0.03	<0.3	0.5	0.5	1.67	5.66	<0.1	<0.1	0.2	<0.1	<8.3
CAL-001 (822-825)	Breccia	Ore	Core	6.58	0.366	0.295	0.027	0.045	0.071	0.8	<0.3	-0.8	<0.38	5.44	<0.1	<0.1	0.2	<0.1	<8.3
CAL-002 (425-430)	Breccia	Ore	Core	7.11	0.136	0.082	0.043	0.011	0.054	1.3	<0.3	-1.3	<0.23	4.9	<0.1	<0.1	0.2	<0.1	<8.3
CAL-002 (430-438)	Breccia	Ore	Core	6.57	0.632	0.256	0.361	0.015	0.376	11.3	<0.3	-11.3	<0.03	2.73	11.2	4.4	15.6	<0.1	<8.3
CAL-002 (480-496)	Breccia	Ore	Core	6.85	0.238	0.127	0.099	0.012	0.111	3.1	<0.3	-3.1	<0.1	3.29	1.2	10.2	11.4	<0.1	<8.3
CAL-001 (812-822)	Breccia	Ore	Core	7.29	0.15	0.096	0.042	0.011	0.054	1.3	<0.3	-1.3	<0.23	4.97	<0.1	<0.1	0.2	<0.1	<8.3
CAL-001 (677-687)	Breccia	Ore	Core	5.43	0.509	0.217	0.26	0.032	0.292	8.1	<0.3	-8.1	<0.04	2.66	5.9	7	12.9	<0.1	<8.3
CAL-001 (847-857)	Mudstone	Waste	Core	6.81	0.047	0.03	0.017	<0.01	0.017	0.5	<0.3	-0.5	<0.6	5.46	<0.1	<0.1	0.2	<0.1	<8.3
CAL-001 (852.5-857)	Mudstone	Waste	Core	6.77	0.017	0.017	<0.01	<0.01	<0.01	0.3	<0.3	0.0	<1	5.48	<0.1	<0.1	0.2	<0.1	<8.3
CAL-003 (675-685)	Mudstone	Waste	Core	3.76	1.86	0.47	1.36	0.035	1.39	42.5	<0.3	-42.5	<0.01	2.33	38	9.2	47.2	<0.1	<8.3
CAL-002 (740-747)	Mudstone	Waste	Core	4.69	1.53	0.32	1.2	0.011	1.21	37.5	<0.3	-37.5	<0.01	2.39	32.5	6	38.5	<0.1	<8.3

Appendix B1
Tabulated Acid Base Accounting Results

Sample I.D.	Lithology	Ore/ Waste	Material Type	Paste pH	Sulfur, weight percent (as S)					AGP[1]	ANP	NNP[2]	NPR[3]	NAG pH	NAG			Total Inorganic Carbon	NP (TIC)
					Total	Sulfate	Pyritic	Non-Ext	Non Sulfate						@ pH 4.5	@ pH 7	Total NAG		
GMC-012 (832-851)	Mudstone	Waste	Core	3.78	0.883	0.32	0.526	0.037	0.563	16.4	<0.3	-16.4	<0.02	2.56	13.5	4.5	18	<0.1	<8.3
GMC-012 (919-946)	Mudstone	Waste	Core	2.96	2.74	0.82	1.86	0.06	1.92	58.1	<0.3	-58.1	<0.01	2.24	52.4	11.7	64.1	<0.1	<8.3
CAL-003 (692-710)	Mudstone	Ore	Core	6.67	0.338	0.184	0.107	0.047	0.154	3.3	<0.3	-3.3	<0.09	6.08	<0.1	0.1	0.2	<0.1	<8.3
026-012 (700-715)	Mudstone	Ore	Pulps	7.14	0.204	0.138	0.066	<0.01	0.066	2.1	1	-1.1	0.48	4.22	0.2	11.8	12	<0.1	<8.3
CAL-004 (295-315)	Mud/Clay	Waste	Core	5.44	0.181	0.108	0.073	<0.01	0.073	2.3	<0.3	-2.3	<0.13	3.2	1.4	7.8	9.2	<0.1	<8.3
026-156 (85-90)	Mud/Clay	Ore	Pulps	7.18	0.408	0.206	0.164	0.038	0.202	5.1	2	-3.1	0.39	3.82	0.8	12	12.8	<0.1	<8.3
026-012 (345-360)	Mud/Clay	Waste	Pulps	7.13	0.263	0.198	0.065	<0.01	0.065	2	4.1	2.1	2.05	6.23	<0.1	0.1	0.2	<0.1	<8.3
026-041 (205-225)	Mud/Clay	Waste	Pulps	8	0.076	0.054	0.022	<0.01	0.022	0.7	1	0.3	1.43	5.94	<0.1	0.1	0.2	<0.1	<8.3
026-129 (30-50)	Mud/Clay	Waste	Pulps	7.88	0.014	0.014	<0.01	<0.01	<0.01	<0.3	0.5	0.5	1.67	5.91	<0.1	0.1	0.2	<0.1	<8.3
CAL-002 (235-255)	Siltstone	Ore	Core	6.68	0.225	0.099	0.112	0.014	0.126	3.5	0.5	-3.0	0.14	2.66	3.5	10.2	13.7	<0.1	<8.3
CAL-002 (270-280)	Siltstone	Ore	Core	6.85	0.121	0.047	0.074	<0.01	0.074	2.3	<0.3	-2.3	<0.13	2.83	1.8	13.9	15.7	<0.1	<8.3
CAL-002 (409-422)	Siltstone	Ore	Core	6.47	0.436	0.183	0.237	0.016	0.253	7.4	<0.3	-7.4	<0.04	2.58	6.3	4.9	11.2	<0.1	<8.3
CAL-004 (250-270)	Siltstone	Ore	Core	7.83	0.011	0.011	<0.01	<0.01	<0.01	<0.3	1	1	3.33	5.93	<0.1	<0.1	0.2	<0.1	<8.3
CAL-004 (585-595)	Siltstone	Ore	Core	6.24	0.108	0.07	0.038	<0.01	0.038	1.2	0.5	-0.7	0.42	5.11	<0.1	<0.1	0.2	<0.1	<8.3
CAL-004 (630-640)	Siltstone	Ore	Core	6.26	0.629	0.286	0.304	0.038	0.343	9.5	<0.3	-9.5	<0.03	2.63	7	5.2	12.2	<0.1	<8.3
GMC-002 (654-675)	Siltstone	Ore	Core	6.91	0.274	0.179	0.075	0.02	0.095	2.3	<0.3	-2.3	<0.13	3.23	1	13.5	14.5	<0.1	<8.3
GMC-003 (485-495)	Siltstone	Ore	Core	6.08	0.647	0.374	0.236	0.038	0.273	7.4	<0.3	-7.4	<0.04	2.47	8.4	6.1	14.5	<0.1	<8.3
GMC-006 (625-637.5)	Siltstone	Ore	Core	6.7	0.444	0.227	0.196	0.022	0.217	6.1	<0.3	-6.1	<0.05	2.58	6.6	5.5	12.1	<0.1	<8.3
CAL-001 (750-762)	Siltstone	Waste	Core	6.57	0.38	0.278	0.065	0.037	0.102	2.0	<0.3	-2.0	<0.15	3.7	0.6	13.9	14.5	<0.1	<8.3
CAL-002 (57-67)	Siltstone	Waste	Core	7.03	0.037	0.02	0.016	<0.01	0.016	0.5	0.5	0.0	1.00	5.42	<0.1	<0.1	0.2	<0.1	<8.3
CAL-002 (120-132)	Siltstone	Waste	Core	6.11	1.11	0.281	0.829	<0.01	0.829	25.9	<0.3	-25.9	<0.01	2.47	23.1	3.7	26.8	<0.1	<8.3
CAL-002 (355-375)	Siltstone	Waste	Core	6.82	0.159	0.058	0.089	0.012	0.101	2.8	<0.3	-2.8	<0.11	2.86	1.8	12.5	14.3	<0.1	<8.3
CAL-002 (697-706)	Siltstone	Waste	Core	7.22	0.342	0.232	0.085	0.025	0.11	2.7	<0.3	-2.7	<0.11	3.45	2	10.2	12.2	<0.1	<8.3
CAL-003 (755-772)	Siltstone	Waste	Core	7.34	0.082	0.056	0.013	0.012	0.025	0.4	<0.3	-0.4	<0.75	5.41	<0.1	<0.1	0.2	<0.1	<8.3
CAL-004 (360-370)	Siltstone	Waste	Core	6.31	0.08	0.053	0.026	<0.01	0.026	0.8	<0.3	-0.8	<0.38	5.41	<0.1	<0.1	0.2	<0.1	<8.3
GMC-002 (774-791)	Siltstone	Waste	Core	7.42	0.132	0.087	0.034	0.011	0.045	1.1	<0.3	-1.1	<0.27	5.03	<0.1	<0.1	0.2	<0.1	<8.3
GMC-012 (682-700)	Siltstone	Waste	Core	6.53	0.355	0.215	0.121	0.019	0.14	3.8	<0.3	-3.8	<0.08	2.86	2.9	5.5	8.4	<0.1	<8.3
GMC-014 (44-59)	Siltstone	Waste	Core	5.92	0.438	0.438	<0.01	<0.01	<0.01	<0.3	<0.3	0.0	<1	5.44	<0.1	<0.1	0.2	<0.1	<8.3
GMC-014 (176-184)	Siltstone	Waste	Core	3.29	1.11	0.622	0.488	<0.01	0.488	15.3	0.3	-15.3	<0.02	2.7	18.8	10.9	29.7	<0.1	<8.3
GMC-014 (285-306)	Siltstone	Waste	Core	6.16	0.173	0.144	0.029	<0.01	0.029	0.9	0.3	-0.9	<0.33	5.39	<0.1	<0.1	0.2	<0.1	<8.3
GMC-014 (510-530)	Siltstone	Waste	Core	7.24	0.485	0.231	0.254	<0.01	0.254	7.9	72.8	64.9	9.22	9.62	<0.1	<0.1	0.2	0.802	66.8
026-042 (210-230)	Siltstone	Waste	Pulps	7.2	0.013	0.013	<0.01	<0.01	<0.01	<0.3	3.1	3.1	10.33	5.08	<0.1	<0.1	0.2	<0.1	<8.3
026-042 (210-230)	Siltstone	Waste	Pulps	5.76	0.193	0.13	0.05	0.013	0.063	1.6	1	-0.6	0.63	3.05	1.2	20.2	21.4	<0.1	<8.3
026-042 (210-230)	Siltstone	Waste	Pulps	7.47	0.382	0.241	0.122	0.019	0.141	3.8	<0.3	-3.8	<0.08	2.94	2.3	7.4	9.7	<0.1	<8.3
026-042 (210-230)	Siltstone	Waste	Pulps	6.65	0.144	0.116	0.018	0.01	0.028	0.6	1	0.4	1.67	5.45	<0.1	<0.1	0.2	<0.1	<8.3
026-042 (210-230)	Siltstone	Waste	Pulps	6.94	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	4.6	4.6	15.33	5.65	<0.1	<0.1	0.2	<0.1	<8.3
026-042 (210-230)	Siltstone	Ore	Pulps	5.15	0.443	0.219	0.198	0.026	0.224	6.2	1.5	-4.7	0.24	3.1	2.3	8.9	11.2	<0.1	<8.3
026-042 (210-230)	Siltstone	Waste	Pulps	4.82	0.477	0.243	0.213	0.021	0.234	6.7	1.5	-5.2	0.22	2.71	5.8	4.7	10.5	<0.1	<8.3
026-042 (210-230)	Siltstone	Waste	Pulps	7.21	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	1	1	3.33	5.63	<0.1	<0.1	0.2	<0.1	<8.3
026-042 (210-230)	Siltstone	Waste	Pulps	6.27	0.164	0.102	0.062	<0.01	0.062	1.9	<0.3	-1.9	<0.16	4.11	0.2	18.8	19	<0.1	<8.3
026-042 (210-230)	Siltstone	Waste	Pulps	5.91	0.147	0.147	<0.01	<0.01	<0.01	<0.3	2	2	6.67	3.69	0.6	13.1	13.7	<0.1	<8.3
026-042 (210-230)	Siltstone	Waste	Pulps	5.31	0.092	0.068	0.024	<0.01	0.024	0.8	0.5	-0.3	0.63	4.5	<0.1	<0.1	0.2	<0.1	<8.3
CAL-001 (380-400)	Sinter	Waste	Core	7.72	0.025	0.012	0.014	<0.01	0.014	0.4	0.5	0.1	1.25	5.54	<0.1	<0.1	0.2	<0.1	<8.3
CAL-002 (177-187)	Sinter	Waste	Core	6.91	0.084	0.041	0.044	<0.01	0.044	1.4	<0.3	-1.4	<0.21	3.96	0.2	15.4	15.6	<0.1	<8.3
CAL-003 (663-674)	Sinter	Waste	Core	6.44	0.315	0.138	0.177	<0.01	0.177	5.5	1	-4.5	0.18	2.84	5	3.8	8.8	<0.1	<8.3
CAL-004 (705-715)	Sinter	Ore	Core	7.1	0.115	0.085	0.03	<0.01	0.03	0.9	<0.3	0.9	<0.33	5.47	<0.1	<0.1	0.2	<0.1	<8.3
GMC-003 (376-388)	Sinter	Waste	Core	7.23	0.013	0.013	<0.01	<0.01	<0.01	<0.3	<0.3	0.0	<1	5.4	<0.1	<0.1	0.2	<0.1	<8.3
GMC-006 (341-362)	Sinter	Waste	Core	6.99	0.016	0.016	<0.01	<0.01	<0.01	<0.3	<0.3	0.0	<1	5.28	<0.1	<0.1	0.2	<0.1	<8.3
GMC-014 (208-215)	Sinter	Waste	Core	6.3	0.185	0.162	0.022	<0.01	0.022	0.7	0.3	-0.7	<0.43	5.08	<0.1	<0.1	0.2	<0.1	<8.3
026-156 (260-280)	Sinter	Waste	Pulps	6.53	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	4.1	4.1	13.67	5.4	<0.1	<0.1	0.2	<0.1	<8.3
026-042 (330-350)	Sinter	Waste	Pulps	7.64	0.05	0.039	0.012	<0.01	0.012	0.4	8.6	8.2	21.5	5.13	<0.1	<0.1	0.2	<0.1	<8.3
026-042 (310-330)	Sinter	Waste	Pulps	7.99	0.068	0.055	0.014	<0.01	0.014	0.4	7.1	6.7	17.75	4.64	<0.1	<0.1	0.2	<0.1	<8.3
026-156 (315-335)	Sinter	Waste	Pulps	6.75	0.029	0.019	0.01	<0.01	0.01	0.3	5.1	4.8	17	5.15	<0.1	<0.1	0.2	<0.1	<8.3
Calico Leach Res. After CN Destruct.		Tailings	Test Residue	6.8	0.346	0.257	0.089	<0.01	0.089	2.8	0.3	-2.8	<0.11	3.21	2.2	2.4	4.6	<0.1	<8.3

< denotes less than the laboratory method detection limit.

[1] Acid Generation Potential (AGP) = 31.25 x pyritic sulfur

[2] Net Neutralizaiton Potential (NNP) = Neutralizaiton Potential (ANP) - Acid Generation Potential (AGP)

[3] Neutralization Potential Ratio (NPR) = ANP/AGP

Appendix B1
Tabulated Multi-Element Analysis Results

Sample I.D.	Lithology	Ore/ Waste	Material Type	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
CAL-001 (822-825)	Breccia	Ore	Core	1.71	2,400	79	0.2	<10	90	0.08	0.06	400	<0.01	14.45	1.4
CAL-002 (425-430)	Breccia	Ore	Core	12.1	1,500	114	5.9	<10	110	0.1	0.04	200	0.01	5.78	0.5
CAL-002 (430-438)	Breccia	Ore	Core	6.43	1,500	199	0.8	<10	50	0.12	0.07	400	0.02	13.65	1.8
CAL-002 (480-496)	Breccia	Ore	Core	6.19	1,600	92	1.6	<10	40	0.1	0.05	300	0.01	10.35	1
CAL-001 (812-822)	Breccia	Ore	Core	2.54	1,600	69	1.4	<10	60	0.08	0.18	200	0.04	12.2	1
CAL-001 (677-687)	Breccia	Ore	Core	10.05	2,300	179	9.7	<10	50	0.06	0.1	100	0.01	19.5	0.9
CAL-001 (782-801)	Breccia	Waste	Core	0.78	2,400	53	0.2	<10	80	<0.05	0.06	400	<0.01	12.8	0.5
026-156 (85-90)	Mud/Clay	Ore	Pulps	0.53	5,900	140	0.5	<10	60	0.47	0.11	1,700	<0.05	20.2	4.5
CAL-004 (295-315)	Mud/Clay	Waste	Core	0.75	3,100	245	<0.9	<10	70	0.39	0.09	900	<0.05	13.05	1.7
026-012 (345-360)	Mud/Clay	Waste	Pulps	1.9	1,800	208	0.2	<10	80	0.08	0.25	1,800	<0.1	22	0.9
026-041 (205-225)	Mud/Clay	Waste	Pulps	0.24	4,900	239	0.3	<10	50	1.44	0.09	2,000	<0.12	33.1	5
026-129 (30-50)	Mud/Clay	Waste	Pulps	0.09	5,600	80	<0.2	<10	80	0.56	0.14	2,500	<0.3	27.3	2.1
CAL-003 (692-710)	Mudstone	Ore	Core	7.23	3,300	172	0.5	<10	130	0.21	0.15	900	<0.01	36.7	0.8
026-012 (700-715)	Mudstone	Ore	Pulps	1.6	3,200	75	0.5	<10	60	0.26	0.13	900	<0.03	28.1	1.6
CAL-001 (847-857)	Mudstone	Waste	Core	3.07	2,800	25	<0.2	<10	30	0.1	0.13	1,000	<0.01	39	0.3
CAL-001 (852.5-857)	Mudstone	Waste	Core	0.91	3,000	15	<0.2	<10	20	0.09	0.13	1,200	<0.01	51.7	0.1
CAL-003 (675-685)	Mudstone	Waste	Core	2.47	6,000	192	0.2	<10	20	0.35	0.3	2,500	0.28	42.7	10.7
CAL-002 (740-747)	Mudstone	Waste	Core	1.63	3,000	74	<0.2	<10	10	0.18	0.08	900	0.01	7.6	6.1
GMC-012 (832-851)	Mudstone	Waste	Core	2.71	3,500	67	<0.2	<10	50	0.12	0.2	700	0.03	37.1	3.7
GMC-012 (919-946)	Mudstone	Waste	Core	0.59	7,100	501	<0.2	<10	50	0.36	0.3	1,800	0.25	49.3	12.6
CAL-001 (487-505.4)	Sandstone	Ore	Core	5.18	2,500	335	0.8	<10	50	0.09	0.1	100	<0.01	20	0.7
CAL-003 (710-732)	Sandstone	Ore	Core	5.27	2,000	156	1	<10	50	0.26	0.07	400	0.02	17.15	0.7
CAL-004 (520-530)	Sandstone	Ore	Core	4.85	1,700	236	1.4	<10	80	0.07	0.08	200	<0.01	14.5	1.1
GMC-003 (610-628)	Sandstone	Ore	Core	2.44	2,500	85	0.6	<10	50	0.1	0.03	200	0.02	12.8	2.3
GMC-006 (593-613)	Sandstone	Ore	Core	6.28	1,600	88	1.6	<10	40	0.06	0.05	300	<0.01	7.95	0.6
026-042 (155-160)	Sandstone	Ore	Pulps	0.77	1,200	78	0.7	<10	30	0.71	0.05	300	<0.11	6.69	2.4
026-042 (700-720)	Sandstone	Ore	Pulps	1.86	2,000	153	0.6	<10	50	0.06	0.06	800	<0.03	14.95	1
CAL-001 (505.4-523)	Sandstone	Waste	Core	5.88	1,700	178	0.4	<10	50	0.05	0.13	100	0.03	15.7	1.4
CAL-001 (787-801)	Sandstone	Waste	Core	1.29	2,200	47	0.2	<10	80	<0.05	0.04	100	0.01	10.35	0.4
CAL-002 (86-95)	Sandstone	Waste	Core	0.14	1,000	237	0.2	<10	50	0.33	0.08	200	0.05	11.95	4.3
CAL-002 (527-541.5)	Sandstone	Waste	Core	2.73	1,400	68	0.3	<10	30	0.07	0.03	200	0.01	8.86	1.2
CAL-003 (808-830)	Sandstone	Waste	Core	1.36	2,400	180	0.2	<10	30	0.21	0.04	600	0.12	9.55	2.7
CAL-004 (35-55)	Sandstone	Waste	Core	0.06	3,400	38	<0.2	<10	120	0.27	0.06	2,400	0.05	14.8	1
CAL-004 (160-175)	Sandstone	Waste	Core	0.07	2,400	59	0.2	<10	50	0.68	0.07	500	0.05	20.6	1.6
CAL-004 (445-455)	Sandstone	Waste	Core	2.76	2,700	366	0.3	<10	60	0.19	0.13	100	0.01	22.4	0.5
GMC-002 (675-693)	Sandstone	Waste	Core	3.22	2,000	156	0.4	<10	60	0.26	0.14	300	0.01	17.15	0.5
GMC-002 (802-820)	Sandstone	Waste	Core	5.01	1,500	136	0.3	<10	30	0.17	0.08	400	0.03	14.65	0.8
GMC-006 (525-544)	Sandstone	Waste	Core	4.99	2,400	163	0.4	<10	60	0.32	0.04	200	0.01	14.4	0.8
GMC-006 (755-773)	Sandstone	Waste	Core	5.28	3,200	168	0.4	<10	120	0.08	0.06	300	0.01	18.2	0.6
GMC-012 (523-533)	Sandstone	Waste	Core	2.06	1,800	146	0.3	<10	50	0.12	0.06	200	0.01	10.7	1.2
GMC-012 (780-800)	Sandstone	Waste	Core	1.32	2,600	83	0.2	<10	80	0.07	0.09	200	0.09	17.35	1.6
GMC-014 (420-434)	Sandstone	Waste	Core	0.63	2,800	210	0.2	<10	90	0.13	0.09	1,100	<0.01	20.6	0.5
CAL-004 (770-780)	Sandstone	Waste	Core	1.54	2,500	75	0.4	<10	90	0.27	0.04	200	0.01	9.47	0.8
CAL-004 (860-875)	Sandstone	Waste	Core	3.04	2,000	117	0.4	<10	50	0.23	0.12	300	0.06	16.15	8
GMC-014 (142-152)	Sandstone	Waste	Core	0.05	5,400	284	<0.2	<10	110	0.23	0.09	1,300	0.01	32.5	0.5
GMC-014 (703-737)	Sandstone	Waste	Core	2.23	2,600	198	0.4	<10	50	0.08	0.09	500	<0.01	18.05	0.7
026-042 (135-155)	Sandstone	Waste	Pulps	0.05	2,600	81	<0.2	<10	50	0.79	0.08	700	<0.03	18.45	2.9
026-042 (185-205)	Sandstone	Waste	Pulps	0.06	2,000	39	<0.2	<10	40	0.5	0.04	600	<0.07	9.31	2.7
026-042 (645-665)	Sandstone	Waste	Pulps	1.95	1,700	92	<0.2	<10	50	0.05	0.05	200	<0.02	11.75	0.7
026-042 (835-855)	Sandstone	Waste	Pulps	1.12	3,100	281	0.2	<10	30	0.44	0.14	1,600	<0.07	30.8	4.4
026-156 (145-165)	Sandstone	Waste	Pulps	0.07	3,000	49	0.2	<10	50	0.6	0.07	600	<0.02	20.1	2
026-156 (650-670)	Sandstone	Waste	Pulps	2.78	4,700	86	0.3	<10	80	0.19	0.05	300	<0.01	18.1	0.8
026-160 (470-490)	Sandstone	Waste	Pulps	2.32	2,000	107	0.4	<10	40	0.09	0.03	100	<0.01	12.4	1
026-160 (530-550)	Sandstone	Waste	Pulps	1.19	3,900	151	0.2	<10	50	0.45	0.05	400	<0.02	12.2	1
026-160 (610-630)	Sandstone	Waste	Pulps	1.69	2,300	75	0.2	<10	40	0.15	0.06	300	<0.01	16.6	0.5
026-042 (535-555)	Sandstone	Waste	Pulps	0.72	8,400	205	0.3	<10	30	1.31	0.14	22,400	<0.34	30.9	6.5
026-042 (855-875)	Sandstone	Waste	Pulps	0.32	1,900	76	<0.2	<10	30	0.44	0.05	400	<0.02	13.35	1.8
026-156 (170-190)	Sandstone	Waste	Pulps	0.16	2,500	14	0.2	<10	40	0.44	0.04	400	<0.01	10.45	1.5
026-156 (625-645)	Sandstone	Waste	Pulps	2.61	3,600	110	0.3	<10	70	0.15	0.08	300	0.03	17.3	1.8
026-156 (700-720)	Sandstone	Waste	Pulps	1.06	4,200	68	<0.2	<10	70	0.17	0.1	300	<0.01	26.6	0.7
CAL-002 (235-255)	Siltstone	Ore	Core	2.52	600	76	0.5	<10	30	0.3	0.03	300	0.06	4.09	1.2
CAL-002 (270-280)	Siltstone	Ore	Core	2.29	300	51	0.5	<10	20	0.15	0.02	200	0.01	1.68	1.1
CAL-002 (409-422)	Siltstone	Ore	Core	15.2	1,400	204	1.6	<10	80	0.15	0.08	400	0.03	11.75	1.5
CAL-004 (250-270)	Siltstone	Ore	Core	0.21	3,000	92	0.6	<10	40	0.7	0.13	1,000	0.05	27.5	1.3
CAL-004 (585-595)	Siltstone	Ore	Core	3.05	1,000	67	0.5	<10	30	0.08	0.06	200	0.01	7.68	0.8

Sample I.D.	Cr	Cs	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
CAL-001 (822-825)	92	3.38	7	9,200	1.16	<0.05	0.02	1.86	<0.005	3,200	7.5	0.6	100	18	32.5	100	0.08	5.4	40	6.6	10.4
CAL-002 (425-430)	140	1.47	9.5	5,500	0.92	<0.05	0.02	0.97	<0.005	1,600	3.1	0.7	100	24	10.85	100	0.06	9.6	40	2.1	6.3
CAL-002 (430-438)	161	1.65	17	9,800	1	<0.05	0.03	2.36	0.011	1,400	6.8	0.8	100	30	7.77	200	0.15	13.2	80	4.3	5.7
CAL-002 (480-496)	153	1.68	9.6	6,000	0.99	<0.05	0.03	1.71	0.005	1,300	5.7	0.9	100	25	4.89	200	0.26	12.9	50	3.5	5.1
CAL-001 (812-822)	113	1.04	12.1	5,500	0.54	<0.05	0.03	0.9	0.063	1,800	6.2	0.5	100	19	13.85	100	0.14	7.6	70	4	5.6
CAL-001 (677-687)	130	0.44	15.9	10,100	0.74	<0.05	0.08	2.17	0.03	2,200	9	0.6	100	22	14.95	100	0.27	6.9	120	5.5	4.9
CAL-001 (782-801)	104	0.8	7.6	4,800	0.43	<0.05	0.04	0.7	0.006	2,200	7.7	0.4	100	16	16.1	100	0.13	7.2	50	7.4	6.6
026-156 (85-90)	16	4	18.4	21,000	7.67	<0.05	0.2	2.21	0.019	2,100	10.5	2.9	800	72	3.9	300	<0.05	9.1	140	113.5	11.3
CAL-004 (295-315)	147	2.34	10.6	12,500	3.11	<0.05	0.05	3.65	<0.016	1,100	5.9	1.1	400	50	10.75	100	<0.05	5.2	110	5.2	7.6
026-012 (345-360)	23	2.87	27.1	15,000	2.17	<0.05	0.03	4.02	0.012	1,900	11.6	0.8	400	66	10.85	200	<0.05	15.6	60	41	6.9
026-041 (205-225)	58	11.15	38.2	14,700	5.33	<0.09	0.08	2.23	0.022	1,700	16.7	3.6	900	192	5.51	1200	0.16	8.5	560	124.5	14.3
026-129 (30-50)	46	10.45	7.3	10,800	4.04	<0.15	0.08	1.94	0.038	1,300	13.8	2.6	800	104	1.54	200	0.11	5.2	110	12.8	12.7
CAL-003 (692-710)	26	1.81	14.5	10,900	3.26	0.05	0.09	5.3	0.021	3,300	18.1	1	300	24	31.6	100	<0.05	2.9	100	13	10.9
026-012 (700-715)	19	2.79	22.6	14,600	1.55	<0.05	0.04	2.26	0.01	2,000	16	1	200	78	11.1	100	0.14	10.4	240	43.4	8.8
CAL-001 (847-857)	64	6.16	6.6	3,300	1.75	<0.05	0.02	5.26	<0.005	1,900	26.5	0.4	200	11	16.1	100	<0.05	3.9	150	29.6	11.5
CAL-001 (852.5-857)	41	6.31	6	2,000	1.98	<0.05	0.02	1.42	<0.005	1,800	36.8	0.2	300	7	7.87	100	0.05	2.3	170	37.2	12.5
CAL-003 (675-685)	8	2.65	22.3	15,500	2.9	0.06	0.06	4.06	0.033	2,200	21.5	2.1	700	15	21.1	100	<0.05	14.4	170	15.7	13.5
CAL-002 (740-747)	90	6.14	7.2	13,800	0.91	<0.05	<0.02	0.21	<0.005	1,800	4.7	0.4	200	17	4.82	100	0.05	11.4	10	7.6	9.8
GMC-012 (832-851)	102	3.27	30	11,100	2.03	0.06	0.03	1.87	0.015	2,500	21.1	0.5	100	25	14.9	100	0.05	10.9	200	21.4	11.2
GMC-012 (919-946)	24	5.72	14.5	20,900	2.24	0.06	0.03	0.12	0.03	2,800	26.6	0.7	400	15	5.33	200	<0.05	17.6	220	19.2	19.5
CAL-001 (487-505.4)	99	1.92	10.5	10,200	1.55	<0.05	0.03	3.24	0.011	2,400	10.4	0.8	100	20	15.75	100	0.15	6.4	100	7.7	7.2
CAL-003 (710-732)	106	1.69	16.8	6,900	0.77	<0.05	0.03	2.38	0.008	1,500	8.3	1.2	100	24	16.85	200	0.12	7.8	70	5.4	4.9
CAL-004 (520-530)	147	1.44	9.2	10,600	1.07	0.05	0.04	1.04	0.015	2,200	6.9	0.8	100	25	145.5	100	0.17	3.8	230	4.9	5.3
GMC-003 (610-628)	146	1.54	7.6	5,500	0.86	<0.05	0.02	0.74	<0.005	1,600	6.6	1.1	100	83	12.35	100	0.18	10.1	60	3.4	5.8
GMC-006 (593-613)	177	0.93	11.6	5,400	0.76	<0.05	0.04	1.66	0.007	1,400	4.3	1.1	100	32	10.55	100	0.18	14.1	20	3.6	5.2
026-042 (155-160)	30	4.03	17	22,000	1.22	<0.06	0.04	3.46	<0.005	700	3.4	1	100	153	3.49	100	0.19	26.8	70	12.7	4.7
026-042 (700-720)	61	0.75	12.7	7,400	0.83	<0.05	<0.02	0.63	0.007	1,800	6.8	0.7	100	19	27.5	300	0.13	5.1	200	14.5	5
CAL-001 (505.4-523)	138	1.37	11.4	10,800	0.82	<0.05	0.09	1.35	0.019	1,800	7.6	0.7	100	26	20.2	100	0.1	8.7	40	8.1	6.3
CAL-001 (787-801)	105	0.66	7.8	4,400	0.36	<0.05	0.03	1.2	0.006	2,200	6.5	0.4	100	15	12.8	100	0.09	8.3	40	4.8	6.5
CAL-002 (86-95)	145	1.2	10.1	10,700	0.79	<0.05	0.04	12.05	0.009	1,100	5.8	0.9	100	27	6.03	100	0.19	14.8	60	5.7	4.6
CAL-002 (527-541.5)	146	0.98	8.5	4,400	0.52	<0.05	<0.02	0.39	0.006	1,100	5.2	0.6	100	23	5.26	200	0.1	11.8	20	2.9	4.6
CAL-003 (808-830)	120	2.13	7.7	9,900	1.04	<0.05	0.02	0.9	0.006	1,200	5.7	1	200	43	67.6	200	0.1	9.6	60	4.6	5.5
CAL-004 (35-55)	105	2.35	7.2	7,300	1.75	0.05	0.1	1.19	0.007	1,100	7.4	3.4	600	96	3.59	200	0.1	7.4	490	3.7	7.4
CAL-004 (160-175)	96	5.11	6.8	9,800	3.58	<0.05	0.06	1.08	0.012	1,000	10.1	1.4	200	38	3.1	200	0.21	8.1	110	5.4	6.6
CAL-004 (445-455)	90	2.74	5.8	11,600	2.1	<0.05	0.03	3.16	0.018	2,500	11.9	1.1	200	17	6.02	200	0.15	2.3	140	7.7	7.4
GMC-002 (675-693)	144	1.23	7.9	9,200	0.9	<0.05	0.03	2.47	0.01	2,200	8.9	1.1	100	17	18.95	200	0.15	4	100	12.8	5.6
GMC-002 (802-820)	155	1.18	9.8	6,400	0.66	<0.05	0.04	1.22	<0.005	1,100	7.9	0.9	100	15	5.52	200	0.34	5	90	5.5	4.3
GMC-006 (525-544)	145	1.71	7.2	8,400	1.26	0.05	0.02	1.57	0.007	1,700	7.4	0.7	100	36	6.09	200	0.22	9.4	120	3.8	5.8
GMC-006 (755-773)	93	1.13	8.5	8,700	1.12	<0.05	0.03	0.48	0.01	3,700	12.7	0.8	100	18	14.2	100	0.1	6	110	11.3	9.2
GMC-012 (523-533)	127	1.45	6.4	5,000	1.22	<0.05	0.02	1.52	0.006	1,400	5.7	1	100	25	11.65	200	0.2	8.7	50	4.6	6.3
GMC-012 (780-800)	132	0.83	10.2	8,200	0.84	0.05	0.03	1.21	0.009	2,500	8.6	0.7	100	34	27.7	100	0.2	12.8	80	7.2	6.5
GMC-014 (420-434)	109	1.43	5.7	7,600	1.61	0.05	0.02	0.59	0.012	2,600	12.3	1.3	100	21	14.4	400	0.16	6.5	90	5.6	9.6
CAL-004 (770-780)	111	2.1	7.7	5,500	0.69	<0.05	0.03	1.48	0.006	2,800	6.5	0.7	100	13	23	100	0.08	2.7	60	7.8	7.6
CAL-004 (860-875)	123	2.08	17.7	8,200	0.92	<0.05	0.03	3.06	0.01	1,800	8.2	1.6	100	69	19.15	300	0.11	5.3	90	8.4	6.8
GMC-014 (142-152)	53	5.25	6	7,200	2.74	0.06	0.03	1.12	0.016	2,500	17	1.2	600	40	33.5	200	0.37	3.5	210	14.4	9.9
GMC-014 (703-737)	104	1.74	11	6,900	1.11	0.05	0.02	0.39	0.013	2,200	9.5	0.9	100	21	16.75	300	0.15	6.6	30	4.9	8.1
026-042 (135-155)	7	9.97	12.4	10,200	2.08	<0.12	0.07	0.23	0.013	900	9.6	2.2	400	62	1.61	300	0.19	7.6	160	31.1	8.1
026-042 (185-205)	8	3.98	5.2	6,900	0.93	<0.05	0.04	0.23	<0.005	1,000	4.7	1.1	100	121	1.12	400	0.2	8.6	200	18.9	5.9
026-042 (645-665)	55	0.74	10.8	6,100	0.99	<0.05	0.02	3.08	<0.005	2,200	6	0.5	<100	7	13.7	200	0.11	2.6	120	15.5	5.3
026-042 (835-855)	79	3.11	24.2	13,500	1.46	<0.05	0.03	0.37	0.013	1,800	17.1	1.3	300	37	26.6	300	0.12	10.2	200	131.5	10.4
026-156 (145-165)	11	8.13	5.9	10,000	3.01	<0.06	0.09	1.15	0.013	1,300	10.8	2	400	63	1.16	300	0.25	6.8	140	20.6	9.7
026-156 (650-670)	42	3.42	5.6	10,700	2.05	<0.05	0.04	1.38	0.008	3,600	10.3	1.3	200	44	11.95	100	0.11	18.3	70	20.1	13.9
026-160 (470-490)	22	1.1	7.5	12,600	1.07	<0.05	0.02	1.64	0.005	1,300	6.5	2	100	76	10.95	200	0.22	10.2	80	4.9	5.5
026-160 (530-550)	15	0.92	5.8	11,400	1.85	<0.05	0.03	1.01	0.007	1,600	6.3	2.3	400	54	8.14	200	0.24	7.2	550	13.9	6.6
026-160 (610-630)	28	1.94	6	9,600	1.33	<0.05	0.04	1.98	0.009	1,700	8.5	1	100	38	11.7	200	0.11	11.6	180	6.4	7
026-042 (535-555)	46	2.47	12	12,100	4.97	<0.05	0.03	2.59	0.022	1,200	15.9	38.9	8600	294	8.26	900	0.2	15.5	470	29.3	9.4
026-042 (855-875)	93	1.1	7.8	5,600	0.84	<0.05	0.02	0.14	<0.005	1,100	7.4	1.3	200	43	12.3	400	0.11	6.5	150	19.1	4.9
026-156 (170-190)	9	3.65	4	6,400	1.37	<0.05	0.07	0.27	<0.005	1,200	5.3	1.3	200	51	0.72	300	0.17	5.3	90	12.3	7.7
026-156 (625-645)	50	1.26	7.8	13,000	1.36	<0.05	0.08	1.21	0.016	2,500	8.8	1.3	100	53	21.1	400	0.23	22.7	180	14.3	9.8
026-156 (700-720)	34	2.43	6	9,100	1.98	<0.05	0.05	2.13	0.009	3,600	14.4	1	200	39	6.8	100	0.14	14.5	100	14.6	13.2
CAL-002 (235-255)	238	0.88	8.9	6,600	0.56	<0.05	0.03	1.46	0.005	500	2	1.6	0.01	40	8	100	0.08	24.4	30	1.5	2.2
CAL-002 (270-280)	260	0.55	9	5,900	0.76	<0.05	0.02	0.92	<0.005	200	0.8	1.1	100	43	8.65	100	0.07	22.3	10	1	1.1
CAL-002 (409-422)	155	2.04	16.2	9,300	1.04	<0.05	0.03	2.19	0.011	1,300	5.7	0.9	100	33	7.08	100	0.13	12.6	80	4.3	5.7
CAL-004 (250-270)	127	5.03	10	14,800	4.7	0.05	0.05	1.69	0.024	1,500	14.2	1.6	300	95	6.5	100	0.1	9	230	8.1	10.3
CAL-004 (585-595)	222	1.11	5.5	6,200	0.67	<0.05	0.05	1.27	0.007	800	4.2	1.3	100	29	72.1	100	0.09	4.8	120	3.8	2.6

Sample I.D.	Re	S (Total)	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zn	Zr
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
CAL-001 (822-825)	<0.001	3,200	4.65	0.2	0.7	0.3	20.7	<0.01	0.02	1.5	50	0.37	0.26	7	0.16	1.61	6	0.8
CAL-002 (425-430)	0.001	1,300	13.55	0.2	3.4	0.3	10.6	<0.01	0.01	0.6	50	0.42	0.35	5	0.4	0.59	6	0.8
CAL-002 (430-438)	0.001	6,200	37.8	0.3	6	0.4	10.2	<0.01	0.01	1.8	50	1.11	0.65	5	0.15	1.56	9	1.1
CAL-002 (480-496)	0.001	2,100	10.7	0.3	3.8	0.4	7.3	<0.01	<0.01	1.7	50	0.37	0.42	3	0.06	1.1	4	1.1
CAL-001 (812-822)	0.001	1,300	5.57	0.2	0.9	0.4	36.3	<0.01	0.01	1.5	50	0.05	0.62	3	0.08	0.92	8	1
CAL-001 (677-687)	0.001	4,600	19.05	0.7	1.5	0.5	16	<0.01	0.01	0.8	80	0.27	0.72	9	<0.05	1.36	<2	3.3
CAL-001 (782-801)	<0.001	1,500	4.39	0.2	0.6	0.3	29.3	<0.01	0.02	1	50	0.11	0.46	3	0.08	0.49	5	1.2
026-156 (85-90)	0.001	3,700	17.3	1.4	0.6	0.4	44.7	<0.01	0.01	3.1	50	0.79	0.82	25	14.5	2.36	60	6.3
CAL-004 (295-315)	<0.001	1,800	31	0.7	2.3	0.3	13.8	<0.01	0.01	1	50	0.28	0.6	12	1.56	1.31	18	1.5
026-012 (345-360)	<0.001	2,300	22.1	0.5	0.9	0.5	21.7	<0.01	0.04	2.5	<50	0.47	0.49	4	0.42	1.13	16	0.7
026-041 (205-225)	<0.001	700	55.5	1.2	0.8	1.8	14.3	<0.01	0.01	3.6	50	0.21	1.18	22	4.22	5.09	91	2.6
026-129 (30-50)	<0.001	100	28.4	1.7	0.4	0.8	41.2	<0.01	0.01	3.1	<50	1.56	0.48	21	2.09	3.64	392	1.6
CAL-003 (692-710)	0.001	3,200	18.8	0.9	1.1	0.4	44.3	<0.01	0.03	1.5	50	0.31	1.26	13	0.2	2.41	11	2.6
026-012 (700-715)	0.002	2,000	5.43	0.4	2	0.4	52.7	<0.01	0.02	3.1	<50	0.3	1.1	7	0.48	3.55	26	1.3
CAL-001 (847-857)	<0.001	500	6.52	0.2	0.7	0.3	39.8	<0.01	0.03	3.2	50	0.09	0.46	2	0.16	0.49	3	0.6
CAL-001 (852.5-857)	<0.001	200	3.21	0.1	0.2	0.2	40.8	<0.01	0.01	4.9	50	0.08	0.57	2	0.22	0.38	2	0.7
CAL-003 (675-685)	0.003	17,700	16.5	1.3	2.8	0.4	53	<0.01	0.03	2.7	50	0.73	0.98	4	0.17	4.29	36	2.2
CAL-002 (740-747)	0.001	14,300	4.91	0.2	6.5	0.3	10.5	<0.01	<0.01	4	50	0.27	0.69	1	0.59	2.46	7	0.5
GMC-012 (832-851)	0.003	8,500	6.29	0.4	2.5	0.5	27.1	<0.01	0.04	2.4	50	0.37	1.53	4	0.36	2.8	14	0.8
GMC-012 (919-946)	0.001	24,500	7.21	0.9	2.2	0.3	9.3	<0.01	0.02	4.6	50	0.58	0.96	3	0.05	7.7	70	0.8
CAL-001 (487-505.4)	0.001	3,700	16.9	0.4	3	0.4	13.8	<0.01	0.02	2.7	50	0.33	0.34	5	0.13	1.32	5	1
CAL-003 (710-732)	0.001	1,200	15.75	0.3	1.4	0.3	26	<0.01	0.02	1.6	50	0.27	0.59	10	0.28	1.49	16	1.3
CAL-004 (520-530)	0.002	4,200	14.6	0.3	4.8	0.4	14.3	<0.01	0.03	1.2	50	0.85	0.41	8	3.21	2.09	7	1.4
GMC-003 (610-628)	0.001	1,300	4.61	0.2	1.6	0.4	19.3	<0.01	0.01	2	50	0.55	0.33	3	0.08	1.17	7	0.6
GMC-006 (593-613)	0.001	1,100	10.25	0.3	3.6	0.5	6.2	<0.01	<0.01	1	50	0.24	0.35	3	0.07	0.93	8	1.4
026-042 (155-160)	0.001	400	23.4	0.3	0.8	0.3	5.7	<0.01	0.01	1	<50	0.18	0.87	10	2.13	1.37	21	1.3
026-042 (700-720)	0.001	4,200	7.35	0.3	1.6	0.3	11.8	<0.01	0.02	2.1	<50	0.27	0.32	3	2.8	1.21	18	0.5
CAL-001 (505.4-523)	0.001	5,100	19.35	0.3	5.2	0.4	4.7	<0.01	0.02	1.2	50	0.37	0.46	3	0.12	1.88	8	3.1
CAL-001 (787-801)	<0.001	1,400	3.75	0.2	0.7	0.3	26.2	<0.01	0.02	0.9	50	0.1	0.48	3	0.07	0.51	4	0.8
CAL-002 (86-95)	0.001	4,400	93.6	0.2	1.4	0.4	7	<0.01	<0.01	2.1	50	2.04	0.38	3	0.49	1.2	17	1.6
CAL-002 (527-541.5)	0.001	1,400	12.55	0.1	1.5	0.3	5.9	<0.01	0.01	1.3	50	0.22	0.22	1	0.13	0.7	4	0.5
CAL-003 (808-830)	<0.001	100	20.8	0.2	0.8	0.3	14	<0.01	0.03	3.1	50	0.27	0.8	14	0.81	1.81	28	0.6
CAL-004 (35-55)	<0.001	100	15.45	0.6	0.4	0.4	21.4	<0.01	0.01	2.9	50	1.89	0.63	31	2.42	2.88	10	3.5
CAL-004 (160-175)	<0.001	100	13.45	0.6	0.5	0.4	21.4	<0.01	<0.01	4.4	50	0.16	0.6	12	1.65	2.1	20	2.1
CAL-004 (445-455)	0.001	2,800	12.65	0.5	2	0.3	41.5	<0.01	0.01	2.7	50	0.37	0.42	11	1.08	1.44	10	1.1
GMC-002 (675-693)	<0.001	2,400	18.3	0.3	1.2	0.3	42.6	<0.01	0.02	1.9	50	0.45	0.53	7	0.33	1.62	11	1.2
GMC-002 (802-820)	0.001	1,200	11.25	0.3	1.3	0.3	22.6	<0.01	0.01	3.4	50	0.13	0.89	3	0.09	1.95	11	1.3
GMC-006 (525-544)	0.001	2,200	10.75	0.3	5.5	0.4	26.1	<0.01	0.01	2	50	0.25	0.34	4	0.41	1.3	10	0.6
GMC-006 (755-773)	<0.001	3,300	8.2	0.4	2.6	0.3	51.9	<0.01	0.02	2.6	50	0.25	0.54	5	0.25	0.45	4	0.9
GMC-012 (523-533)	0.001	1,800	9.67	0.3	1.2	0.3	12.8	<0.01	0.01	1.5	50	0.4	0.39	2	0.11	1.11	6	0.7
GMC-012 (780-800)	0.001	5,300	5.48	0.3	1.1	0.4	12.9	<0.01	0.01	2.2	50	0.25	0.58	4	0.19	1.47	15	0.8
GMC-014 (420-434)	<0.001	4,300	5.9	0.4	0.8	0.5	9.3	<0.01	0.02	2.9	50	0.3	0.68	5	0.06	1.37	19	0.8
CAL-004 (770-780)	<0.001	1,700	6.63	0.2	0.9	0.2	33.2	<0.01	0.02	1.9	50	0.13	0.52	5	1.65	1.27	8	0.9
CAL-004 (860-875)	0.001	2,300	19.25	0.3	1.8	0.2	23	<0.01	0.02	1.7	50	0.9	0.88	5	1.6	2.02	17	1.1
GMC-014 (142-152)	<0.001	1,700	43.5	0.4	1	0.4	47.3	<0.01	0.01	3.8	50	0.29	0.97	3	0.44	1.97	6	0.7
GMC-014 (703-737)	0.001	3,000	6.33	0.5	1.5	0.4	10.6	<0.01	0.03	2.6	50	0.2	0.43	3	0.05	1.28	2	0.8
026-042 (135-155)	<0.001	100	23.9	0.7	0.4	0.4	15.9	<0.01	0.01	3	60	0.37	1.18	12	2.5	4.98	45	2.4
026-042 (185-205)	<0.001	<100	10.6	0.3	0.3	0.2	7	<0.01	<0.01	2.2	<50	0.09	0.61	3	1.23	5.1	24	1.3
026-042 (645-665)	<0.001	3,400	7.1	0.2	1.1	0.2	11.5	<0.01	0.02	2.3	<50	0.25	0.28	3	0.71	0.65	9	0.5
026-042 (835-855)	<0.001	10,400	5.7	0.5	1.7	0.4	15.5	<0.01	0.02	4.5	<50	0.38	0.85	3	1.05	5.13	62	1
026-156 (145-165)	<0.001	<100	13.8	0.6	0.5	0.3	17.3	<0.01	0.01	3.6	70	0.29	1.44	15	4.93	4.2	27	2.9
026-156 (650-670)	<0.001	2,500	7.95	0.4	0.6	0.3	24.7	<0.01	0.01	2.9	<50	0.36	0.37	6	2.91	1.04	10	1.4
026-160 (470-490)	<0.001	1,700	11.85	0.4	1.1	0.6	9.2	<0.01	<0.01	1.5	<50	0.3	0.29	4	0.74	1.62	6	0.9
026-160 (530-550)	0.001	1,700	9.91	0.4	1	0.7	18.4	<0.01	0.01	1.7	<50	0.22	0.51	7	1.04	5.79	23	0.9
026-160 (610-630)	<0.001	1,900	9.32	0.3	0.6	0.3	40.7	<0.01	0.02	1.5	<50	0.24	0.47	6	0.53	1.19	4	1.2
026-042 (535-555)	<0.001	200	10.7	1.1	0.6	0.4	61.2	<0.01	0.04	3.1	50	0.2	0.42	16	0.79	7.28	112	1
026-042 (855-875)	<0.001	1,400	1.91	0.3	0.5	0.2	14.4	<0.01	0.02	2.2	<50	0.22	0.48	3	0.66	3.79	29	0.5
026-156 (170-190)	<0.001	<100	4.9	0.4	0.2	0.5	13.9	<0.01	0.01	2.3	<50	0.22	0.58	6	2.49	4.88	16	2.3
026-156 (625-645)	0.001	4,300	13.7	0.5	0.6	0.3	26.4	<0.01	0.01	1.6	50	0.4	0.5	7	4.26	1.59	10	2.6
026-156 (700-720)	<0.001	2,600	5.05	0.4	0.4	0.3	39.2	<0.01	0.02	2	<50	0.35	0.4	10	1.25	1.83	6	1.6
CAL-002 (235-255)	<0.001	2,100	22	0.2	2.5	0.5	10.2	<0.01	0.01	0.4	50	2.28	0.1	3	0.44	1.12	12	1
CAL-002 (270-280)	0.001	1,100	12.3	0.2	1.9	0.5	5.4	<0.01	<0.01	0.2	50	1.1	0.1	2	0.59	1.32	9	0.7
CAL-002 (409-422)	0.001	4,300	27.9	0.3	6.1	0.4	19.3	<0.01	0.01	1.1	50	0.62	0.44	5	0.33	1.37	10	1.3
CAL-004 (250-270)	0.001	100	28.7	0.9	0.8	0.5	30.8	<0.01	0.01	3	50	0.12	1.16	14	2.27	2.3	17	1.9
CAL-004 (585-595)	0.001	1,000	6.68	0.2	1.7	0.3	15.8	<0.01	0.02	0.3	50	0.53	0.27	5	1.89	0.64	4	1.6

Appendix B1
Tabulated Multi-Element Analysis Results

Sample I.D.	Lithology	Ore/ Waste	Material Type	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S (Total)	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zn	Zr
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
CAL-004 (630-640)	Siltstone	Ore	Core	5.94	2,200	122	0.9	<10	70	0.06	0.1	100	0.06	14.7	1.4	136	0.73	13.3	10,900	0.63	<0.05	0.06	2.25	0.022	2,500	7	0.7	100	19	18.1	100	0.09	3.7	50	5.2	6.1	0.003	5,800	14.75	0.4	2.6	0.3	11.3	<0.01	0.02	0.7	50	0.54	0.7	3	2.45	1.14	7	1.9
GMC-002 (654-675)	Siltstone	Ore	Core	6.12	1,800	109	1.4	<10	60	0.15	0.43	400	0.01	18.5	1	155	1.18	11.9	9,600	0.85	<0.05	0.05	3.95	0.015	1,600	8.4	1.2	100	19	11.95	100	0.05	5.3	60	50.3	4.8	<0.001	2,500	10.4	0.4	1.2	0.3	32.2	<0.01	0.02	0.5	50	0.31	0.56	11	0.22	1.84	14	1.8
GMC-003 (485-495)	Siltstone	Ore	Core	4.95	1,900	267	0.5	<10	80	0.08	0.07	100	0.02	16.55	1.3	152	1.05	8.7	12,300	1.5	0.05	0.06	1.73	0.022	2,600	8.1	0.7	100	28	10.2	100	0.09	10.9	40	5.9	6.2	0.001	6,500	43.4	0.3	5.9	0.4	10.4	<0.01	0.01	1.1	50	1.14	0.29	4	0.24	1.7	15	1.8
GMC-006 (625-637.5)	Siltstone	Ore	Core	12.4	1,400	138	1.4	<10	60	0.07	0.11	400	0.04	12	2	192	0.46	14.6	11,800	0.56	<0.05	0.1	4.07	0.017	1,500	5.8	1.2	100	41	13.25	100	0.16	13.7	50	5.9	4.5	0.001	4,400	22.3	0.4	3.8	0.6	15.9	<0.01	0.01	0.5	50	0.49	0.72	3	0.4	1.37	11	3
026-042 (210-230)	Siltstone	Ore	Pulps	3.2	3,100	223	0.6	<10	90	0.13	0.11	200	<0.01	18.4	1.1	19	1.26	7.1	15,200	1.51	<0.05	0.08	2.36	0.016	2,700	9.6	1.7	100	71	23.6	300	0.35	8.8	150	8.3	9	0.001	3,600	10.05	0.6	3.1	0.5	13.7	<0.01	0.01	1.9	70	0.51	0.76	9	0.5	2.52	4	2.8
CAL-001 (750-762)	Siltstone	Waste	Core	2.43	2,500	64	0.3	<10	80	0.08	0.25	300	<0.01	34.3	0.8	84	3.33	22.7	11,000	1.38	<0.05	0.04	2.86	0.01	3,100	19.9	0.5	100	16	58.3	100	0.11	6.1	60	20.4	10.5	0.001	3,500	5.46	0.3	1.3	0.5	22.2	<0.01	0.04	2.7	50	0.16	0.75	4	0.11	0.85	3	1.4
CAL-002 (57-67)	Siltstone	Waste	Core	0.08	1,600	166	<0.2	<10	40	0.49	0.15	400	0.03	17.55	1	115	4.89	6.7	11,100	2.09	0.05	0.05	0.51	0.015	1,200	8.5	1.5	100	32	3.97	100	0.18	8.6	170	8.1	6.2	0.001	300	23.7	0.7	0.7	0.5	21.1	<0.01	0.01	2.9	60	0.35	0.81	16	0.31	2.98	8	2.6
CAL-002 (120-132)	Siltstone	Waste	Core	0.17	1,400	284	0.2	<10	30	0.2	0.1	200	0.51	20.9	4.5	123	2.52	9.9	12,400	0.64	<0.05	0.04	5.87	0.012	1,100	11.1	1.2	100	26	4.39	100	0.19	12.7	160	6.6	5.7	0.001	10,200	55.1	0.4	2	0.4	56.4	<0.01	0.01	2.5	50	2.36	0.52	2	0.1	3.4	24	1.5
CAL-002 (355-375)	Siltstone	Waste	Core	4.47	700	63	0.4	<10	30	0.14	0.02	300	0.02	3.04	1	235	1.29	9.5	5,500	1.07	<0.05	<0.02	1.02	<0.005	500	1.6	0.9	100	42	7.23	100	0.09	21.2	10	1.2	2.9	0.001	1,400	11.85	0.1	5.2	0.4	7.9	<0.01	<0.01	0.4	50	1.03	0.09	4	0.32	0.54	7	0.5
CAL-002 (697-706)	Siltstone	Waste	Core	2.5	2,000	90	0.3	<10	50	0.23	0.22	200	0.01	19.55	0.5	72	1.15	17.1	10,300	0.42	<0.05	0.07	4.65	0.008	2,500	11.6	0.6	100	15	25.7	100	0.12	7	50	12	6.9	<0.001	3,100	5.65	0.2	2.1	0.6	28	<0.01	0.02	3	50	0.28	0.7	3	0.1	1.89	13	2.1
CAL-003 (755-772)	Siltstone	Waste	Core	4.65	1,400	163	0.2	<10	40	0.18	0.13	600	0.02	25.8	0.6	98	0.64	19.9	8,100	0.82	0.05	0.07	7.33	0.017	1,500	12.5	0.9	100	19	25.1	100	0.1	7.7	60	3.8	4.6	0.001	700	12.45	0.4	1.9	0.4	19.4	<0.01	0.05	0.5	50	0.11	0.77	8	0.2	1.8	15	2.3
CAL-004 (360-370)	Siltstone	Waste	Core	3.16	1,400	104	0.3	<10	70	0.14	0.08	100	0.02	10.6	0.9	174	2.87	8.2	6,700	1.33	<0.05	0.03	5.22	0.012	900	5.1	1	100	20	5.51	100	0.06	4.8	20	4.3	4.8	0.001	800	14.85	0.4	1.1	0.3	13.1	<0.01	0.01	0.9	50	0.24	0.14	8	1.55	0.73	9	1
GMC-002 (774-791)	Siltstone	Waste	Core	3.88	1,600	81	0.4	<10	60	0.18	0.18	200	0.01	17.25	0.6	155	0.46	9.5	6,100	0.46	<0.05	0.06	2.53	0.009	1,500	9.8	1	100	11	6.54	100	0.21	7	130	12.3	4.8	0.001	1,200	8.72	0.3	1.1	0.3	48.8	<0.01	0.01	1.4	50	0.14	0.51	5	0.52	0.79	11	2.1
GMC-012 (682-700)	Siltstone	Waste	Core	1.77	1,600	133	0.3	<10	80	0.06	0.19	200	0.03	23.6	0.8	129	0.89	14.1	7,900	0.85	0.06	0.07	0.61	0.014	1,800	12.5	0.9	100	22	16.55	100	0.24	11.2	80	9.9	5.2	0.001	3,400	5.66	0.3	2.2	0.6	10.5	<0.01	0.03	2.1	50	0.2	0.57	3	0.11	1.7	8	2.1
GMC-014 (44-59)	Siltstone	Waste	Core	0.21	13,800	289	<0.2	<10	40	2.47	0.36	8,100	0.12	61.5	3.3	18	16.4	13.8	18,400	5.49	0.09	0.05	0.39	0.038	3,200	31.9	9.1	1800	73	1.28	1000	0.38	6.1	540	26.4	28.8	<0.001	4,700	7.09	2.2	1.2	0.9	31.2	<0.01	0.05	6.8	50	0.22	2.81	13	0.22	8.81	57	1.1
GMC-014 (176-184)	Siltstone	Waste	Core	0.09	10,100	292	<0.2	<10	70	0.96	0.23	900	0.35	63.8	11.8	20	6.32	16.6	10,200	3.59	0.08	0.05	1.19	0.044	3,100	31.4	1.5	500	31	2.51	100	<0.05	13.8	390	15.2	18.4	0.001	10,600	12.3	2	0.9	0.6	60.3	<0.01	0.02	2.9	50	0.9	0.73	6	0.05	7.59	108	1
GMC-014 (285-306)	Siltstone	Waste	Core	0.68	1,600	185	0.2	<10	40	0.06	0.02	300	<0.01	7.17	0.4	170	4.38	5.9	5,900	2.27	<0.05	<0.02	0.72	0.005	1,400	4.1	0.9	100	25	18.05	100	0.07	11.8	20	2.3	6.6	<0.001	1,700	11	0.3	0.8	0.5	9.9	<0.01	0.01	0.7	50	0.31	0.12	4	0.16	0.26	4	0.5
GMC-014 (510-530)	Siltstone	Waste	Core	0.15	14,100	193	<0.2	<10	30	1.51	0.21	32,500	0.07	43.7	23.3	39	8.03	14.1	18,800	5.31	0.06	0.05	0.45	0.036	2,900	22.4	27.8	5600	518	2.55	200	0.07	10.6	470	13.2	18.2	0.001	5,100	5.79	1.8	0.9	0.9	83.1	<0.01	0.03	3.9	50	0.18	0.82	12	1.73	8.13	56	1.1
026-042 (210-230)	Siltstone	Waste	Pulps	0.05	3,300	196	0.2	<10	40	1.01	0.07	2,300	<0.09	27	3.6	8	8.33	8.6	12,100	3.25	<0.08	0.04	0.97	0.014	1,200	13.9	1.3	400	179	2.27	300	0.16	8	740	40.8	10.3	<0.001	100	28.7	0.6	0.5	0.3	35.3	<0.01	0.01	3.6	<50	0.25	1.31	10	1.91	6.5	32	1.4
026-042 (210-230)	Siltstone	Waste	Pulps	1.46	2,000	202	0.2	<10	40	0.14	0.1	100	<0.02	14.35	0.8	44	1.61	11.6	10,300	1.56	<0.05	0.03	0.66	0.011	1,200	7.3	1.4	100	44	3.24	300	0.27	9.1	150	13.3	6	<0.001	1,700	7.56	0.5	1.8	0.4	21.8	<0.01	0.01	1.4	60	0.35	0.37	8	0.43	1.35	14	1.2
026-042 (210-230)	Siltstone	Waste	Pulps	2.05	1,600	70	<0.2	<10	70	0.08	0.11	600	<0.01	18.8	1	54	1.43	15.9	6,900	0.72	<0.05	0.03	2.53	0.007	1,700	11	0.7	100	12	10.05	300	0.13	3.6	320	31.2	5.9	0.001	3,400	7.71	0.2	1	0.3	21.4	<0.01	0.03	1.3	<50	0.35	0.67	3	0.82	0.89	11	1.1
026-042 (210-230)	Siltstone	Waste	Pulps	0.18	4,000	101	0.4	<10	50	0.28	0.15	800	<0.01	31.5	1.5	9	3.81	7.2	9,100	3.29	<0.05	0.1	1.63	0.017	2,200	16.2	2	300	26	2.28	200	0.06	3.3	170	43.2	11.4	0.001	1,200	17.8	1.2	0.7	0.4	36.4	<0.01	0.01	3.7	<50	0.54	1.2	9	8.66	2.19	23	3.1
026-042 (210-230)	Siltstone	Waste	Pulps	0.34	3,500	94	0.3	<10	40	0.89	0.1	1,600	<0.06	16.9	2.1	45	3.62	9.9	12,000	2.24	<0.05	0.09	1.71	0.013	1,500	8.8	2.5	300	113	3.56	200	0.2	21	540	50	10.3	0.001	<100	26.6	0.8	0.3	0.3	12.6	<0.01	0.01	3.2	70	0.21	1.37	13	2.91	3.31	42	3.2
026-042 (210-230)	Siltstone	Waste	Pulps	2.68	2,100	69	0.4	<10	90	0.07	0.15	100	<0.03	16	1.7	70	0.79	11.4	12,200	0.64	<0.05	0.05	2.81	0.007	2,300	9.3	1.1	<100	58	6.05	100	0.22	32	70	11.7	7.9	0.001	4,100	9.67	0.2	2.3	0.2	11.3	<0.01	0.02	1.3	<50	0.42	0.35	2	0.82	0.7	3	1.8
026-042 (210-230)	Siltstone	Waste	Pulps	0.08	4,200	174	0.2	<10	30	0.55	0.14	2,600	<0.06	32.2	2.5	8	8.09	15.9	15,400	5.67	<0.06	0.03	3.16	0.019	1,700	16.8	2	500	189	9.94	400	0.08	6.4	710	32.8	14.1	<0.001	<100	32.1	1	1.2	0.7	11.3	<0.01	0.01	3.5	<50	0.22	0.9	12	1.35	3.84	33	1
026-042 (210-230)	Siltstone	Waste	Pulps	1.7	2,200	184	0.3	<10	40	0.21	0.11	200	<0.02	18.5	0.7	56	2.34	8.6	7,700	2.33	<0.05	0.07	1.92	0.012	1,200	9.7	1.4	100	17	6	400	0.41	4.7	150	12.1	7.1	<0.001	1,400	7.95	0.7	1.9	0.4	15	<0.01	0.01	2	150	0.29	0.53	12	0.24	1.44	14	2.5
026-042 (210-230)	Siltstone	Waste	Pulps	1.81	1,500	112	0.2	<10	50	0.09	0.05	300	<0.01	12.35	1.8	90	3.22	6.6	13,700	1.2	<0.05	0.04	1.09	0.006	1,400	6.4	1.1	100	87	6.47	100	0.11	39.2	70	7.9	7.7	<0.001	1,500	8.63	0.3	0.9	0.3	29.3	<0.01	0.01	1.2	<50	0.45	0.25	4	0.67	1.05	5	1.1
026-042 (210-230)	Siltstone	Waste	Pulps	0.98	4,400	140	0.4	<10	70	0.35	0.08	300	<0.04	15.25	3.2	22	1.91	7.9	14,700	2.56	<0.05	0.09	1.23	0.013	1,500	7.6	9.8	200	108	17.35	100	0.15	12.2	220	6.1	8.6	0.001	800	7.94	0.7	1.1	0.5	31.1	<0.01	0.01	1.4	50	0.41	0.58	14	0.65	6.06	21	3.1
CAL-004 (705-715)	Sinter	Ore	Core	7.71	1,000	36	12.5	<10	60	<0.05	0.04	100	0.01	3.69	0.6	166	0.3	4.9	4,500	0.35	<0.05	0.03	1.58	<0.005	1,300	2.2	0.6	100	14	9.34	100	0.21	2.7	30	5.9	3.2	0.001	1,100	4.94	0.1	1.2	0.2	10.2	<0.01	0.02	0.4	50	0.13	0.19	2	3.19	0.29	3	1.1
CAL-001 (380-400)	Sinter	Waste	Core	1.87	500	27	0.2	<10	30	0.06	0.04	300	0.01	4.25	0.6	239	0.6	8.9	4,800	0.55	<0.05	0.02	0.84	0.008	400	2.3	1.1	100	44	8.6	100	0.1	12.6	10	2.2	1.8	0.001	300	5.54	0.1	0.8	0.5	9.6	<0.01	0.02	0.3	50	0.12	0.06	3	0.72	0.35	3	1.1
CAL-002 (177-187)	Sinter	Waste	Core	1.62	600	46	0.4	<10	20	0.16	0.03	200	0.02	4.48	0.9	226	1.06	7.9	5,000	0.79	<0.05	0.02	1.56	<0.005	500	2.3	1.3	100	32	6.4	100	0.11	16.7	20	1.6	2.2	0.001	700	11.8	0.2	1.8	0.4	8.5	<0.01	<0.01	0.7	50	0.88	0.16	2	0.18	0.86	4	0.8
CAL-003 (663-674)	Sinter	Waste	Core	1.59	1,000	52	<0.2	<10	20	0.29	0.05	500	0.07	6.03	2.4	238	0.44	17.9	7,100	0.63	<0.05	0.04	2.04	0.016	500	3.1	2.2	300	75	29.1	100	0.08	21.4	200	3	2.4	0.002	3,000	7.08	0.2	1.8	0.6	29	<0.01	0.02	0.3	50	0.56	0.18	6	0.39	4.07	20	1.5
GMC-003 (376-388)	Sinter	Waste	Core	2.29	300	14	0.4	<10	20	<0.05	0.02	200	<0.01	0.71	5	291	0.44	5.1	4,700	2.57	<0.05	<0.02	0.37	<0.005	200	0.3	0.6	100	28	4.5	100	<0.05	9.9	10	2.4	1.2	0.001	200	3.85	0.1	0.7	0.3	4	<0.01	0.01	0.2	50	0.21	<0.05	2	1.56	0.17	7	<0.5
GMC-006 (341-362)	Sinter	Waste	Core	2.86	300	22	0.5	<10	20	0.05	0.01	100	<0.01	0.67	0.8	235	0.8	7.8	3,700	1.8	<0.05	<0.02	0.69	<0.005	200	0.4	0.6	100	35	7.96	100	0.06	16.7	<10	0.5	1.6	<0.001	200	3.89	0.1	2.1	0.4	3.3	<0.01	0.01	0.2	50	0.22	<0.05	10	0.31	0.11	5	<0.5
GMC-014 (208-215)	Sinter	Waste	Core	0.12	1,000	267	0.2	<10	40	0.15	0.02	100	0.01	2.97	0.5	222	1.72	7.9	9,100	1.57	<0.05	0.02	0.39	0.015	1,200	1.5	1.1	100	29	22.6	100	0.06	14.5	40	2.8	2.4	0.001	1,800	35.7	0.4	0.7	0.5	35.7	<0.01	0.01	0.2	50	0.19	0.1	11	0.1	0.33	4	0.6
026-156 (260-280)	Sinter	Waste	Pulps	0.4	1,100	55	0.2	<10	30	0.25	0.03	400	<0.01	4.82	1.1	105	1.37	6.1	15,000	1.04	<0.05	0.03	1.44	0.005	400	2.3	1.1	100	102	5.79	100	0.08	46.4	110	11.9	3.7	<0.001	100	9.78	0.3	0.8	0.2	22.2	<0.01	0.01	0.5	<50	0.11	0.48	6	1.4	0.88	9	0.9
026-042 (330-350)	Sinter	Waste	Pulps	1.77	700	48	0.3	<10	60	0.08	0.02	100	<0.01	3.26	0.9	37	1.05	12	20,700	1.08	<0.05	0.02	1.52	<0.005	500	1.6	1.3	<100	132	4.88	100	0.15	31.1	30	6.9	2.8	0.001	400	8	0.2	1.6	0.4	11.6	<0.01	<0.01	0.3	<50	0.26	0.06	3	0.61	0.4	5	0.8
026-042 (310-330)	Sinter	Waste	Pulps	1.92	700	57	0.2	<10	50	0.09	0.02	100	<0.01	4.49	1.1	45	1.11	11.1	22,300	0.85	<0.05	0.02	1.73	<0.005	500	2.2	0.9	<100	140	8.61	100	0.18	40.6	30	16.5	2.4	0.001	600	8.59	0.2	0.8	0.4	12.9	<0.01	0.01	0.3	<50	0.2	0.09	4	0.49	0.5	6	0.8
026-156 (315-335)	Sinter	Waste	Pulps	0.95	800	28	0.3	<10	50	0.1	0.02	200	<0.01	4	1.6	150	1.68	8.7	18,200	1	<0.05	0.03	2.19	<0.005	400	2.1	1.2	100	134	8.37	100	0.11	65.1	20	25.3	3.2	0.001	200	4.47	0.2	0.7	0.3	10.7	<0.01	<0.01	0.3	<50	0.32	0.09	5	2.12	0.57	15	0.8
Calico Leach Res. After CN Destruct.		Tailings	Test residues	7.54	1,500	173	1.2	<10	50	0.14	0.34	400	0.06	15.8	1.4	31	0.9	92.7	14,000	0.8	0.05	0.05	2.05	0.013	1,300	7.6	0.6	100	47	14.05	100	0.23	7.5	120	10.2	3.5	0.001	3,400	13.65	0.4	2.8	1.1	26	<0.01	0.02	1.4	50	0.47	0.67	7	1.55	1.58	12	1.5

Appendix B1
Tabulated MWMP Data

Parameter	Units	**Oregon Groundwater Quality Guidelines**	GMC-006 (593-613)	CAL-001 (487-505.4)	CAL-004 (445-455)	GMC-012 (780-800)	CAL-002 (86-95)	CAL-004 (860-875)	CAL-002 (480-496)	CAL-002 (430-438.2)	CAL-002 (235-255)	GMC-003 (485-495)	GMC-014 (44-59)	CAL-001 (750-762)	CAL-002 (697-706)	GMC-014 (167-184)	CAL-001 (380-400)	GMC-014 (208-215)	CAL-002 (177-187)	CAL-004 (295-315)	GMC-012 (919-946)	Calico Leach Res. After CN Destruct.
			Sandsone	Sandsone	Sandstone	Sandstone	Sandstone	Sandstone	Breccia	Breccia	Siltstone	Siltstone	Siltstone	Siltstone	Siltstone	Siltstone	Sinter	Sinter	Sinter	Mud/Clay	Mudstone	Tailings
			Ore	Ore	Waste	Waste	Waste	Waste	Ore	Ore	Ore	Ore	Waste	Waste	Waste	Waste	Waste	Waste	Waste	Waste	Waste	---
Alkalinity, CaCO3	mg/L	-	3.8	<2	5.8	<2	<2	17.3	4.6	<2	2.5	<2	4.6	<2	<2	<2	57.9	<2	6.7	<2	<2	<2
CO3, CaCO3	mg/L	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	26.9	<2	<2	<2	<2	<2
HCO3	mg/L	-	3.8	<2	5.8	<2	<2	17.3	4.6	<2	2.5	<2	4.6	<2	<2	<2	31	<2	6.7	<2	<2	<2
Aluminum	mg/L	-	0.03	<0.03	0.03	<0.03	0.11	0.98	0.03	<0.03	<0.03	<0.03	0.15	0.16	<0.03	593	0.15	<0.03	<0.03	0.73	484	2.05
Antimony	mg/L	-	0.0011	0.0004	0.0022	<0.0004	0.0187	0.0029	0.0025	0.0015	0.0014	0.0017	0.0042	<0.0004	<0.0004	0.03	0.0152	<0.0004	0.0115	0.0065	0.007	0.0007
Arsenic	mg/L	*0.05*	0.0101	0.0012	0.0039	0.0004	0.0407	0.0279	0.0213	0.0048	0.0066	0.0027	0.0295	0.0011	0.0025	16.7	0.1821	0.0015	0.0084	0.0507	18.5	0.0046
Barium	mg/L	*1*	0.007	0.016	<0.003	<0.003	0.064	0.104	0.005	0.005	0.004	0.01	0.015	<0.003	<0.003	<0.02	0.026	<0.003	0.012	0.03	<0.02	0.045
Beryllium	mg/L	-	<0.00005	<0.00005	<0.00005	<0.00005	0.00011	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00102	<0.00005	<0.00005	0.1468	<0.00005	<0.00005	<0.00005	0.00112	0.0637	0.00273
Bismuth	mg/L	-	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.2	<0.04	<0.04	<0.04	<0.04	<0.2	<0.04
Boron	mg/L	-	0.03	0.01	0.01	<0.01	0.02	0.12	0.01	0.01	0.01	0.02	0.07	<0.01	<0.01	<0.05	0.02	<0.01	0.01	0.05	<0.05	0.02
Cadmium	mg/L	*0.01*	<0.0001	<0.0001	<0.0001	<0.0001	0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0008	<0.0001	<0.0001	0.0526	<0.0001	<0.0001	<0.0001	0.0003	0.1381	0.003
Calcium	mg/L	-	1.2	0.3	1.5	0.6	32.5	0.5	1.2	0.8	1.6	1.6	114	0.5	0.6	201	32.3	1.1	6.8	55.6	350	176
Chloride	mg/L	*250*	0.6	0.7	4.5	0.7	5.2	1	0.9	0.8	0.8	<0.5	144	0.6	0.6	3.9	0.8	<0.5	1.4	15.4	2.1	1.6
Chromium	mg/L	*0.05*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.14	<0.01	<0.01	<0.01	<0.01	0.15	<0.01
Cobalt	mg/L	-	<0.01	<0.01	<0.01	<0.01	0.24	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	3.58	<0.01	<0.01	<0.01	0.02	5.16	0.22
Copper	mg/L	*1*	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	6.73	<0.01	0.02	<0.01	0.05	3.07	15.1
Cyanide, Total	mg/L	-	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.148
Cyanide, WAD	mg/L	-	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.009
Fluoride	mg/L	*4*	0.08	<0.05	0.12	<0.05	0.21	0.48	0.2	<0.05	<0.05	<0.05	0.36	0.06	0.06	11	0.33	0.05	0.23	0.56	<5	0.9
Gallium	mg/L	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1
Hardness	mg/L	-	4.23	0.749	5	1.5	100	2.1	4.23	2	5.23	4	386	1.3	1.5	803	84	2.8	23	187	1070	468
Hydroxide	mg/L	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Iron	mg/L	*0.3*	<0.02	<0.02	<0.02	0.09	11.1	0.22	0.03	0.04	<0.02	0.44	<0.02	0.13	<0.02	479	<0.02	<0.02	<0.02	0.73	773	1.24
Lead	mg/L	*0.05*	<0.0001	0.0003	<0.0001	0.0004	0.0004	0.0005	<0.0001	0.0001	<0.0001	0.0002	0.0024	<0.0001	<0.0001	0.0096	0.0001	0.0004	0.0002	0.0004	0.0098	0.0028
Lithium	mg/L	-	<0.008	<0.008	0.014	<0.008	0.036	<0.008	<0.008	<0.008	<0.008	<0.008	0.117	<0.008	<0.008	0.23	0.024	0.008	0.018	0.045	0.14	0.071
Magnesium	mg/L	-	0.3	<0.2	0.3	<0.2	4.6	0.2	0.3	<0.2	0.3	<0.2	24.5	<0.2	<0.2	73	0.7	<0.2	1.4	11.8	47	6.9
Manganese	mg/L	*0.05*	0.006	<0.005	0.032	<0.005	0.286	<0.005	<0.005	0.009	<0.005	0.009	0.496	<0.005	<0.005	6.43	<0.005	0.006	0.006	0.498	1.02	5.6
Mercury	mg/L	*0.002*	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	mg/L	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	0.04	<0.02	<0.02	<0.02	<0.1	<0.02
Nickel	mg/L	-	<0.008	<0.008	<0.008	<0.008	0.403	<0.008	<0.008	<0.008	<0.008	<0.008	0.019	<0.008	<0.008	3.62	<0.008	<0.008	0.016	0.035	4.19	0.752
Nitrate/Nitrite as N	mg/L	*10*	0.08	0.14	0.13	0.02	0.06	0.14	0.04	0.02	<0.02	0.14	2.56	0.04	0.08	0.1	0.07	0.03	0.05	0.46	0.08	0.17
Nitrogen, Ammonia	mg/L	-	0.35	0.2	0.26	<0.05	0.25	<0.05	0.07	0.13	0.12	0.27	0.73	0.11	<0.05	0.99	0.21	0.06	0.14	0.47	0.69	5.51
pH	s.u.	*6.5-8.5*	7.3	6.6	6.4	6	5.6	7.9	7	6.5	6.7	6.4	5.1	5.3	6.5	2.3	9.4	6.4	7.2	4.9	2	4.5
Phosphorus	mg/L	-	0.01	0.02	0.03	<0.02	0.03	0.05	0.03	0.02	0.01	0.02	0.37	0.02	<0.02	14	0.09	0.03	0.02	0.03	19	0.01
Potassium	mg/L	-	0.8	0.4	10.4	0.3	14.7	1	1.2	0.5	0.7	0.7	13.7	0.7	0.4	26	1.1	0.4	3.3	22.3	5	16.1
Scandium	mg/L	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1
Selenium	mg/L	*0.01*	0.0009	0.0001	0.0156	<0.0001	0.0094	0.0037	0.0018	0.0006	0.0001	0.0007	0.0089	0.0003	0.0001	0.0437	0.0105	<0.0001	0.0091	0.0356	0.0335	0.0122
Silver	mg/L	*0.05*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	0.05	<0.01
Sodium	mg/L	-	0.8	0.5	23.5	0.2	3.7	11.4	3.4	0.5	1	0.7	265	0.5	0.2	18	1.7	1.1	3.4	59.3	12	45.6
Strontium	mg/L	-	0.006	0.005	0.005	<0.005	0.215	0.006	<0.005	<0.005	0.008	0.007	0.232	<0.005	<0.005	0.06	0.185	<0.005	0.044	0.161	0.05	0.216
Sulfate	mg/L	*250*	2.4	<1	48.7	2.4	139	10.8	4.6	2.2	3.8	5	732	5.5	1.1	5360	35.1	8.4	26.8	329	5060	606
Thallium	mg/L	-	0.0003	0.0002	0.0008	0.0001	0.0179	0.0001	0.0001	0.0003	0.0002	0.0008	0.0001	0.0001	<0.0001	0.0181	0.0003	0.0002	0.0027	0.0007	0.009	0.0076
Tin	mg/L	-	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.2	<0.04	<0.04	<0.04	<0.04	<0.2	<0.04
Titanium	mg/L	-	<0.005	<0.005	<0.005	<0.005	0.005	0.006	<0.005	<0.005	<0.005	<0.005	0.012	<0.005	<0.005	0.03	0.005	<0.005	<0.005	0.008	0.04	0.012
Total Dissolved Solids	mg/L	*500*	24	20	130	<10	242	42	34	24	20	28	1440	<10	<10	8680	150	24	52	556	9100	948
Uranium	mg/L	-	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.1216	0.0002	<0.0001	<0.0001	0.0005	0.3851	0.003
Vanadium	mg/L	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.11	0.034	<0.005	<0.005	<0.005	0.1	<0.005
Zinc	mg/L	*5*	0.01	0.01	<0.01	0.02	0.04	<0.01	0.01	0.02	<0.01	0.06	0.19	0.01	<0.01	12.5	<0.01	0.02	0.01	0.07	24.5	0.55
Electrical Conductivity	µmhos/cm	-	19.2	6.5	181	8.6	347	60.8	30	11.5	19.5	19.6	1960	15	8.2	5840	183	17.4	89.5	757	8220	1160
Cations	meq/L	-	0.166	---	1.4	N/A	3.2	0.7	0.276	---	0.176	0.175	20	N/A	N/A	110	1.8	0.1	0.702	7.1	118	13
Anions	meq/L	-	0.147	---	1.3	N/A	3.1	0.626	0.224	---	0.152	0.105	20	0.135	N/A	113	1.9	0.179	0.748	7.4	106	13
Cation/Anion Balance	%	-	N/A	N/A	3.7	N/A	1.6	5.6	10.4	N/A	N/A	N/A	0	N/A	N/A	-1.3	-2.7	N/A	-3.2	-2.1	5.4	0
Start Temp	^{o}C	-	22.1	22.1	20.1	20.1	20.1	20.1	22.1	22.1	22.1	22.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	22.1
End Temp	^{o}C	-	22.2	22.2	20.2	20.2	20.2	20.2	22.2	22.2	22.2	22.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	22.2
Flow Rate	mL/min	-	3.50	3.50	2.79	2.90	1.05	2.78	3.50	2.50	3.50	2.50	2.42	3.28	3.48	0.94	1.05	1.60	1.06	1.04	3.47	BRT[2]
Extraction Time	hours	-	24	24	32	25	25	32	24	24	24	24	32	25	25	29	25	25	25	28	32	8
Dry Sample Weight	kg	-	5.00	5.02	4.02	4.18	1.51	4.01	4.89	3.45	5.05	3.97	3.49	4.73	5.01	1.35	1.52	2.30	1.52	1.50	4.99	2.02
Influent Volume	L	-	5.00	5.02	4.02	4.27	1.74	4.01	4.89	3.45	5.05	3.97	5.11	4.91	5.21	2.02	1.72	2.42	1.71	2.09	7.22	2.02
Effluent Volume	L	-	4.80	4.84	3.31	4.16	1.52	3.20	4.61	3.31	4.84	3.83	3.44	4.72	5.00	1.29	1.54	2.30	1.53	1.51	5.05	1.48
Influent pH	s.u.	-	5.41	5.41	5.7	5.7	5.7	5.7	5.41	5.41	5.41	5.41	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.41
Effluent pH	s.u.	-	6.49	6.38	6.41	4.59	6.24	6.79	6.41	6.22	6.28	6.2	5.49	3.72	4.34	2.35	9.02	5.1	6.61	5.25	2.04	4.63
Feed Moisture	wt%	-	<0.10	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.1
Residue Moisture	wt%	-	3	2.1	13.75	2.15	10.82	14.96	3.4	2.4	2.2	3	32.46	2.48	3.29	33.07	10.12	3.19	9.66	23.56	30.66	20.4
Distribution, +2" [1]	wt%	-	49	37	0	0	14	0	59	30	35	84	7	0	0	8	21	49	67	63	0	0
Distribution, -2" [1]	wt%	-	51	63	100	100	86	100	41	70	65	16	93	100	100	92	79	51	33	37	100	100
ACZ Report #	--	-	L27988	L27988	L29154	L29154	L29154	L29154	L27988	L27988	L27988	L27988	L29154	L29154	L29154	L29154	L29154	L29154	L29154	L29154	L29154	L27988

[1] Distribution before crushing +2" to just pass 2".

[2] Test run using the bottle roll MWMP extraction method for fine-grained materials.

Pink shaded cells = Concentration exceeds Oregon Groundwater Quality Guidelines(OAR 340-40-020)

Grey shaded cells = Analytical limit of detection exceeds Oregon Water Quality Standard

Appendix B2
McClelland Laboratories Report

Table . - Multi Element ICP Analytical Results,
Grassy Mountain

Analysis, mg/kg	Sample									
	CAL-001 (380-400)	CAL-001 (487-505.4)	CAL-001 (505.4-523)	CAL-001 (677-687)	CAL-001 (750-762)	CAL-001 (782-801)	CAL-001 (787-801)	CAL-001 (812-822)	CAL-001 (822-825)	CAL-001 (847-857)
Ag	1.87	5.18	5.88	10.05	2.43	0.78	1.29	2.54	1.71	3.07
Al	500	2,500	1,700	2,300	2,500	2,400	2,200	1,600	2,400	2,800
As	27.0	335	178.0	179.0	63.5	52.7	47.4	69.3	78.5	25.2
Au	0.2	0.8	0.4	9.7	0.3	0.2	0.2	1.4	0.2	<0.2
B	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ba	30	50	50	50	80	80	80	60	90	30
Be	0.06	0.09	0.05	0.06	0.08	<0.05	<0.05	0.08	0.08	0.10
Bi	0.04	0.10	0.13	0.10	0.25	0.06	0.04	0.18	0.06	0.13
Ca	300	100	100	100	300	400	100	200	400	1,000
Cd	0.01	<0.01	0.03	0.01	<0.01	<0.01	0.01	0.04	<0.01	<0.01
Ce	4.25	20.0	15.70	19.50	34.3	12.80	10.35	12.20	14.45	39.0
Co	0.6	0.7	1.4	0.9	0.8	0.5	0.4	1.0	1.4	0.3
Cr	239	99	138	130	84	104	105	113	92	64
Cs	0.60	1.92	1.37	0.44	3.33	0.80	0.66	1.04	3.38	6.16
Cu	8.9	10.5	11.4	15.9	22.7	7.6	7.8	12.1	7.0	6.6
Fe	4,800	10,200	10,800	10,100	11,000	4,800	4,400	5,500	9,200	3,300
Ga	0.55	1.55	0.82	0.74	1.38	0.43	0.36	0.54	1.16	1.75
Ge	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hf	0.02	0.03	0.09	0.08	0.04	0.04	0.03	0.03	0.02	0.02
Hg	0.84	3.24	1.35	2.17	2.86	0.70	1.20	0.90	1.86	5.26
In	0.008	0.011	0.019	0.030	0.010	0.006	0.006	0.063	<0.005	<0.005
K	400	2,400	1,800	2,200	3,100	2,200	2,200	1,800	3,200	1,900
La	2.3	10.4	7.6	9.0	19.9	7.7	6.5	6.2	7.5	26.5
Li	1.1	0.8	0.7	0.6	0.5	0.4	0.4	0.5	0.6	0.4
Mg	100	100	100	<100	100	<100	<100	<100	100	200
Mn	44	20	26	22	16	16	15	19	18	11
Mo	8.60	15.75	20.2	14.95	58.3	16.10	12.80	13.85	32.5	16.10
Na	<100	100	<100	100	100	100	100	100	100	100
Nb	0.10	0.15	0.10	0.27	0.11	0.13	0.09	0.14	0.08	<0.05
Ni	12.6	6.4	8.7	6.9	6.1	7.2	8.3	7.6	5.4	3.9
P	10	100	40	120	60	50	40	70	40	150
Pb	2.2	7.7	8.1	5.5	20.4	7.4	4.8	4.0	6.6	29.6
Rb	1.8	7.2	6.3	4.9	10.5	6.6	6.5	5.6	10.4	11.5
Re	0.001	0.001	0.001	0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001
S (Total)	300	3,700	5,100	4,600	3,500	1,500	1,400	1,300	3,200	500
Sb	5.54	16.90	19.35	19.05	5.46	4.39	3.75	5.57	4.65	6.52
Sc	0.1	0.4	0.3	0.7	0.3	0.2	0.2	0.2	0.2	0.2
Se	0.8	3.0	5.2	1.5	1.3	0.6	0.7	0.9	0.7	0.7
Sn	0.5	0.4	0.4	0.5	0.5	0.3	0.3	0.4	0.3	0.3
Sr	9.6	13.8	4.7	16.0	22.2	29.3	26.2	36.3	20.7	39.8
Ta	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Te	0.02	0.02	0.02	0.01	0.04	0.02	0.02	0.01	0.02	0.03
Th	0.3	2.7	1.2	0.8	2.7	1.0	0.9	1.5	1.5	3.2
Ti	<50	<50	<50	80	<50	<50	<50	<50	<50	<50
Tl	0.12	0.33	0.37	0.27	0.16	0.11	0.10	0.05	0.37	0.09
U	0.06	0.34	0.46	0.72	0.75	0.46	0.48	0.62	0.26	0.46
V	3	5	3	9	4	3	3	3	7	2
W	0.72	0.13	0.12	<0.05	0.11	0.08	0.07	0.08	0.16	0.16
Y	0.35	1.32	1.88	1.36	0.85	0.49	0.51	0.92	1.61	0.49
Zn	3	5	8	<2	3	5	4	8	6	3
Zr	1.1	1.0	3.1	3.3	1.4	1.2	0.8	1.0	0.8	0.6

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Table . - Multi Element ICP Analytical Results,
Grassy Mountain

	Sample									
Analysis, mg/kg	CAL-001 (852.5-857)	CAL-002 (57-67)	CAL-002 (86-95)	CAL-002 (120-132)	CAL-002 (177-187)	CAL-002 (235-255)	CAL-002 (270-280)	CAL-002 (355-375)	CAL-002 (409-422)	CAL-002 (425-430)
Ag	0.91	0.08	0.14	0.17	1.62	2.52	2.29	4.47	15.20	12.10
Al	3,000	1,600	1,000	1,400	600	600	300	700	1,400	1,500
As	14.8	165.5	237	284	46.2	76.1	51.1	62.9	204	113.5
Au	<0.2	<0.2	0.2	0.2	0.4	0.5	0.5	0.4	1.6	5.9
B	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ba	20	40	50	30	20	30	20	30	80	110
Be	0.09	0.49	0.33	0.20	0.16	0.30	0.15	0.14	0.15	0.10
Bi	0.13	0.15	0.08	0.10	0.03	0.03	0.02	0.02	0.08	0.04
Ca	1,200	400	200	200	200	300	200	300	400	200
Cd	<0.01	0.03	0.05	0.51	0.02	0.06	0.01	0.02	0.03	0.01
Ce	51.7	17.55	11.95	20.9	4.48	4.09	1.68	3.04	11.75	5.78
Co	0.1	1.0	4.3	4.5	0.9	1.2	1.1	1.0	1.5	0.5
Cr	41	115	145	123	226	238	260	235	155	140
Cs	6.31	4.89	1.20	2.52	1.06	0.88	0.55	1.29	2.04	1.47
Cu	6.0	6.7	10.1	9.9	7.9	8.9	9.0	9.5	16.2	9.5
Fe	2,000	11,100	10,700	12,400	5,000	6,600	5,900	5,500	9,300	5,500
Ga	1.98	2.09	0.79	0.64	0.79	0.56	0.76	1.07	1.04	0.92
Ge	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hf	0.02	0.05	0.04	0.04	0.02	0.03	0.02	<0.02	0.03	0.02
Hg	1.42	0.51	12.05	5.87	1.56	1.46	0.92	1.02	2.19	0.97
In	<0.005	0.015	0.009	0.012	<0.005	0.005	<0.005	<0.005	0.011	<0.005
K	1,800	1,200	1,100	1,100	500	500	200	500	1,300	1,600
La	36.8	8.5	5.8	11.1	2.3	2.0	0.8	1.6	5.7	3.1
Li	0.2	1.5	0.9	1.2	1.3	1.6	1.1	0.9	0.9	0.7
Mg	300	100	<100	100	<100	0.01	<100	<100	100	100
Mn	7	32	27	26	32	40	43	42	33	24
Mo	7.87	3.97	6.03	4.39	6.40	8.00	8.65	7.23	7.08	10.85
Na	100	<100	<100	100	<100	<100	<100	100	100	100
Nb	0.05	0.18	0.19	0.19	0.11	0.08	0.07	0.09	0.13	0.06
Ni	2.3	8.6	14.8	12.7	16.7	24.4	22.3	21.2	12.6	9.6
P	170	170	60	160	20	30	10	10	80	40
Pb	37.2	8.1	5.7	6.6	1.6	1.5	1.0	1.2	4.3	2.1
Rb	12.5	6.2	4.6	5.7	2.2	2.2	1.1	2.9	5.7	6.3
Re	<0.001	0.001	0.001	0.001	0.001	<0.001	0.001	0.001	0.001	0.001
S (Total)	200	300	4,400	10,200	700	2,100	1,100	1,400	4,300	1,300
Sb	3.21	23.7	93.6	55.1	11.80	22.0	12.30	11.85	27.9	13.55
Sc	0.1	0.7	0.2	0.4	0.2	0.2	0.2	0.1	0.3	0.2
Se	0.2	0.7	1.4	2.0	1.8	2.5	1.9	5.2	6.1	3.4
Sn	0.2	0.5	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.3
Sr	40.8	21.1	7.0	56.4	8.5	10.2	5.4	7.9	19.3	10.6
Ta	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Te	0.01	0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01	0.01	0.01
Th	4.9	2.9	2.1	2.5	0.7	0.4	0.2	0.4	1.1	0.6
Ti	<50	60	<50	<50	<50	<50	<50	<50	<50	<50
Tl	0.08	0.35	2.04	2.36	0.88	2.28	1.10	1.03	0.62	0.42
U	0.57	0.81	0.38	0.52	0.16	0.10	0.10	0.09	0.44	0.35
V	2	16	3	2	2	3	2	4	5	5
W	0.22	0.31	0.49	0.10	0.18	0.44	0.59	0.32	0.33	0.40
Y	0.38	2.98	1.20	3.40	0.86	1.12	1.32	0.54	1.37	0.59
Zn	2	8	17	24	4	12	9	7	10	6
Zr	0.7	2.6	1.6	1.5	0.8	1.0	0.7	0.5	1.3	0.8

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Table . - Multi Element ICP Analytical Results,
Grassy Mountain

	Sample									
Analysis, mg/kg	CAL-002 (430-438)	CAL-002 (480-496)	CAL-002 (527-541.5)	CAL-002 (697-706)	CAL-002 (740-747)	CAL-003 (663-674)	CAL-003 (675-685)	CAL-003 (692-710)	CAL-003 (710-732)	CAL-003 (755-772)
Ag	6.43	6.19	2.73	2.50	1.63	1.59	2.47	7.23	5.27	4.65
Al	1,500	1,600	1,400	2,000	3,000	1,000	6,000	3,300	2,000	1,400
As	198.5	92.3	67.9	89.9	74.2	51.7	192.0	172.0	156.0	163.0
Au	0.8	1.6	0.3	0.3	<0.2	<0.2	0.2	0.5	1.0	0.2
B	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ba	50	40	30	50	10	20	20	130	50	40
Be	0.12	0.10	0.07	0.23	0.18	0.29	0.35	0.21	0.26	0.18
Bi	0.07	0.05	0.03	0.22	0.08	0.05	0.30	0.15	0.07	0.13
Ca	400	300	200	200	900	500	2,500	900	400	600
Cd	0.02	0.01	0.01	0.01	0.01	0.07	0.28	<0.01	0.02	0.02
Ce	13.65	10.35	8.86	19.55	7.60	6.03	42.7	36.7	17.15	25.8
Co	1.8	1.0	1.2	0.5	6.1	2.4	10.7	0.8	0.7	0.6
Cr	161	153	146	72	90	238	8	26	106	98
Cs	1.65	1.68	0.98	1.15	6.14	0.44	2.65	1.81	1.69	0.64
Cu	17.0	9.6	8.5	17.1	7.2	17.9	22.3	14.5	16.8	19.9
Fe	9,800	6,000	4,400	10,300	13,800	7,100	15,500	10,900	6,900	8,100
Ga	1.00	0.99	0.52	0.42	0.91	0.63	2.90	3.26	0.77	0.82
Ge	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.05	<0.05	0.05
Hf	0.03	0.03	<0.02	0.07	<0.02	0.04	0.06	0.09	0.03	0.07
Hg	2.36	1.71	0.39	4.65	0.21	2.04	4.06	5.30	2.38	7.33
In	0.011	0.005	0.006	0.008	<0.005	0.016	0.033	0.021	0.008	0.017
K	1,400	1,300	1,100	2,500	1,800	500	2,200	3,300	1,500	1,500
La	6.8	5.7	5.2	11.6	4.7	3.1	21.5	18.1	8.3	12.5
Li	0.8	0.9	0.6	0.6	0.4	2.2	2.1	1.0	1.2	0.9
Mg	100	100	100	100	200	300	700	300	100	100
Mn	30	25	23	15	17	75	15	24	24	19
Mo	7.77	4.89	5.26	25.7	4.82	29.1	21.1	31.6	16.85	25.1
Na	200	200	200	100	100	<100	100	100	200	100
Nb	0.15	0.26	0.10	0.12	0.05	0.08	<0.05	<0.05	0.12	0.10
Ni	13.2	12.9	11.8	7.0	11.4	21.4	14.4	2.9	7.8	7.7
P	80	50	20	50	10	200	170	100	70	60
Pb	4.3	3.5	2.9	12.0	7.6	3.0	15.7	13.0	5.4	3.8
Rb	5.7	5.1	4.6	6.9	9.8	2.4	13.5	10.9	4.9	4.6
Re	0.001	0.001	0.001	<0.001	0.001	0.002	0.003	0.001	0.001	0.001
S (Total)	6,200	2,100	1,400	3,100	14,300	3,000	17,700	3,200	1,200	700
Sb	37.8	10.70	12.55	5.65	4.91	7.08	16.50	18.80	15.75	12.45
Sc	0.3	0.3	0.1	0.2	0.2	0.2	1.3	0.9	0.3	0.4
Se	6.0	3.8	1.5	2.1	6.5	1.8	2.8	1.1	1.4	1.9
Sn	0.4	0.4	0.3	0.6	0.3	0.6	0.4	0.4	0.3	0.4
Sr	10.2	7.3	5.9	28.0	10.5	29.0	53.0	44.3	26.0	19.4
Ta	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Te	0.01	<0.01	0.01	0.02	<0.01	0.02	0.03	0.03	0.02	0.05
Th	1.8	1.7	1.3	3.0	4.0	0.3	2.7	1.5	1.6	0.5
Ti	<50	50	<50	<50	<50	<50	<50	<50	<50	<50
Tl	1.11	0.37	0.22	0.28	0.27	0.56	0.73	0.31	0.27	0.11
U	0.65	0.42	0.22	0.70	0.69	0.18	0.98	1.26	0.59	0.77
V	5	3	1	3	1	6	4	13	10	8
W	0.15	0.06	0.13	0.10	0.59	0.39	0.17	0.20	0.28	0.20
Y	1.56	1.10	0.70	1.89	2.46	4.07	4.29	2.41	1.49	1.80
Zn	9	4	4	13	7	20	36	11	16	15
Zr	1.1	1.1	0.5	2.1	0.5	1.5	2.2	2.6	1.3	2.3

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Table . - Multi Element ICP Analytical Results,
Grassy Mountain

	Sample									
Analysis, mg/kg	CAL-003 (808-830)	CAL-004 (35-55)	CAL-004 (160-175)	CAL-004 (250-270)	CAL-004 (295-315)	CAL-004 (360-370)	CAL-004 (445-455)	CAL-004 (520-530)	CAL-004 (585-595)	CAL-004 (630-640)
Ag	1.36	0.06	0.07	0.21	0.75	3.16	2.76	4.85	3.05	5.94
Al	2,400	3,400	2,400	3,000	3,100	1,400	2,700	1,700	1,000	2,200
As	179.5	38.2	58.9	92.2	245	104.0	366	236	66.6	122.0
Au	0.2	<0.2	0.2	0.6	0.9	0.3	0.3	1.4	0.5	0.9
B	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ba	30	120	50	40	70	70	60	80	30	70
Be	0.21	0.27	0.68	0.70	0.39	0.14	0.19	0.07	0.08	0.06
Bi	0.04	0.06	0.07	0.13	0.09	0.08	0.13	0.08	0.06	0.10
Ca	600	2,400	500	1,000	900	100	100	200	200	100
Cd	0.12	0.05	0.05	0.05	0.05	0.02	0.01	<0.01	0.01	0.06
Ce	9.55	14.80	20.6	27.5	13.05	10.60	22.4	14.50	7.68	14.70
Co	2.7	1.0	1.6	1.3	1.7	0.9	0.5	1.1	0.8	1.4
Cr	120	105	96	127	147	174	90	147	222	136
Cs	2.13	2.35	5.11	5.03	2.34	2.87	2.74	1.44	1.11	0.73
Cu	7.7	7.2	6.8	10.0	10.6	8.2	5.8	9.2	5.5	13.3
Fe	9,900	7,300	9,800	14,800	12,500	6,700	11,600	10,600	6,200	10,900
Ga	1.04	1.75	3.58	4.70	3.11	1.33	2.10	1.07	0.67	0.63
Ge	<0.05	0.05	<0.05	0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05
Hf	0.02	0.10	0.06	0.05	0.05	0.03	0.03	0.04	0.05	0.06
Hg	0.90	1.19	1.08	1.69	3.65	5.22	3.16	1.04	1.27	2.25
In	0.006	0.007	0.012	0.024	0.016	0.012	0.018	0.015	0.007	0.022
K	1,200	1,100	1,000	1,500	1,100	900	2,500	2,200	800	2,500
La	5.7	7.4	10.1	14.2	5.9	5.1	11.9	6.9	4.2	7.0
Li	1.0	3.4	1.4	1.6	1.1	1.0	1.1	0.8	1.3	0.7
Mg	200	600	200	300	400	100	200	100	100	<100
Mn	43	96	38	95	50	20	17	25	29	19
Mo	67.6	3.59	3.10	6.50	10.75	5.51	6.02	145.5	72.1	18.10
Na	200	200	200	100	100	<100	200	100	<100	100
Nb	0.10	0.10	0.21	0.10	0.05	0.06	0.15	0.17	0.09	0.09
Ni	9.6	7.4	8.1	9.0	5.2	4.8	2.3	3.8	4.8	3.7
P	60	490	110	230	110	20	140	230	120	50
Pb	4.6	3.7	5.4	8.1	5.2	4.3	7.7	4.9	3.8	5.2
Rb	5.5	7.4	6.6	10.3	7.6	4.8	7.4	5.3	2.6	6.1
Re	<0.001	<0.001	<0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.003
S (Total)	100	100	<100	100	1,800	800	2,800	4,200	1,000	5,800
Sb	20.8	15.45	13.45	28.7	31.0	14.85	12.65	14.60	6.68	14.75
Sc	0.2	0.6	0.6	0.9	0.7	0.4	0.5	0.3	0.2	0.4
Se	0.8	0.4	0.5	0.8	2.3	1.1	2.0	4.8	1.7	2.6
Sn	0.3	0.4	0.4	0.5	0.3	0.3	0.3	0.4	0.3	0.3
Sr	14.0	21.4	21.4	30.8	13.8	13.1	41.5	14.3	15.8	11.3
Ta	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Te	0.03	0.01	<0.01	0.01	0.01	0.01	0.01	0.03	0.02	0.02
Th	3.1	2.9	4.4	3.0	1.0	0.9	2.7	1.2	0.3	0.7
Ti	<50	<50	50	50	<50	<50	<50	<50	<50	<50
Tl	0.27	1.89	0.16	0.12	0.28	0.24	0.37	0.85	0.53	0.54
U	0.80	0.63	0.60	1.16	0.60	0.14	0.42	0.41	0.27	0.70
V	14	31	12	14	12	8	11	8	5	3
W	0.81	2.42	1.65	2.27	1.56	1.55	1.08	3.21	1.89	2.45
Y	1.81	2.88	2.10	2.30	1.31	0.73	1.44	2.09	0.64	1.14
Zn	28	10	20	17	18	9	10	7	4	7
Zr	0.6	3.5	2.1	1.9	1.5	1.0	1.1	1.4	1.6	1.9

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Table . - Multi Element ICP Analytical Results,
Grassy Mountain

	Sample									
Analysis, mg/kg	CAL-004 (705-715)	CAL-004 (770-780)	CAL-004 (860-875)	GMC-002 (654-675)	GMC-002 (675-693)	GMC-002 (774-791)	GMC-002 (802-820)	GMC-003 (376-388)	GMC-003 (485-495)	GMC-003 (610-628)
Ag	7.71	1.54	3.04	6.12	3.22	3.88	5.01	2.29	4.95	2.44
Al	1,000	2,500	2,000	1,800	2,000	1,600	1,500	300	1,900	2,500
As	36.0	75.3	117.0	108.5	156.0	80.6	136.0	14.1	267	84.7
Au	12.5	0.4	0.4	1.4	0.4	0.4	0.3	0.4	0.5	0.6
B	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ba	60	90	50	60	60	60	30	20	80	50
Be	<0.05	0.27	0.23	0.15	0.26	0.18	0.17	<0.05	0.08	0.10
Bi	0.04	0.04	0.12	0.43	0.14	0.18	0.08	0.02	0.07	0.03
Ca	100	200	300	400	300	200	400	200	100	200
Cd	0.01	0.01	0.06	0.01	0.01	0.01	0.03	<0.01	0.02	0.02
Ce	3.69	9.47	16.15	18.50	17.15	17.25	14.65	0.71	16.55	12.80
Co	0.6	0.8	8.0	1.0	0.5	0.6	0.8	5.0	1.3	2.3
Cr	166	111	123	155	144	155	155	291	152	146
Cs	0.30	2.10	2.08	1.18	1.23	0.46	1.18	0.44	1.05	1.54
Cu	4.9	7.7	17.7	11.9	7.9	9.5	9.8	5.1	8.7	7.6
Fe	4,500	5,500	8,200	9,600	9,200	6,100	6,400	4,700	12,300	5,500
Ga	0.35	0.69	0.92	0.85	0.90	0.46	0.66	2.57	1.50	0.86
Ge	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05
Hf	0.03	0.03	0.03	0.05	0.03	0.06	0.04	<0.02	0.06	0.02
Hg	1.58	1.48	3.06	3.95	2.47	2.53	1.22	0.37	1.73	0.74
In	<0.005	0.006	0.010	0.015	0.010	0.009	<0.005	<0.005	0.022	<0.005
K	1,300	2,800	1,800	1,600	2,200	1,500	1,100	200	2,600	1,600
La	2.2	6.5	8.2	8.4	8.9	9.8	7.9	0.3	8.1	6.6
Li	0.6	0.7	1.6	1.2	1.1	1.0	0.9	0.6	0.7	1.1
Mg	<100	100	100	100	<100	<100	100	<100	<100	100
Mn	14	13	69	19	17	11	15	28	28	83
Mo	9.34	23.0	19.15	11.95	18.95	6.54	5.52	4.50	10.20	12.35
Na	100	<100	300	100	200	100	200	<100	100	100
Nb	0.21	0.08	0.11	0.05	0.15	0.21	0.34	<0.05	0.09	0.18
Ni	2.7	2.7	5.3	5.3	4.0	7.0	5.0	9.9	10.9	10.1
P	30	60	90	60	100	130	90	10	40	60
Pb	5.9	7.8	8.4	50.3	12.8	12.3	5.5	2.4	5.9	3.4
Rb	3.2	7.6	6.8	4.8	5.6	4.8	4.3	1.2	6.2	5.8
Re	0.001	<0.001	0.001	<0.001	<0.001	0.001	0.001	0.001	0.001	0.001
S (Total)	1,100	1,700	2,300	2,500	2,400	1,200	1,200	200	6,500	1,300
Sb	4.94	6.63	19.25	10.40	18.30	8.72	11.25	3.85	43.4	4.61
Sc	0.1	0.2	0.3	0.4	0.3	0.3	0.3	0.1	0.3	0.2
Se	1.2	0.9	1.8	1.2	1.2	1.1	1.3	0.7	5.9	1.6
Sn	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4
Sr	10.2	33.2	23.0	32.2	42.6	48.8	22.6	4.0	10.4	19.3
Ta	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Te	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Th	0.4	1.9	1.7	0.5	1.9	1.4	3.4	<0.2	1.1	2.0
Ti	<50	<50	<50	<50	<50	50	50	<50	<50	<50
Tl	0.13	0.13	0.90	0.31	0.45	0.14	0.13	0.21	1.14	0.55
U	0.19	0.52	0.88	0.56	0.53	0.51	0.89	<0.05	0.29	0.33
V	2	5	5	11	7	5	3	2	4	3
W	3.19	1.65	1.60	0.22	0.33	0.52	0.09	1.56	0.24	0.08
Y	0.29	1.27	2.02	1.84	1.62	0.79	1.95	0.17	1.70	1.17
Zn	3	8	17	14	11	11	11	7	15	7
Zr	1.1	0.9	1.1	1.8	1.2	2.1	1.3	<0.5	1.8	0.6

Chemex Report # RE15021302

Table . - Multi Element ICP Analytical Results,
Grassy Mountain

Analysis, mg/kg	Sample									
	GMC-006 (341-362)	GMC-006 (525-544)	GMC-006 (593-613)	GMC-006 (625-637.5)	GMC-006 (755-773)	GMC-012 (523-533)	GMC-012 (682-700)	GMC-012 (780-800)	GMC-012 (832-851)	GMC-012 (919-946)
Ag	2.86	4.99	6.28	12.40	5.28	2.06	1.77	1.32	2.71	0.59
Al	300	2,400	1,600	1,400	3,200	1,800	1,600	2,600	3,500	7,100
As	21.8	163.0	88.2	138.0	167.5	146.0	133.0	83.1	67.3	501
Au	0.5	0.4	1.6	1.4	0.4	0.3	0.3	0.2	<0.2	<0.2
B	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ba	20	60	40	60	120	50	80	80	50	50
Be	0.05	0.32	0.06	0.07	0.08	0.12	0.06	0.07	0.12	0.36
Bi	0.01	0.04	0.05	0.11	0.06	0.06	0.19	0.09	0.20	0.30
Ca	100	200	300	400	300	200	200	200	700	1,800
Cd	<0.01	0.01	<0.01	0.04	0.01	0.01	0.03	0.09	0.03	0.25
Ce	0.67	14.40	7.95	12.00	18.20	10.70	23.6	17.35	37.1	49.3
Co	0.8	0.8	0.6	2.0	0.6	1.2	0.8	1.6	3.7	12.6
Cr	235	145	177	192	93	127	129	132	102	24
Cs	0.80	1.71	0.93	0.46	1.13	1.45	0.89	0.83	3.27	5.72
Cu	7.8	7.2	11.6	14.6	8.5	6.4	14.1	10.2	30.0	14.5
Fe	3,700	8,400	5,400	11,800	8,700	5,000	7,900	8,200	11,100	20,900
Ga	1.80	1.26	0.76	0.56	1.12	1.22	0.85	0.84	2.03	2.24
Ge	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.05	0.06	0.06
Hf	<0.02	0.02	0.04	0.10	0.03	0.02	0.07	0.03	0.03	0.03
Hg	0.69	1.57	1.66	4.07	0.48	1.52	0.61	1.21	1.87	0.12
In	<0.005	0.007	0.007	0.017	0.010	0.006	0.014	0.009	0.015	0.030
K	200	1,700	1,400	1,500	3,700	1,400	1,800	2,500	2,500	2,800
La	0.4	7.4	4.3	5.8	12.7	5.7	12.5	8.6	21.1	26.6
Li	0.6	0.7	1.1	1.2	0.8	1.0	0.9	0.7	0.5	0.7
Mg	<100	100	100	100	100	100	100	<100	100	400
Mn	35	36	32	41	18	25	22	34	25	15
Mo	7.96	6.09	10.55	13.25	14.20	11.65	16.55	27.7	14.90	5.33
Na	<100	200	100	<100	100	200	100	100	100	200
Nb	0.06	0.22	0.18	0.16	0.10	0.20	0.24	0.20	0.05	<0.05
Ni	16.7	9.4	14.1	13.7	6.0	8.7	11.2	12.8	10.9	17.6
P	<10	120	20	50	110	50	80	80	200	220
Pb	0.5	3.8	3.6	5.9	11.3	4.6	9.9	7.2	21.4	19.2
Rb	1.6	5.8	5.2	4.5	9.2	6.3	5.2	6.5	11.2	19.5
Re	<0.001	0.001	0.001	0.001	<0.001	0.001	0.001	0.001	0.003	0.001
S (Total)	200	2,200	1,100	4,400	3,300	1,800	3,400	5,300	8,500	24,500
Sb	3.89	10.75	10.25	22.3	8.20	9.67	5.66	5.48	6.29	7.21
Sc	0.1	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.9
Se	2.1	5.5	3.6	3.8	2.6	1.2	2.2	1.1	2.5	2.2
Sn	0.4	0.4	0.5	0.6	0.3	0.3	0.6	0.4	0.5	0.3
Sr	3.3	26.1	6.2	15.9	51.9	12.8	10.5	12.9	27.1	9.3
Ta	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Te	0.01	0.01	<0.01	0.01	0.02	0.01	0.03	0.01	0.04	0.02
Th	<0.2	2.0	1.0	0.5	2.6	1.5	2.1	2.2	2.4	4.6
Ti	<50	<50	<50	50	<50	<50	50	<50	<50	<50
Tl	0.22	0.25	0.24	0.49	0.25	0.40	0.20	0.25	0.37	0.58
U	<0.05	0.34	0.35	0.72	0.54	0.39	0.57	0.58	1.53	0.96
V	10	4	3	3	5	2	3	4	4	3
W	0.31	0.41	0.07	0.40	0.25	0.11	0.11	0.19	0.36	0.05
Y	0.11	1.30	0.93	1.37	0.45	1.11	1.70	1.47	2.80	7.70
Zn	5	10	8	11	4	6	8	15	14	70
Zr	<0.5	0.6	1.4	3.0	0.9	0.7	2.1	0.8	0.8	0.8

Chemex Report # RE15021302

Table . - Multi Element ICP Analytical Results,
Grassy Mountain

	Sample								
Analysis, mg/kg	GMC-014 (44-59)	GMC-014 (142-152)	GMC-014 (176-184)	GMC-014 (208-215)	GMC-014 (285-306)	GMC-014 (420-434)	GMC-014 (510-530)	GMC-014 (703-737)	Calico Le. Res. aft. CN Dest.
Ag	0.21	0.05	0.09	0.12	0.68	0.63	0.15	2.23	7.54
Al	13,800	5,400	10,100	1,000	1,600	2,800	14,100	2,600	1,500
As	289	284	292	267	184.5	210	193.0	197.5	172.5
Au	<0.2	<0.2	<0.2	0.2	0.2	0.2	<0.2	0.4	1.2
B	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ba	40	110	70	40	40	90	30	50	50
Be	2.47	0.23	0.96	0.15	0.06	0.13	1.51	0.08	0.14
Bi	0.36	0.09	0.23	0.02	0.02	0.09	0.21	0.09	0.34
Ca	8,100	1,300	900	100	300	1,100	32,500	500	400
Cd	0.12	0.01	0.35	0.01	<0.01	<0.01	0.07	<0.01	0.06
Ce	61.5	32.5	63.8	2.97	7.17	20.6	43.7	18.05	15.80
Co	3.3	0.5	11.8	0.5	0.4	0.5	23.3	0.7	1.4
Cr	18	53	20	222	170	109	39	104	31
Cs	16.40	5.25	6.32	1.72	4.38	1.43	8.03	1.74	0.90
Cu	13.8	6.0	16.6	7.9	5.9	5.7	14.1	11.0	92.7
Fe	18,400	7,200	10,200	9,100	5,900	7,600	18,800	6,900	14,000
Ga	5.49	2.74	3.59	1.57	2.27	1.61	5.31	1.11	0.80
Ge	0.09	0.06	0.08	<0.05	<0.05	0.05	0.06	0.05	0.05
Hf	0.05	0.03	0.05	0.02	<0.02	0.02	0.05	0.02	0.05
Hg	0.39	1.12	1.19	0.39	0.72	0.59	0.45	0.39	2.05
In	0.038	0.016	0.044	0.015	0.005	0.012	0.036	0.013	0.013
K	3,200	2,500	3,100	1,200	1,400	2,600	2,900	2,200	1,300
La	31.9	17.0	31.4	1.5	4.1	12.3	22.4	9.5	7.6
Li	9.1	1.2	1.5	1.1	0.9	1.3	27.8	0.9	0.6
Mg	1,800	600	500	<100	100	100	5,600	100	100
Mn	73	40	31	29	25	21	518	21	47
Mo	1.28	33.5	2.51	22.6	18.05	14.40	2.55	16.75	14.05
Na	1,000	200	100	<100	<100	400	200	300	100
Nb	0.38	0.37	<0.05	0.06	0.07	0.16	0.07	0.15	0.23
Ni	6.1	3.5	13.8	14.5	11.8	6.5	10.6	6.6	7.5
P	540	210	390	40	20	90	470	30	120
Pb	26.4	14.4	15.2	2.8	2.3	5.6	13.2	4.9	10.2
Rb	28.8	9.9	18.4	2.4	6.6	9.6	18.2	8.1	3.5
Re	<0.001	<0.001	0.001	0.001	<0.001	<0.001	0.001	0.001	<0.001
S (Total)	4,700	1,700	10,600	1,800	1,700	4,300	5,100	3,000	3,400
Sb	7.09	43.5	12.30	35.7	11.00	5.90	5.79	6.33	13.65
Sc	2.2	0.4	2.0	0.4	0.3	0.4	1.8	0.5	0.4
Se	1	1.0	0.9	0.7	0.8	0.8	0.9	1.5	2.8
Sn	0.9	0.4	0.6	0.5	0.5	0.5	0.9	0.4	1.1
Sr	31.2	47.3	60.3	35.7	9.9	9.3	83.1	10.6	26.0
Ta	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Te	0.05	0.01	0.02	0.01	0.01	0.02	0.03	0.03	0.02
Th	6.8	3.8	2.9	0.2	0.7	2.9	3.9	2.6	1.4
Ti	<50	<50	<50	<50	<50	<50	<50	<50	<50
Tl	0.22	0.29	0.90	0.19	0.31	0.30	0.18	0.20	0.47
U	2.81	0.97	0.73	0.10	0.12	0.68	0.82	0.43	0.67
V	13	3	6	11	4	5	12	3	7
W	0.22	0.44	0.05	0.10	0.16	0.06	1.73	0.05	1.55
Y	8.81	1.97	7.59	0.33	0.26	1.37	8.13	1.28	1.58
Zn	57	6	108	4	4	19	56	2	12
Zr	1.1	0.7	1.0	0.6	0.5	0.8	1.1	0.8	1.5

Chemex Report # RE15021302

Table . - Multi Element ICP Analytical Results,
Grassy Mountain, Pulp Composites

	Sample					
Analysis, mg/kg	026-042 (135-155)	026-042 (185-205)	026-042 (210-230)	026-042 (310-330)	026-042 (405-425)	026-042 (645-665)
Ag	0.05	0.06	0.05	1.92	1.46	1.95
Al	2,600	2,000	3,300	700	2,000	1,700
As	80.8	39.0	196.0	56.7	202	91.8
Au	<0.2	<0.2	0.2	0.2	0.2	<0.2
B	<10	<10	<10	<10	<10	<10
Ba	50	40	40	50	40	50
Be	0.79	0.50	1.01	0.09	0.14	0.05
Bi	0.08	0.04	0.07	0.02	0.10	0.05
Ca	700	600	2,300	100	100	200
Cd	0.03	0.07	0.09	0.01	0.02	0.02
Ce	18.45	9.31	27.0	4.49	14.35	11.75
Co	2.9	2.7	3.6	1.1	0.8	0.7
Cr	7	8	8	45	44	55
Cs	9.97	3.98	8.33	1.11	1.61	0.74
Cu	12.4	5.2	8.6	11.1	11.6	10.8
Fe	10,200	6,900	12,100	22,300	10,300	6,100
Ga	2.08	0.93	3.25	0.85	1.56	0.99
Ge	0.12	0.05	0.08	<0.05	<0.05	<0.05
Hf	0.07	0.04	0.04	0.02	0.03	0.02
Hg	0.23	0.23	0.97	1.73	0.66	3.08
In	0.013	<0.005	0.014	<0.005	0.011	<0.005
K	900	1,000	1,200	500	1,200	2,200
La	9.6	4.7	13.9	2.2	7.3	6.0
Li	2.2	1.1	1.3	0.9	1.4	0.5
Mg	400	100	400	<100	100	<100
Mn	62	121	179	140	44	7
Mo	1.61	1.12	2.27	8.61	3.24	13.70
Na	300	400	300	100	300	200
Nb	0.19	0.20	0.16	0.18	0.27	0.11
Ni	7.6	8.6	8.0	40.6	9.1	2.6
P	160	200	740	30	150	120
Pb	31.1	18.9	40.8	16.5	13.3	15.5
Rb	8.1	5.9	10.3	2.4	6.0	5.3
Re	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
S (Total)	100	<100	100	600	1,700	3,400
Sb	23.9	10.60	28.7	8.59	7.56	7.10
Sc	0.7	0.3	0.6	0.2	0.5	0.2
Se	0.4	0.3	0.5	0.8	1.8	1.1
Sn	0.4	0.2	0.3	0.4	0.4	0.2
Sr	15.9	7.0	35.3	12.9	21.8	11.5
Ta	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Te	0.01	<0.01	0.01	0.01	0.01	0.02
Th	3.0	2.2	3.6	0.3	1.4	2.3
Ti	60	<50	<50	<50	60	<50
Tl	0.37	0.09	0.25	0.20	0.35	0.25
U	1.18	0.61	1.31	0.09	0.37	0.28
V	12	3	10	4	8	3
W	2.50	1.23	1.91	0.49	0.43	0.71
Y	4.98	5.10	6.50	0.50	1.35	0.65
Zn	45	24	32	6	14	9
Zr	2.4	1.3	1.4	0.8	1.2	0.5

Chemex Report # RE15029166

Table . - Multi Element ICP Analytical Results,
Grassy Mountain, Pulp Composites

	Sample					
Analysis, mg/kg	026-042 (735-755)	026-042 (835-855)	026-156 (85-90)	026-156 (100-120)	026-156 (145-165)	026-156 (240-260)
Ag	2.05	1.12	0.53	0.18	0.07	0.34
Al	1,600	3,100	5,900	4,000	3,000	3,500
As	70.2	281	139.5	100.5	48.5	94.4
Au	<0.2	0.2	0.5	0.4	0.2	0.3
B	<10	<10	<10	<10	<10	<10
Ba	70	30	60	50	50	40
Be	0.08	0.44	0.47	0.28	0.60	0.89
Bi	0.11	0.14	0.11	0.15	0.07	0.10
Ca	600	1,600	1,700	800	600	1,600
Cd	0.01	0.07	0.05	0.01	0.02	0.06
Ce	18.80	30.8	20.2	31.5	20.1	16.90
Co	1.0	4.4	4.5	1.5	2.0	2.1
Cr	54	79	16	9	11	45
Cs	1.43	3.11	4.00	3.81	8.13	3.62
Cu	15.9	24.2	18.4	7.2	5.9	9.9
Fe	6,900	13,500	21,000	9,100	10,000	12,000
Ga	0.72	1.46	7.67	3.29	3.01	2.24
Ge	<0.05	<0.05	0.05	0.05	0.06	0.05
Hf	0.03	0.03	0.20	0.10	0.09	0.09
Hg	2.53	0.37	2.21	1.63	1.15	1.71
In	0.007	0.013	0.019	0.017	0.013	0.013
K	1,700	1,800	2,100	2,200	1,300	1,500
La	11.0	17.1	10.5	16.2	10.8	8.8
Li	0.7	1.3	2.9	2.0	2.0	2.5
Mg	100	300	800	300	400	300
Mn	12	37	72	26	63	113
Mo	10.05	26.6	3.90	2.28	1.16	3.56
Na	300	300	300	200	300	200
Nb	0.13	0.12	<0.05	0.06	0.25	0.20
Ni	3.6	10.2	9.1	3.3	6.8	21.0
P	320	200	140	170	140	540
Pb	31.2	131.5	113.5	43.2	20.6	50.0
Rb	5.9	10.4	11.3	11.4	9.7	10.3
Re	0.001	<0.001	0.001	0.001	<0.001	0.001
S (Total)	3,400	10,400	3,700	1,200	<100	<100
Sb	7.71	5.70	17.30	17.80	13.80	26.6
Sc	0.2	0.5	1.4	1.2	0.6	0.8
Se	1.0	1.7	0.6	0.7	0.5	0.3
Sn	0.3	0.4	0.4	0.4	0.3	0.3
Sr	21.4	15.5	44.7	36.4	17.3	12.6
Ta	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Te	0.03	0.02	0.01	0.01	0.01	0.01
Th	1.3	4.5	3.1	3.7	3.6	3.2
Ti	<50	<50	50	<50	70	70
Tl	0.35	0.38	0.79	0.54	0.29	0.21
U	0.67	0.85	0.82	1.20	1.44	1.37
V	3	3	25	9	15	13
W	0.82	1.05	14.50	8.66	4.93	2.91
Y	0.89	5.13	2.36	2.19	4.20	3.31
Zn	11	62	60	23	27	42
Zr	1.1	1.0	6.3	3.1	2.9	3.2

Chemex Report # RE15029166

Table . - Multi Element ICP Analytical Results,
Grassy Mountain, Pulp Composites

	Sample					
Analysis, mg/kg	026-156 (260-280)	026-156 (650-670)	026-160 (470-490)	026-160 (510-530)	026-160 (530-550)	026-160 (610-630)
Ag	0.40	2.78	2.32	3.20	1.19	1.69
Al	1,100	4,700	2,000	3,100	3,900	2,300
As	55.2	85.5	106.5	223	151.0	75.1
Au	0.2	0.3	0.4	0.6	0.2	0.2
B	<10	<10	<10	<10	<10	<10
Ba	30	80	40	90	50	40
Be	0.25	0.19	0.09	0.13	0.45	0.15
Bi	0.03	0.05	0.03	0.11	0.05	0.06
Ca	400	300	100	200	400	300
Cd	0.01	0.01	0.01	0.01	0.02	0.01
Ce	4.82	18.10	12.40	18.40	12.20	16.60
Co	1.1	0.8	1.0	1.1	1.0	0.5
Cr	105	42	22	19	15	28
Cs	1.37	3.42	1.10	1.26	0.92	1.94
Cu	6.1	5.6	7.5	7.1	5.8	6.0
Fe	15,000	10,700	12,600	15,200	11,400	9,600
Ga	1.04	2.05	1.07	1.51	1.85	1.33
Ge	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hf	0.03	0.04	0.02	0.08	0.03	0.04
Hg	1.44	1.38	1.64	2.36	1.01	1.98
In	0.005	0.008	0.005	0.016	0.007	0.009
K	400	3,600	1,300	2,700	1,600	1,700
La	2.3	10.3	6.5	9.6	6.3	8.5
Li	1.1	1.3	2.0	1.7	2.3	1.0
Mg	100	200	100	100	400	100
Mn	102	44	76	71	54	38
Mo	5.79	11.95	10.95	23.6	8.14	11.70
Na	100	100	200	300	200	200
Nb	0.08	0.11	0.22	0.35	0.24	0.11
Ni	46.4	18.3	10.2	8.8	7.2	11.6
P	110	70	80	150	550	180
Pb	11.9	20.1	4.9	8.3	13.9	6.4
Rb	3.7	13.9	5.5	9.0	6.6	7.0
Re	<0.001	<0.001	<0.001	0.001	0.001	<0.001
S (Total)	100	2,500	1,700	3,600	1,700	1,900
Sb	9.78	7.95	11.85	10.05	9.91	9.32
Sc	0.3	0.4	0.4	0.6	0.4	0.3
Se	0.8	0.6	1.1	3.1	1.0	0.6
Sn	0.2	0.3	0.6	0.5	0.7	0.3
Sr	22.2	24.7	9.2	13.7	18.4	40.7
Ta	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Te	0.01	0.01	<0.01	0.01	0.01	0.02
Th	0.5	2.9	1.5	1.9	1.7	1.5
Ti	<50	<50	<50	70	<50	<50
Tl	0.11	0.36	0.30	0.51	0.22	0.24
U	0.48	0.37	0.29	0.76	0.51	0.47
V	6	6	4	9	7	6
W	1.40	2.91	0.74	0.50	1.04	0.53
Y	0.88	1.04	1.62	2.52	5.79	1.19
Zn	9	10	6	4	23	4
Zr	0.9	1.4	0.9	2.8	0.9	1.2

Chemex Report # RE15029166

Table . - Multi Element ICP Analytical Results,
Grassy Mountain, Pulp Composites

	Sample					
Analysis, mg/kg	026-160 (660-680)	026-042 (155-160)	026-042 (230-350)	026-042 (330-350)	026-042 (450-470)	026-042 (535-555)
Ag	2.68	0.77	0.08	1.77	1.70	0.72
Al	2,100	1,200	4,200	700	2,200	8,400
As	68.6	77.9	173.5	48.3	183.5	205
Au	0.4	0.7	0.2	0.3	0.3	0.3
B	<10	<10	<10	<10	<10	<10
Ba	90	30	30	60	40	30
Be	0.07	0.71	0.55	0.08	0.21	1.31
Bi	0.15	0.05	0.14	0.02	0.11	0.14
Ca	100	300	2,600	100	200	22,400
Cd	0.03	0.11	0.06	0.01	0.02	0.34
Ce	16.00	6.69	32.2	3.26	18.50	30.9
Co	1.7	2.4	2.5	0.9	0.7	6.5
Cr	70	30	8	37	56	46
Cs	0.79	4.03	8.09	1.05	2.34	2.47
Cu	11.4	17.0	15.9	12.0	8.6	12.0
Fe	12,200	22,000	15,400	20,700	7,700	12,100
Ga	0.64	1.22	5.67	1.08	2.33	4.97
Ge	<0.05	0.06	0.06	<0.05	0.05	0.05
Hf	0.05	0.04	0.03	0.02	0.07	0.03
Hg	2.81	3.46	3.16	1.52	1.92	2.59
In	0.007	<0.005	0.019	<0.005	0.012	0.022
K	2,300	700	1,700	500	1,200	1,200
La	9.3	3.4	16.8	1.6	9.7	15.9
Li	1.1	1.0	2.0	1.3	1.4	38.9
Mg	<100	100	500	<100	100	8,600
Mn	58	153	189	132	17	294
Mo	6.05	3.49	9.94	4.88	6.00	8.26
Na	100	100	400	100	400	900
Nb	0.22	0.19	0.08	0.15	0.41	0.20
Ni	32.0	26.8	6.4	31.1	4.7	15.5
P	70	70	710	30	150	470
Pb	11.7	12.7	32.8	6.9	12.1	29.3
Rb	7.9	4.7	14.1	2.8	7.1	9.4
Re	0.001	0.001	<0.001	0.001	<0.001	<0.001
S (Total)	4,100	400	<100	400	1,400	200
Sb	9.67	23.4	32.1	8.00	7.95	10.70
Sc	0.2	0.3	1.0	0.2	0.7	1.1
Se	2.3	0.8	1.2	1.6	1.9	0.6
Sn	0.2	0.3	0.7	0.4	0.4	0.4
Sr	11.3	5.7	11.3	11.60	15.0	61.2
Ta	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Te	0.02	0.01	0.01	<0.01	0.01	0.04
Th	1.3	1.0	3.5	0.3	2.0	3.1
Ti	<50	<50	<50	<50	150	50
Tl	0.42	0.18	0.22	0.26	0.29	0.20
U	0.35	0.87	0.90	0.06	0.53	0.42
V	2	10	12	3	12	16
W	0.82	2.13	1.35	0.61	0.24	0.79
Y	0.70	1.37	3.84	0.40	1.44	7.28
Zn	3	21	33	5	14	112
Zr	1.8	1.3	1.0	0.8	2.5	1.0

Chemex Report # RE15029166

Table . - Multi Element ICP Analytical Results,
Grassy Mountain, Pulp Composites

	Sample					
Analysis, mg/kg	026-042 (700-720)	026-042 (855-875)	026-156 (170-190)	026-156 (315-335)	026-156 (340-360)	026-156 (625-645)
Ag	1.86	0.32	0.16	0.95	1.81	2.61
Al	2,000	1,900	2,500	800	1,500	3,600
As	152.5	75.6	13.7	28.4	111.5	109.5
Au	0.6	<0.2	0.2	0.3	0.2	0.3
B	<10	<10	<10	<10	<10	<10
Ba	50	30	40	50	50	70
Be	0.06	0.44	0.44	0.10	0.09	0.15
Bi	0.06	0.05	0.04	0.02	0.05	0.08
Ca	800	400	400	200	300	300
Cd	0.03	0.02	0.01	0.01	0.01	0.03
Ce	14.95	13.35	10.45	4.00	12.35	17.30
Co	1.0	1.8	1.5	1.6	1.8	1.8
Cr	61	93	9	150	90	50
Cs	0.75	1.10	3.65	1.68	3.22	1.26
Cu	12.7	7.8	4.0	8.7	6.6	7.8
Fe	7,400	5,600	6,400	18,200	13,700	13,000
Ga	0.83	0.84	1.37	1.00	1.20	1.36
Ge	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hf	<0.02	0.02	0.07	0.03	0.04	0.08
Hg	0.63	0.14	0.27	2.19	1.09	1.21
In	0.007	<0.005	<0.005	<0.005	0.006	0.016
K	1,800	1,100	1,200	400	1,400	2,500
La	6.8	7.4	5.3	2.1	6.4	8.8
Li	0.7	1.3	1.3	1.2	1.1	1.3
Mg	100	200	200	100	100	100
Mn	19	43	51	134	87	53
Mo	27.5	12.30	0.72	8.37	6.47	21.1
Na	300	400	300	100	100	400
Nb	0.13	0.11	0.17	0.11	0.11	0.23
Ni	5.1	6.5	5.3	65.1	39.2	22.7
P	200	150	90	20	70	180
Pb	14.5	19.1	12.3	25.3	7.9	14.3
Rb	5.0	4.9	7.7	3.2	7.7	9.8
Re	0.001	<0.001	<0.001	0.001	<0.001	0.001
S (Total)	4,200	1,400	<100	200	1,500	4,300
Sb	7.35	1.91	4.90	4.47	8.63	13.70
Sc	0.3	0.3	0.4	0.2	0.3	0.5
Se	1.6	0.5	0.2	0.7	0.9	0.6
Sn	0.3	0.2	0.5	0.3	0.3	0.3
Sr	11.8	14.4	13.9	10.7	29.3	26.4
Ta	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Te	0.02	0.02	0.01	<0.01	0.01	0.01
Th	2.1	2.2	2.3	0.3	1.2	1.6
Ti	<50	<50	<50	<50	<50	50
Tl	0.27	0.22	0.22	0.32	0.45	0.40
U	0.32	0.48	0.58	0.09	0.25	0.50
V	3	3	6	5	4	7
W	2.80	0.66	2.49	2.12	0.67	4.26
Y	1.21	3.79	4.88	0.57	1.05	1.59
Zn	18	29	16	15	5	10
Zr	0.5	0.5	2.3	0.8	1.1	2.6

Chemex Report # RE15029166

Table . - Multi Element ICP Analytical Results,
Grassy Mountain, Pulp Composites

	Sample					
Analysis, mg/kg	026-156 (700-720)	026-160 (555-580)	026-012 (345-360)	026-012 (700-715)	026-041 (205-225)	026-129 (30-50)
Ag	1.06	0.98	1.90	1.60	0.24	0.09
Al	4,200	4,400	1,800	3,200	4,900	5,600
As	68.3	139.5	208	74.8	239	79.6
Au	<0.2	0.4	0.2	0.5	0.3	<0.2
B	<10	<10	<10	<10	<10	<10
Ba	70	70	80	60	50	80
Be	0.17	0.35	0.08	0.26	1.44	0.56
Bi	0.10	0.08	0.25	0.13	0.09	0.14
Ca	300	300	1,800	900	2,000	2,500
Cd	0.01	0.04	0.10	0.03	0.12	0.30
Ce	26.6	15.25	22.0	28.1	33.1	27.3
Co	0.7	3.2	0.9	1.6	5.0	2.1
Cr	34	22	23	19	58	46
Cs	2.43	1.91	2.87	2.79	11.15	10.45
Cu	6.0	7.9	27.1	22.6	38.2	7.3
Fe	9,100	14,700	15,000	14,600	14,700	10,800
Ga	1.98	2.56	2.17	1.55	5.33	4.04
Ge	<0.05	<0.05	<0.05	<0.05	0.09	0.15
Hf	0.05	0.09	0.03	0.04	0.08	0.08
Hg	2.13	1.23	4.02	2.26	2.23	1.94
In	0.009	0.013	0.012	0.010	0.022	0.038
K	3,600	1,500	1,900	2,000	1,700	1,300
La	14.4	7.6	11.6	16.0	16.7	13.8
Li	1.0	9.8	0.8	1.0	3.6	2.6
Mg	200	200	400	200	900	800
Mn	39	108	66	78	192	104
Mo	6.80	17.35	10.85	11.10	5.51	1.54
Na	100	100	200	100	1,200	200
Nb	0.14	0.15	<0.05	0.14	0.16	0.11
Ni	14.5	12.2	15.6	10.4	8.5	5.2
P	100	220	60	240	560	110
Pb	14.6	6.1	41.0	43.4	124.5	12.8
Rb	13.2	8.6	6.9	8.8	14.3	12.7
Re	<0.001	0.001	<0.001	0.002	<0.001	<0.001
S (Total)	2,600	800	2,300	2,000	700	100
Sb	5.05	7.94	22.1	5.43	55.5	28.4
Sc	0.4	0.7	0.5	0.4	1.2	1.7
Se	0.4	1.1	0.9	2.0	0.8	0.4
Sn	0.3	0.5	0.5	0.4	1.8	0.8
Sr	39.2	31.1	21.7	52.7	14.3	41.2
Ta	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Te	0.02	0.01	0.04	0.02	0.01	0.01
Th	2.0	1.4	2.5	3.1	3.6	3.1
Ti	<50	50	<50	<50	50	<50
Tl	0.35	0.41	0.47	0.30	0.21	1.56
U	0.40	0.58	0.49	1.10	1.18	0.48
V	10	14	4	7	22	21
W	1.25	0.65	0.42	0.48	4.22	2.09
Y	1.83	6.06	1.13	3.55	5.09	3.64
Zn	6	21	16	26	91	392
Zr	1.6	3.1	0.7	1.3	2.6	1.6

Chemex Report # RE15029166

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table . - Profile II Analytical Results, MWMP
Grassy Mountain Samples

	Sample						
Analysis, mg/L	CAL-001 (380-400)	CAL-002 (86-95)	CAL-002 (177-187)	CAL-004 (295-315)	GMC-014 (176-184)	CAL-001 (750-762)	CAL-002 (697-706)
Alkalinity, $CaCO_3$	57.9	<2	6.7	<2	<2	<2	<2
CO_3, $CaCO_3$	26.9	<2	<2	<2	<2	<2	<2
HCO_3	31.0	<2	6.7	<2	<2	<2	<2
Aluminum	0.15	0.11	<0.03	0.73	593	0.16	<0.03
Antimony	0.0152	0.0187	0.0115	0.0065	0.030	<0.0004	<0.0004
Arsenic	0.1821	0.0407	0.0084	0.0507	16.70	0.0011	0.0025
Barium	0.026	0.064	0.012	0.030	<0.02	<0.003	<0.003
Beryllium	<0.00005	0.00011	<0.00005	0.00112	0.1468	<0.00005	<0.00005
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.2	<0.04	<0.04
Boron	0.02	0.02	0.01	0.05	<0.05	<0.01	<0.01
Cadmium	<0.0001	0.0005	<0.0001	0.0003	0.0526	<0.0001	<0.0001
Calcium	32.3	32.5	6.8	55.6	201	0.5	0.6
Chloride	0.8	5.2	1.4	15.4	3.9	0.6	0.6
Chromium	<0.01	<0.01	<0.01	<0.01	0.14	<0.01	<0.01
Cobalt	<0.01	0.24	<0.01	0.02	3.58	<0.01	<0.01
Copper	<0.01	0.02	<0.01	0.05	6.73	<0.01	<0.01
Fluoride	0.33	0.21	0.23	0.56	11	0.06	0.06
Gallium	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1
Hardness	84	100	23	187	803	1.3	1.5
Hydroxide	<2	<2	<2	<2	<2	<2	<2
Iron	<0.02	11.10	<0.02	0.73	479	0.13	<0.02
Lead	0.0001	0.0004	0.0002	0.0004	0.0096	<0.0001	<0.0001
Lithium	0.024	0.036	0.018	0.045	0.23	<0.008	<0.008
Magnesium	0.7	4.6	1.4	11.8	73	<0.2	<0.2
Manganese	<0.005	0.286	0.006	0.498	6.43	<0.005	<0.005
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.04	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02
Nickel	<0.008	0.403	0.016	0.035	3.62	<0.008	<0.008
Nitrate/Nitrite as N	0.07	0.06	0.05	0.46	0.10	0.04	0.08
Nitrogen, Ammonia	0.21	0.25	0.14	0.47	0.99	0.11	<0.05
pH, stu	9.4	5.6	7.2	4.9	2.3	5.3	6.5
Phosphorus	0.09	0.03	0.02	0.03	14	0.02	<0.02
Potassium	1.1	14.7	3.3	22.3	26	0.7	0.4
Scandium	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1
Selenium	0.0105	0.0094	0.0091	0.0356	0.0437	0.0003	0.0001
Silver	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01
Sodium	1.7	3.7	3.4	59.3	18	0.5	0.2
Strontium	0.185	0.215	0.044	0.161	0.06	<0.005	<0.005
Sulfate	35.1	139	26.8	329	5,360	5.5	1.1
Thallium	0.0003	0.0179	0.0027	0.0007	0.0181	0.0001	<0.0001
Tin	<0.04	<0.04	<0.04	<0.04	<0.2	<0.04	<0.04
Titanium	0.005	0.005	<0.005	0.008	0.03	<0.005	<0.005
Total Dissolved Solids	150	242	52	556	8,680	<10	<10
Uranium	0.0002	0.0002	<0.0001	0.0005	0.1216	<0.0001	<0.0001
Vanadium	0.034	<0.005	<0.005	<0.005	0.11	<0.005	<0.005
Zinc	<0.01	0.04	0.01	0.07	12.50	0.01	<0.01
Electrical Conductivity, µmhos/cm	183	347	89.5	757	5,840	15.0	8.2
Cations, meq/L	1.8	3.2	0.702	7.1	110	N/A	N/A
Anions, meq/L	1.9	3.1	0.748	7.4	113	0.135	N/A
Balance, %	-2.7	1.6	-3.2	-2.1	-1.3	N/A	N/A
ACZ Report #	L29154	L29154	L29154	L29154	L29154	L29154	L29154

Table . - Profile II Analytical Results, MWMP
Grassy Mountain

	Sample					
Analysis, mg/L	CAL-004 (445-455)	CAL-004 (860-875)	GMC-012 (780-800)	GMC-012 (919-946)	GMC-014 (44-59)	GMC-014 (208-215)
Alkalinity, $CaCO_3$	5.8	17.3	<2	<2	4.6	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2
HCO_3	5.8	17.3	<2	<2	4.6	<2
Aluminum	0.03	0.98	<0.03	484	0.15	<0.03
Antimony	0.0022	0.0029	<0.0004	0.007	0.0042	<0.0004
Arsenic	0.0039	0.0279	0.0004	18.50	0.0295	0.0015
Barium	<0.003	0.104	<0.003	<0.02	0.015	<0.003
Beryllium	<0.00005	<0.00005	<0.00005	0.0637	0.00102	<0.00005
Bismuth	<0.04	<0.04	<0.04	<0.2	<0.04	<0.04
Boron	0.01	0.12	<0.01	<0.05	0.07	<0.01
Cadmium	<0.0001	<0.0001	<0.0001	0.1381	0.0008	<0.0001
Calcium	1.5	0.5	0.6	350	114	1.1
Chloride	4.5	1	0.7	2.1	144	<0.5
Chromium	<0.01	<0.01	<0.01	0.15	<0.01	<0.01
Cobalt	<0.01	<0.01	<0.01	5.16	0.02	<0.01
Copper	<0.01	<0.01	<0.01	3.07	<0.01	0.02
Fluoride	0.12	0.48	<0.05	<5	0.36	0.05
Gallium	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1
Hardness	5	2.1	1.5	1,070	386	2.8
Hydroxide	<2	<2	<2	<2	<2	<2
Iron	<0.02	0.22	0.09	773	<0.02	<0.02
Lead	<0.0001	0.0005	0.0004	0.0098	0.0024	0.0004
Lithium	0.014	<0.008	<0.008	0.14	0.117	0.008
Magnesium	0.3	0.2	<0.2	47	24.5	<0.2
Manganese	0.032	<0.005	<0.005	1.02	0.496	0.006
Mercury	0.0003	0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02
Nickel	<0.008	<0.008	<0.008	4.19	0.019	<0.008
Nitrate/Nitrite as N	0.13	0.14	0.02	0.08	2.56	0.03
Nitrogen, Ammonia	0.26	<0.05	<0.05	0.69	0.73	0.06
pH, stu	6.4	7.9	6.0	2.0	5.1	6.4
Phosphorus	0.03	0.05	<0.02	19	0.37	0.03
Potassium	10.4	1	0.3	5	13.7	0.4
Scandium	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1
Selenium	0.0156	0.0037	<0.0001	0.0335	0.0089	<0.0001
Silver	<0.01	<0.01	<0.01	0.05	<0.01	<0.01
Sodium	23.5	11.4	0.2	12	265	1.1
Strontium	0.005	0.006	<0.005	0.05	0.232	<0.005
Sulfate	48.7	10.8	2.4	5,060	732	8.4
Thallium	0.0008	0.0001	0.0001	0.0090	0.0001	0.0002
Tin	<0.04	<0.04	<0.04	<0.2	<0.04	<0.04
Titanium	<0.005	0.006	<0.005	0.04	0.012	<0.005
Total Dissolved Solids	130	42	<10	9,100	1,440	24
Uranium	<0.0001	0.0002	<0.0001	0.3851	0.0001	<0.0001
Vanadium	<0.005	<0.005	<0.005	0.10	<0.005	<0.005
Zinc	<0.01	<0.01	0.02	24.50	0.19	0.02
Electrical Conductivity, µmhos/cm	181	60.8	8.6	8,220	1,960	17.4
Cations, meq/L	1.4	0.7	N/A	118	20	0.1
Anions, meq/L	1.3	0.626	N/A	106	20	0.179
Balance, %	3.7	5.6	N/A	5.4	0.0	N/A
ACZ Report #	L29154	L29154	L29154	L29154	L29154	L29154

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table . - MWMP Extraction Test Data,
100%-2" Feed, Grassy Mountain Samples

Sample	Temp ℃		Flow Rate,	Extraction	Dry	Volume, L		pH		Moisture, wt. %		Distribution, wt. pct.[1)]	
I.D.	Start	End	mL/min	Time (hrs)	Sample Wt. (kg)	Inf.	Eff.	Inf.	Eff.	Feed	Residue	+2"	-2"
CAL-001 (380-400)	20.1	20.2	1.1	25.0	1.52	1.72	1.54	5.70	9.02	<0.10	10.12	21.3	78.7
CAL-002 (86-95)	20.1	20.2	1.0	25.0	1.51	1.74	1.52	5.70	6.24	<0.10	10.82	13.5	86.5
CAL-002 (177-187)	20.1	20.2	1.1	25.0	1.52	1.71	1.53	5.70	6.61	<0.10	9.66	67.1	32.9
CAL-004 (295-315)	20.1	20.2	1.0	28.0	1.50	2.09	1.51	5.70	5.25	<0.10	23.56	62.6	37.4
GMC-014 (176-184)	20.1	20.2	0.9	29.0	1.35	2.02	1.29	5.70	2.35	<0.10	33.07	8.1	91.9
CAL-001 (750-762)	20.1	20.2	3.3	25.0	4.73	4.91	4.72	5.70	3.72	<0.10	2.48	0.0	100.0
CAL-002 (697-706)	20.1	20.2	3.5	25.0	5.01	5.21	5.00	5.70	4.34	<0.10	3.29	0.0	100.0
CAL-004 (445-455)	20.1	20.2	2.8	32.0	4.02	4.02	3.31	5.70	6.41	<0.10	13.75	0.0	100.0
CAL-004 (860-875)	20.1	20.2	2.8	32.0	4.01	4.01	3.20	5.70	6.79	<0.10	14.96	0.0	100.0
GMC-012 (780-800)	20.1	20.2	2.9	25.0	4.18	4.27	4.16	5.70	4.59	<0.10	2.15	0.0	100.0
GMC-012 (919-946)	20.1	20.2	3.5	32.0	4.99	7.22	5.05	5.70	2.04	<0.10	30.66	0.0	100.0
GMC-014 (44-59)	20.1	20.2	2.4	32.0	3.49	5.11	3.44	5.70	5.49	<0.10	32.46	6.5	93.5
GMC-014 (208-215)	20.1	20.2	1.6	25.0	2.30	2.42	2.30	5.70	5.10	<0.10	3.19	48.8	51.2

1) Distribution before crushing +2" to just pass 2".

2) Test run using the bottle roll MWMP extraction method for fine-grained materials.

Table . - MWMP Extraction Test Data,
100%-2" Feed, Grassy Mountain

Sample	Temp ℃		Flow Rate,	Extraction	Dry	Volume, L		pH		Moisture, wt. %		Distribution, wt. pct. [1)]	
I.D.	Start	End	mL/min	Time (hrs)	Sample Wt. (kg)	Inf.	Eff.	Inf.	Eff.	Feed	Residue	+2"	-2"
GMC-006 (593-613)	22.1	22.2	3.5	24.0	5.00	5.00	4.80	5.41	6.49	<0.10	3.00	49.4	50.7
CAL-001 (487-505.4)	22.1	22.2	3.5	24.0	5.02	5.02	4.84	5.41	6.38	0.10	2.10	36.9	63.1
CAL-002 (480-496)	22.1	22.2	3.5	24.0	4.89	4.89	4.61	5.41	6.41	<0.10	3.40	59.0	41.0
CAL-002 (430-438)	22.1	22.2	2.5	24.0	3.45	3.45	3.31	5.41	6.22	<0.10	2.40	30.5	69.5
CAL-002 (235-255)	22.1	22.2	3.5	24.0	5.05	5.05	4.84	5.41	6.28	<0.10	2.20	35.5	64.5
GMC-003 (485-495)	22.1	22.2	2.5	24.0	3.97	3.97	3.83	5.41	6.20	<0.10	3.00	83.5	16.5
Calico Leached Res after CN destruct	22.1	22.2	BRT[2)]	8.0	2.02	2.02	1.48	5.41	4.63	0.10	20.40	0.0	100.0

1) Distribution before crushing +2" to just pass 2".

2) Test run using the bottle roll MWMP extraction method for fine-grained materials.

Table . - Profile II Analytical Results, MWMP

Grassy Mountain

	Sample						
Analysis, mg/L	GMC-006 (593-613)	CAL-001 (487-505.4)	CAL-002 (480-496)	CAL-002 (430-438.2)	CAL-002 (235-255)	GMC-003 (485-495)	Calico Leached Res after CN destruct
Alkalinity, $CaCO_3$	3.8	<2	4.6	<2	2.5	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2
HCO_3	3.8	<2	4.6	<2	2.5	<2	<2
Aluminum	0.03	<0.03	0.03	<0.03	<0.03	<0.03	2.05
Antimony	0.0011	0.0004	0.0025	0.0015	0.0014	0.0017	0.0007
Arsenic	0.0101	0.0012	0.0213	0.0048	0.0066	0.0027	0.0046
Barium	0.007	0.016	0.005	0.005	0.004	0.010	0.045
Beryllium	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00273
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.03	0.01	0.01	0.01	0.01	0.02	0.02
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0030
Calcium	1.2	0.3	1.2	0.8	1.6	1.6	176
Chloride	0.6	0.7	0.9	0.8	0.8	<0.5	1.6
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.22
Copper	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	15.10
Cyanide, total	---	---	---	---	---	---	0.148
Cyanide, WAD	---	---	---	---	---	---	0.009
Fluoride	0.08	<0.05	0.20	<0.05	<0.05	<0.05	0.9
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	4.23	0.749	4.23	2	5.23	4	468
Hydroxide	<2	<2	<2	<2	<2	<2	<2
Iron	<0.02	<0.02	0.03	0.04	<0.02	0.44	1.24
Lead	<0.0001	0.0003	<0.0001	0.0001	<0.0001	0.0002	0.0028
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	0.071
Magnesium	0.3	<0.2	0.3	<0.2	0.3	<0.2	6.9
Manganese	0.006	<0.005	<0.005	0.009	<0.005	0.009	5.600
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	0.752
Nitrate/Nitrite as N	0.08	0.14	0.04	0.02	<0.02	0.14	0.17
Nitrogen, Ammonia	0.35	0.20	0.07	0.13	0.12	0.27	5.51
pH, stu	7.3	6.6	7.0	6.5	6.7	6.4	4.5
Phosphorus	0.01	0.02	0.03	0.02	0.01	0.02	0.01
Potassium	0.8	0.4	1.2	0.5	0.7	0.7	16.1
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0009	0.0001	0.0018	0.0006	0.0001	0.0007	0.0122
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	0.8	0.5	3.4	0.5	1	0.7	45.6
Strontium	0.006	0.005	<0.005	<0.005	0.008	0.007	0.216
Sulfate	2.4	<1	4.6	2.2	3.8	5.0	606
Thallium	0.0003	0.0002	0.0001	0.0003	0.0002	0.0008	0.0076
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.012
Total Dissolved Solids	24	20	34	24	20	28	948
Uranium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0030
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.01	0.01	0.01	0.02	<0.01	0.06	0.55
Electrical Conductivity, µmhos/cm	19.2	6.5	30.0	11.5	19.5	19.6	1,160
Cations, meq/L	0.166	---	0.276	---	0.176	0.175	13
Anions, meq/L	0.147	---	0.224	---	0.152	0.105	13
Balance, %	N/A	N/A	10.4	N/A	N/A	N/A	0.0
ACZ Report #	L27988	L27988	L27988	L27988	L27988	L27988	L27988

Appendix B3
ALS Minerals Reports

ALS USA Inc.

4977 Energy Way
Reno NV 89502
Phone: 775 356 5395 Fax: 775 355 0179 www.alsglobal.com

To: MCCLELLAND LABS
1016 GREG ST
SPARKS NV 89431

Finalized Date: 24- FEB- 2015
Account: EIM

CERTIFICATE RE15021302

Project: 3981

This report is for 69 Pulp samples submitted to our lab in Reno, NV, USA on 11- FEB- 2015.

The following have access to data associated with this certificate:

CHRISTINE DEBURLE	JACK MCPARTLAND	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- QC	QC Test on Received Samples
LOG- 24	Pulp Login - Rcd w/o Barcode
PUL- QC	Pulverizing QC Test
PUL- 31	Pulverize split to 85% <75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION
ME- MS41	51 anal. aqua regia ICPMS

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim 'or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project. Statement required by Nevada State Law NRS 519

To: MCCLELLAND LABS
ATTN: JACK MCPARTLAND
1016 GREG ST
SPARKS NV 89431

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Comments: Complete sample ID for #69 is 3981 Calico Leach Res. after CN Destruct. ICP

Signature:
Colin Ramshaw, Vancouver Laboratory Manager

ALS USA Inc.
4977 Energy Way
Reno NV 89502
Phone: 775 356 5395 Fax: 775 355 0179 www.alsglobal.com

To: MCCLELLAND LABS
1016 GREG ST
SPARKS NV 89431

Finalized Date: 24- FEB- 2015
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE15021302

Sample Description / Method / Analyte / Units / LOR	WEI- 21 Recvd Wt. kg 0.02	ME- MS41 Ag ppm 0.01	ME- MS41 Al % 0.01	ME- MS41 As ppm 0.1	ME- MS41 Au ppm 0.2	ME- MS41 B ppm 10	ME- MS41 Ba ppm 10	ME- MS41 Be ppm 0.05	ME- MS41 Bi ppm 0.01	ME- MS41 Ca % 0.01	ME- MS41 Cd ppm 0.01	ME- MS41 Ce ppm 0.02	ME- MS41 Co ppm 0.1	ME- MS41 Cr ppm 1	ME- MS41 Cs ppm 0.05
3981 CAL- 001 (380- 400) ICP	0.28	1.87	0.05	27.0	0.2	<10	30	0.06	0.04	0.03	0.01	4.25	0.6	239	0.60
3981 CAL- 001 (487- 505.4) ICP	0.27	5.18	0.25	335	0.8	<10	50	0.09	0.10	0.01	<0.01	20.0	0.7	99	1.92
3981 CAL- 001 (505.4- 523) ICP	0.28	5.88	0.17	178.0	0.4	<10	50	0.05	0.13	0.01	0.03	15.70	1.4	138	1.37
3981 CAL- 001 (677- 687) ICP	0.27	10.05	0.23	179.0	9.7	<10	50	0.06	0.10	0.01	0.01	19.50	0.9	130	0.44
3981 CAL- 001 (750- 762) ICP	0.25	2.43	0.25	63.5	0.3	<10	80	0.08	0.25	0.03	<0.01	34.3	0.8	84	3.33
3981 CAL- 001 (782- 801) ICP	0.27	0.78	0.24	52.7	0.2	<10	80	<0.05	0.06	0.04	<0.01	12.80	0.5	104	0.80
3981 CAL- 001 (787- 801) ICP	0.28	1.29	0.22	47.4	0.2	<10	80	<0.05	0.04	0.01	0.01	10.35	0.4	105	0.66
3981 CAL- 001 (812- 822) ICP	0.26	2.54	0.16	69.3	1.4	<10	60	0.08	0.18	0.02	0.04	12.20	1.0	113	1.04
3981 CAL- 001 (822- 825) ICP	0.27	1.71	0.24	78.5	0.2	<10	90	0.08	0.06	0.04	<0.01	14.45	1.4	92	3.38
3981 CAL- 001 (847- 857) ICP	0.27	3.07	0.28	25.2	<0.2	<10	30	0.10	0.13	0.10	<0.01	39.0	0.3	64	6.16
3981 CAL- 001 (852.5- 857) ICP	0.28	0.91	0.30	14.8	<0.2	<10	20	0.09	0.13	0.12	<0.01	51.7	0.1	41	6.31
3981 CAL- 002 (57- 67) ICP	0.27	0.08	0.16	165.5	<0.2	<10	40	0.49	0.15	0.04	0.03	17.55	1.0	115	4.89
3981 CAL- 002 (86- 95) ICP	0.26	0.14	0.10	237	0.2	<10	50	0.33	0.08	0.02	0.05	11.95	4.3	145	1.20
3981 CAL- 002 (120- 132) ICP	0.27	0.17	0.14	284	0.2	<10	30	0.20	0.10	0.02	0.51	20.9	4.5	123	2.52
3981 CAL- 002 (177- 187) ICP	0.26	1.62	0.06	46.2	0.4	<10	20	0.16	0.03	0.02	0.02	4.48	0.9	226	1.06
3981 CAL- 002 (235- 255) ICP	0.27	2.52	0.06	76.1	0.5	<10	30	0.30	0.03	0.03	0.06	4.09	1.2	238	0.88
3981 CAL- 002 (270- 280) ICP	0.27	2.29	0.03	51.1	0.5	<10	20	0.15	0.02	0.02	0.01	1.68	1.1	260	0.55
3981 CAL- 002 (355- 375) ICP	0.27	4.47	0.07	62.9	0.4	<10	30	0.14	0.02	0.03	0.02	3.04	1.0	235	1.29
3981 CAL- 002 (409- 422) ICP	0.27	15.20	0.14	204	1.6	<10	80	0.15	0.08	0.04	0.03	11.75	1.5	155	2.04
3981 CAL- 002 (425- 430) ICP	0.27	12.10	0.15	113.5	5.9	<10	110	0.10	0.04	0.02	0.01	5.78	0.5	140	1.47
3981 CAL- 002 (430- 438) ICP	0.26	6.43	0.15	198.5	0.8	<10	50	0.12	0.07	0.04	0.02	13.65	1.8	161	1.65
3981 CAL- 002 (480- 496) ICP	0.27	6.19	0.16	92.3	1.6	<10	40	0.10	0.05	0.03	0.01	10.35	1.0	153	1.68
3981 CAL- 002 (527- 541.5) ICP	0.26	2.73	0.14	67.9	0.3	<10	30	0.07	0.03	0.02	0.01	8.86	1.2	146	0.98
3981 CAL- 002 (697- 706) ICP	0.25	2.50	0.20	89.9	0.3	<10	50	0.23	0.22	0.02	0.01	19.55	0.5	72	1.15
3981 CAL- 002 (740- 747) ICP	0.27	1.63	0.30	74.2	<0.2	<10	10	0.18	0.08	0.09	0.01	7.60	6.1	90	6.14
3981 CAL- 003 (663- 674) ICP	0.27	1.59	0.10	51.7	<0.2	<10	20	0.29	0.05	0.05	0.07	6.03	2.4	238	0.44
3981 CAL- 003 (675- 685) ICP	0.27	2.47	0.60	192.0	0.2	<10	20	0.35	0.30	0.25	0.28	42.7	10.7	8	2.65
3981 CAL- 003 (692- 710) ICP	0.22	7.23	0.33	172.0	0.5	<10	130	0.21	0.15	0.09	<0.01	36.7	0.8	26	1.81
3981 CAL- 003 (710- 732) ICP	0.26	5.27	0.20	156.0	1.0	<10	50	0.26	0.07	0.04	0.02	17.15	0.7	106	1.69
3981 CAL- 003 (755- 772) ICP	0.25	4.65	0.14	163.0	0.2	<10	40	0.18	0.13	0.06	0.02	25.8	0.6	98	0.64
3981 CAL- 003 (808- 830) ICP	0.26	1.36	0.24	179.5	0.2	<10	30	0.21	0.04	0.06	0.12	9.55	2.7	120	2.13
3981 CAL- 004 (35- 55) ICP	0.26	0.06	0.34	38.2	<0.2	<10	120	0.27	0.06	0.24	0.05	14.80	1.0	105	2.35
3981 CAL- 004 (160- 175) ICP	0.25	0.07	0.24	58.9	0.2	<10	50	0.68	0.07	0.05	0.05	20.6	1.6	96	5.11
3981 CAL- 004 (250- 270) ICP	0.27	0.21	0.30	92.2	0.6	<10	40	0.70	0.13	0.10	0.05	27.5	1.3	127	5.03
3981 CAL- 004 (295- 315) ICP	0.27	0.75	0.31	245	0.9	<10	70	0.39	0.09	0.09	0.05	13.05	1.7	147	2.34
3981 CAL- 004 (360- 370) ICP	0.27	3.16	0.14	104.0	0.3	<10	70	0.14	0.08	0.01	0.02	10.60	0.9	174	2.87
3981 CAL- 004 (445- 455) ICP	0.28	2.76	0.27	366	0.3	<10	60	0.19	0.13	0.01	0.01	22.4	0.5	90	2.74
3981 CAL- 004 (520- 530) ICP	0.27	4.85	0.17	236	1.4	<10	80	0.07	0.08	0.02	<0.01	14.50	1.1	147	1.44
3981 CAL- 004 (585- 595) ICP	0.27	3.05	0.10	66.6	0.5	<10	30	0.08	0.06	0.02	0.01	7.68	0.8	222	1.11
3981 CAL- 004 (630- 640) ICP	0.27	5.94	0.22	122.0	0.9	<10	70	0.06	0.10	0.01	0.06	14.70	1.4	136	0.73

Comments: Complete sample ID for #69 is 3981 Calico Leach Res. after CN Destruct. ICP

***** See Appendix Page for comments regarding this certificate *****

ALS USA Inc.
4977 Energy Way
Reno NV 89502
Phone: 775 356 5395 Fax: 775 355 0179 www.alsglobal.com

To: MCCLELLAND LABS
1016 GREG ST
SPARKS NV 89431

Finalized Date: 24- FEB- 2015
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE15021302

Sample Description / Method / Analyte / Units / LOR	ME- MS41 Cu ppm 0.2	ME- MS41 Fe % 0.01	ME- MS41 Ga ppm 0.05	ME- MS41 Ge ppm 0.05	ME- MS41 Hf ppm 0.02	ME- MS41 Hg ppm 0.01	ME- MS41 In ppm 0.005	ME- MS41 K % 0.01	ME- MS41 La ppm 0.2	ME- MS41 Li ppm 0.1	ME- MS41 Mg % 0.01	ME- MS41 Mn ppm 5	ME- MS41 Mo ppm 0.05	ME- MS41 Na % 0.01	ME- MS41 Nb ppm 0.05
3981 CAL- 001 (380- 400) ICP	8.9	0.48	0.55	<0.05	0.02	0.84	0.008	0.04	2.3	1.1	0.01	44	8.60	<0.01	0.10
3981 CAL- 001 (487- 505.4) ICP	10.5	1.02	1.55	<0.05	0.03	3.24	0.011	0.24	10.4	0.8	0.01	20	15.75	0.01	0.15
3981 CAL- 001 (505.4- 523) ICP	11.4	1.08	0.82	<0.05	0.09	1.35	0.019	0.18	7.6	0.7	0.01	26	20.2	<0.01	0.10
3981 CAL- 001 (677- 687) ICP	15.9	1.01	0.74	<0.05	0.08	2.17	0.030	0.22	9.0	0.6	<0.01	22	14.95	0.01	0.27
3981 CAL- 001 (750- 762) ICP	22.7	1.10	1.38	<0.05	0.04	2.86	0.010	0.31	19.9	0.5	0.01	16	58.3	0.01	0.11
3981 CAL- 001 (782- 801) ICP	7.6	0.48	0.43	<0.05	0.04	0.70	0.006	0.22	7.7	0.4	<0.01	16	16.10	0.01	0.13
3981 CAL- 001 (787- 801) ICP	7.8	0.44	0.36	<0.05	0.03	1.20	0.006	0.22	6.5	0.4	<0.01	15	12.80	0.01	0.09
3981 CAL- 001 (812- 822) ICP	12.1	0.55	0.54	<0.05	0.03	0.90	0.063	0.18	6.2	0.5	<0.01	19	13.85	0.01	0.14
3981 CAL- 001 (822- 825) ICP	7.0	0.92	1.16	<0.05	0.02	1.86	<0.005	0.32	7.5	0.6	0.01	18	32.5	0.01	0.08
3981 CAL- 001 (847- 857) ICP	6.6	0.33	1.75	<0.05	0.02	5.26	<0.005	0.19	26.5	0.4	0.02	11	16.10	0.01	<0.05
3981 CAL- 001 (852.5- 857) ICP	6.0	0.20	1.98	<0.05	0.02	1.42	<0.005	0.18	36.8	0.2	0.03	7	7.87	0.01	0.05
3981 CAL- 002 (57- 67) ICP	6.7	1.11	2.09	0.05	0.05	0.51	0.015	0.12	8.5	1.5	0.01	32	3.97	<0.01	0.18
3981 CAL- 002 (86- 95) ICP	10.1	1.07	0.79	<0.05	0.04	12.05	0.009	0.11	5.8	0.9	<0.01	27	6.03	<0.01	0.19
3981 CAL- 002 (120- 132) ICP	9.9	1.24	0.64	<0.05	0.04	5.87	0.012	0.11	11.1	1.2	0.01	26	4.39	0.01	0.19
3981 CAL- 002 (177- 187) ICP	7.9	0.50	0.79	<0.05	0.02	1.56	<0.005	0.05	2.3	1.3	<0.01	32	6.40	<0.01	0.11
3981 CAL- 002 (235- 255) ICP	8.9	0.66	0.56	<0.05	0.03	1.46	0.005	0.05	2.0	1.6	0.01	40	8.00	<0.01	0.08
3981 CAL- 002 (270- 280) ICP	9.0	0.59	0.76	<0.05	0.02	0.92	<0.005	0.02	0.8	1.1	<0.01	43	8.65	<0.01	0.07
3981 CAL- 002 (355- 375) ICP	9.5	0.55	1.07	<0.05	<0.02	1.02	<0.005	0.05	1.6	0.9	<0.01	42	7.23	0.01	0.09
3981 CAL- 002 (409- 422) ICP	16.2	0.93	1.04	<0.05	0.03	2.19	0.011	0.13	5.7	0.9	0.01	33	7.08	0.01	0.13
3981 CAL- 002 (425- 430) ICP	9.5	0.55	0.92	<0.05	0.02	0.97	<0.005	0.16	3.1	0.7	0.01	24	10.85	0.01	0.06
3981 CAL- 002 (430- 438) ICP	17.0	0.98	1.00	<0.05	0.03	2.36	0.011	0.14	6.8	0.8	0.01	30	7.77	0.02	0.15
3981 CAL- 002 (480- 496) ICP	9.6	0.60	0.99	<0.05	0.03	1.71	0.005	0.13	5.7	0.9	0.01	25	4.89	0.02	0.26
3981 CAL- 002 (527- 541.5) ICP	8.5	0.44	0.52	<0.05	<0.02	0.39	0.006	0.11	5.2	0.6	0.01	23	5.26	0.02	0.10
3981 CAL- 002 (697- 706) ICP	17.1	1.03	0.42	<0.05	0.07	4.65	0.008	0.25	11.6	0.6	0.01	15	25.7	0.01	0.12
3981 CAL- 002 (740- 747) ICP	7.2	1.38	0.91	<0.05	<0.02	0.21	<0.005	0.18	4.7	0.4	0.02	17	4.82	0.01	0.05
3981 CAL- 003 (663- 674) ICP	17.9	0.71	0.63	<0.05	0.04	2.04	0.016	0.05	3.1	2.2	0.03	75	29.1	<0.01	0.08
3981 CAL- 003 (675- 685) ICP	22.3	1.55	2.90	0.06	0.06	4.06	0.033	0.22	21.5	2.1	0.07	15	21.1	0.01	<0.05
3981 CAL- 003 (692- 710) ICP	14.5	1.09	3.26	0.05	0.09	5.30	0.021	0.33	18.1	1.0	0.03	24	31.6	0.01	<0.05
3981 CAL- 003 (710- 732) ICP	16.8	0.69	0.77	<0.05	0.03	2.38	0.008	0.15	8.3	1.2	0.01	24	16.85	0.02	0.12
3981 CAL- 003 (755- 772) ICP	19.9	0.81	0.82	0.05	0.07	7.33	0.017	0.15	12.5	0.9	0.01	19	25.1	0.01	0.10
3981 CAL- 003 (808- 830) ICP	7.7	0.99	1.04	<0.05	0.02	0.90	0.006	0.12	5.7	1.0	0.02	43	67.6	0.02	0.10
3981 CAL- 004 (35- 55) ICP	7.2	0.73	1.75	0.05	0.10	1.19	0.007	0.11	7.4	3.4	0.06	96	3.59	0.02	0.10
3981 CAL- 004 (160- 175) ICP	6.8	0.98	3.58	<0.05	0.06	1.08	0.012	0.10	10.1	1.4	0.02	38	3.10	0.02	0.21
3981 CAL- 004 (250- 270) ICP	10.0	1.48	4.70	0.05	0.05	1.69	0.024	0.15	14.2	1.6	0.03	95	6.50	0.01	0.10
3981 CAL- 004 (295- 315) ICP	10.6	1.25	3.11	<0.05	0.05	3.65	0.016	0.11	5.9	1.1	0.04	50	10.75	0.01	0.05
3981 CAL- 004 (360- 370) ICP	8.2	0.67	1.33	<0.05	0.03	5.22	0.012	0.09	5.1	1.0	0.01	20	5.51	<0.01	0.06
3981 CAL- 004 (445- 455) ICP	5.8	1.16	2.10	<0.05	0.03	3.16	0.018	0.25	11.9	1.1	0.02	17	6.02	0.02	0.15
3981 CAL- 004 (520- 530) ICP	9.2	1.06	1.07	0.05	0.04	1.04	0.015	0.22	6.9	0.8	0.01	25	145.5	0.01	0.17
3981 CAL- 004 (585- 595) ICP	5.5	0.62	0.67	<0.05	0.05	1.27	0.007	0.08	4.2	1.3	0.01	29	72.1	<0.01	0.09
3981 CAL- 004 (630- 640) ICP	13.3	1.09	0.63	<0.05	0.06	2.25	0.022	0.25	7.0	0.7	<0.01	19	18.10	0.01	0.09

Comments: Complete sample ID for #69 is 3981 Calico Leach Res. after CN Destruct. ICP

***** See Appendix Page for comments regarding this certificate *****

ALS USA Inc.
4977 Energy Way
Reno NV 89502
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To: MCCLELLAND LABS
1016 GREG ST
SPARKS NV 89431

Finalized Date: 24- FEB- 2015
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE15021302

Sample Description / Method / Analyte / Units / LOR	ME- MS41 Ni ppm 0.2	ME- MS41 P ppm 10	ME- MS41 Pb ppm 0.2	ME- MS41 Rb ppm 0.1	ME- MS41 Re ppm 0.001	ME- MS41 S % 0.01	ME- MS41 Sb ppm 0.05	ME- MS41 Sc ppm 0.1	ME- MS41 Se ppm 0.2	ME- MS41 Sn ppm 0.2	ME- MS41 Sr ppm 0.2	ME- MS41 Ta ppm 0.01	ME- MS41 Te ppm 0.01	ME- MS41 Th ppm 0.2	ME- MS41 Ti % 0.005
3981 CAL- 001 (380- 400) ICP	12.6	10	2.2	1.8	0.001	0.03	5.54	0.1	0.8	0.5	9.6	<0.01	0.02	0.3	<0.005
3981 CAL- 001 (487- 505.4) ICP	6.4	100	7.7	7.2	0.001	0.37	16.90	0.4	3.0	0.4	13.8	<0.01	0.02	2.7	<0.005
3981 CAL- 001 (505.4- 523) ICP	8.7	40	8.1	6.3	0.001	0.51	19.35	0.3	5.2	0.4	4.7	<0.01	0.02	1.2	<0.005
3981 CAL- 001 (677- 687) ICP	6.9	120	5.5	4.9	0.001	0.46	19.05	0.7	1.5	0.5	16.0	<0.01	0.01	0.8	0.008
3981 CAL- 001 (750- 762) ICP	6.1	60	20.4	10.5	0.001	0.35	5.46	0.3	1.3	0.5	22.2	<0.01	0.04	2.7	<0.005
3981 CAL- 001 (782- 801) ICP	7.2	50	7.4	6.6	<0.001	0.15	4.39	0.2	0.6	0.3	29.3	<0.01	0.02	1.0	<0.005
3981 CAL- 001 (787- 801) ICP	8.3	40	4.8	6.5	<0.001	0.14	3.75	0.2	0.7	0.3	26.2	<0.01	0.02	0.9	<0.005
3981 CAL- 001 (812- 822) ICP	7.6	70	4.0	5.6	0.001	0.13	5.57	0.2	0.9	0.4	36.3	<0.01	0.01	1.5	<0.005
3981 CAL- 001 (822- 825) ICP	5.4	40	6.6	10.4	<0.001	0.32	4.65	0.2	0.7	0.3	20.7	<0.01	0.02	1.5	<0.005
3981 CAL- 001 (847- 857) ICP	3.9	150	29.6	11.5	<0.001	0.05	6.52	0.2	0.7	0.3	39.8	<0.01	0.03	3.2	<0.005
3981 CAL- 001 (852.5- 857) ICP	2.3	170	37.2	12.5	<0.001	0.02	3.21	0.1	0.2	0.2	40.8	<0.01	0.01	4.9	<0.005
3981 CAL- 002 (57- 67) ICP	8.6	170	8.1	6.2	0.001	0.03	23.7	0.7	0.7	0.5	21.1	<0.01	0.01	2.9	0.006
3981 CAL- 002 (86- 95) ICP	14.8	60	5.7	4.6	0.001	0.44	93.6	0.2	1.4	0.4	7.0	<0.01	<0.01	2.1	<0.005
3981 CAL- 002 (120- 132) ICP	12.7	160	6.6	5.7	0.001	1.02	55.1	0.4	2.0	0.4	56.4	<0.01	0.01	2.5	<0.005
3981 CAL- 002 (177- 187) ICP	16.7	20	1.6	2.2	0.001	0.07	11.80	0.2	1.8	0.4	8.5	<0.01	<0.01	0.7	<0.005
3981 CAL- 002 (235- 255) ICP	24.4	30	1.5	2.2	<0.001	0.21	22.0	0.2	2.5	0.5	10.2	<0.01	0.01	0.4	<0.005
3981 CAL- 002 (270- 280) ICP	22.3	10	1.0	1.1	0.001	0.11	12.30	0.2	1.9	0.5	5.4	<0.01	<0.01	0.2	<0.005
3981 CAL- 002 (355- 375) ICP	21.2	10	1.2	2.9	0.001	0.14	11.85	0.1	5.2	0.4	7.9	<0.01	<0.01	0.4	<0.005
3981 CAL- 002 (409- 422) ICP	12.6	80	4.3	5.7	0.001	0.43	27.9	0.3	6.1	0.4	19.3	<0.01	0.01	1.1	<0.005
3981 CAL- 002 (425- 430) ICP	9.6	40	2.1	6.3	0.001	0.13	13.55	0.2	3.4	0.3	10.6	<0.01	0.01	0.6	<0.005
3981 CAL- 002 (430- 438) ICP	13.2	80	4.3	5.7	0.001	0.62	37.8	0.3	6.0	0.4	10.2	<0.01	0.01	1.8	<0.005
3981 CAL- 002 (480- 496) ICP	12.9	50	3.5	5.1	0.001	0.21	10.70	0.3	3.8	0.4	7.3	<0.01	<0.01	1.7	0.005
3981 CAL- 002 (527- 541.5) ICP	11.8	20	2.9	4.6	0.001	0.14	12.55	0.1	1.5	0.3	5.9	<0.01	0.01	1.3	<0.005
3981 CAL- 002 (697- 706) ICP	7.0	50	12.0	6.9	<0.001	0.31	5.65	0.2	2.1	0.6	28.0	<0.01	0.02	3.0	<0.005
3981 CAL- 002 (740- 747) ICP	11.4	10	7.6	9.8	0.001	1.43	4.91	0.2	6.5	0.3	10.5	<0.01	<0.01	4.0	<0.005
3981 CAL- 003 (663- 674) ICP	21.4	200	3.0	2.4	0.002	0.30	7.08	0.2	1.8	0.6	29.0	<0.01	0.02	0.3	<0.005
3981 CAL- 003 (675- 685) ICP	14.4	170	15.7	13.5	0.003	1.77	16.50	1.3	2.8	0.4	53.0	<0.01	0.03	2.7	<0.005
3981 CAL- 003 (692- 710) ICP	2.9	100	13.0	10.9	0.001	0.32	18.80	0.9	1.1	0.4	44.3	<0.01	0.03	1.5	<0.005
3981 CAL- 003 (710- 732) ICP	7.8	70	5.4	4.9	0.001	0.12	15.75	0.3	1.4	0.3	26.0	<0.01	0.02	1.6	<0.005
3981 CAL- 003 (755- 772) ICP	7.7	60	3.8	4.6	0.001	0.07	12.45	0.4	1.9	0.4	19.4	<0.01	0.05	0.5	<0.005
3981 CAL- 003 (808- 830) ICP	9.6	60	4.6	5.5	<0.001	0.01	20.8	0.2	0.8	0.3	14.0	<0.01	0.03	3.1	<0.005
3981 CAL- 004 (35- 55) ICP	7.4	490	3.7	7.4	<0.001	0.01	15.45	0.6	0.4	0.4	21.4	<0.01	0.01	2.9	<0.005
3981 CAL- 004 (160- 175) ICP	8.1	110	5.4	6.6	<0.001	<0.01	13.45	0.6	0.5	0.4	21.4	<0.01	<0.01	4.4	0.005
3981 CAL- 004 (250- 270) ICP	9.0	230	8.1	10.3	0.001	0.01	28.7	0.9	0.8	0.5	30.8	<0.01	0.01	3.0	0.005
3981 CAL- 004 (295- 315) ICP	5.2	110	5.2	7.6	0.001	0.18	31.0	0.7	2.3	0.3	13.8	<0.01	0.01	1.0	<0.005
3981 CAL- 004 (360- 370) ICP	4.8	20	4.3	4.8	0.001	0.08	14.85	0.4	1.1	0.3	13.1	<0.01	0.01	0.9	<0.005
3981 CAL- 004 (445- 455) ICP	2.3	140	7.7	7.4	0.001	0.28	12.65	0.5	2.0	0.3	41.5	<0.01	0.01	2.7	<0.005
3981 CAL- 004 (520- 530) ICP	3.8	230	4.9	5.3	0.002	0.42	14.60	0.3	4.8	0.4	14.3	<0.01	0.03	1.2	<0.005
3981 CAL- 004 (585- 595) ICP	4.8	120	3.8	2.6	0.001	0.10	6.68	0.2	1.7	0.3	15.8	<0.01	0.02	0.3	<0.005
3981 CAL- 004 (630- 640) ICP	3.7	50	5.2	6.1	0.003	0.58	14.75	0.4	2.6	0.3	11.3	<0.01	0.02	0.7	<0.005

Comments: Complete sample ID for #69 is 3981 Calico Leach Res. after CN Destruct. ICP

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CERTIFICATE OF ANALYSIS RE15021302

Sample Description / Method / Analyte / Units / LOR	ME- MS41 Tl ppm 0.02	ME- MS41 U ppm 0.05	ME- MS41 V ppm 1	ME- MS41 W ppm 0.05	ME- MS41 Y ppm 0.05	ME- MS41 Zn ppm 2	ME- MS41 Zr ppm 0.5
3981 CAL- 001 (380- 400) ICP	0.12	0.06	3	0.72	0.35	3	1.1
3981 CAL- 001 (487- 505.4) ICP	0.33	0.34	5	0.13	1.32	5	1.0
3981 CAL- 001 (505.4- 523) ICP	0.37	0.46	3	0.12	1.88	8	3.1
3981 CAL- 001 (677- 687) ICP	0.27	0.72	9	<0.05	1.36	<2	3.3
3981 CAL- 001 (750- 762) ICP	0.16	0.75	4	0.11	0.85	3	1.4
3981 CAL- 001 (782- 801) ICP	0.11	0.46	3	0.08	0.49	5	1.2
3981 CAL- 001 (787- 801) ICP	0.10	0.48	3	0.07	0.51	4	0.8
3981 CAL- 001 (812- 822) ICP	0.05	0.62	3	0.08	0.92	8	1.0
3981 CAL- 001 (822- 825) ICP	0.37	0.26	7	0.16	1.61	6	0.8
3981 CAL- 001 (847- 857) ICP	0.09	0.46	2	0.16	0.49	3	0.6
3981 CAL- 001 (852.5- 857) ICP	0.08	0.57	2	0.22	0.38	2	0.7
3981 CAL- 002 (57- 67) ICP	0.35	0.81	16	0.31	2.98	8	2.6
3981 CAL- 002 (86- 95) ICP	2.04	0.38	3	0.49	1.20	17	1.6
3981 CAL- 002 (120- 132) ICP	2.36	0.52	2	0.10	3.40	24	1.5
3981 CAL- 002 (177- 187) ICP	0.88	0.16	2	0.18	0.86	4	0.8
3981 CAL- 002 (235- 255) ICP	2.28	0.10	3	0.44	1.12	12	1.0
3981 CAL- 002 (270- 280) ICP	1.10	0.10	2	0.59	1.32	9	0.7
3981 CAL- 002 (355- 375) ICP	1.03	0.09	4	0.32	0.54	7	0.5
3981 CAL- 002 (409- 422) ICP	0.62	0.44	5	0.33	1.37	10	1.3
3981 CAL- 002 (425- 430) ICP	0.42	0.35	5	0.40	0.59	6	0.8
3981 CAL- 002 (430- 438) ICP	1.11	0.65	5	0.15	1.56	9	1.1
3981 CAL- 002 (480- 496) ICP	0.37	0.42	3	0.06	1.10	4	1.1
3981 CAL- 002 (527- 541.5) ICP	0.22	0.22	1	0.13	0.70	4	0.5
3981 CAL- 002 (697- 706) ICP	0.28	0.70	3	0.10	1.89	13	2.1
3981 CAL- 002 (740- 747) ICP	0.27	0.69	1	0.59	2.46	7	0.5
3981 CAL- 003 (663- 674) ICP	0.56	0.18	6	0.39	4.07	20	1.5
3981 CAL- 003 (675- 685) ICP	0.73	0.98	4	0.17	4.29	36	2.2
3981 CAL- 003 (692- 710) ICP	0.31	1.26	13	0.20	2.41	11	2.6
3981 CAL- 003 (710- 732) ICP	0.27	0.59	10	0.28	1.49	16	1.3
3981 CAL- 003 (755- 772) ICP	0.11	0.77	8	0.20	1.80	15	2.3
3981 CAL- 003 (808- 830) ICP	0.27	0.80	14	0.81	1.81	28	0.6
3981 CAL- 004 (35- 55) ICP	1.89	0.63	31	2.42	2.88	10	3.5
3981 CAL- 004 (160- 175) ICP	0.16	0.60	12	1.65	2.10	20	2.1
3981 CAL- 004 (250- 270) ICP	0.12	1.16	14	2.27	2.30	17	1.9
3981 CAL- 004 (295- 315) ICP	0.28	0.60	12	1.56	1.31	18	1.5
3981 CAL- 004 (360- 370) ICP	0.24	0.14	8	1.55	0.73	9	1.0
3981 CAL- 004 (445- 455) ICP	0.37	0.42	11	1.08	1.44	10	1.1
3981 CAL- 004 (520- 530) ICP	0.85	0.41	8	3.21	2.09	7	1.4
3981 CAL- 004 (585- 595) ICP	0.53	0.27	5	1.89	0.64	4	1.6
3981 CAL- 004 (630- 640) ICP	0.54	0.70	3	2.45	1.14	7	1.9

Comments: Complete sample ID for #69 is 3981 Calico Leach Res. after CN Destruct. ICP

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CERTIFICATE OF ANALYSIS RE15021302

Sample Description / Method / Analyte / Units / LOR	WEI- 21 Recvd Wt. kg 0.02	ME- MS41 Ag ppm 0.01	ME- MS41 Al % 0.01	ME- MS41 As ppm 0.1	ME- MS41 Au ppm 0.2	ME- MS41 B ppm 10	ME- MS41 Ba ppm 10	ME- MS41 Be ppm 0.05	ME- MS41 Bi ppm 0.01	ME- MS41 Ca % 0.01	ME- MS41 Cd ppm 0.01	ME- MS41 Ce ppm 0.02	ME- MS41 Co ppm 0.1	ME- MS41 Cr ppm 1	ME- MS41 Cs ppm 0.05
3981 CAL- 004 (705- 715) ICP	0.27	7.71	0.10	36.0	12.5	<10	60	<0.05	0.04	0.01	0.01	3.69	0.6	166	0.30
3981 CAL- 004 (770- 780) ICP	0.11	1.54	0.25	75.3	0.4	<10	90	0.27	0.04	0.02	0.01	9.47	0.8	111	2.10
3981 CAL- 004 (860- 875) ICP	0.27	3.04	0.20	117.0	0.4	<10	50	0.23	0.12	0.03	0.06	16.15	8.0	123	2.08
3981 GMC- 002 (654- 675) ICP	0.28	6.12	0.18	108.5	1.4	<10	60	0.15	0.43	0.04	0.01	18.50	1.0	155	1.18
3981 GMC- 002 (675- 693) ICP	0.28	3.22	0.20	156.0	0.4	<10	60	0.26	0.14	0.03	0.01	17.15	0.5	144	1.23
3981 GMC- 002 (774- 791) ICP	0.28	3.88	0.16	80.6	0.4	<10	60	0.18	0.18	0.02	0.01	17.25	0.6	155	0.46
3981 GMC- 002 (802- 820) ICP	0.27	5.01	0.15	136.0	0.3	<10	30	0.17	0.08	0.04	0.03	14.65	0.8	155	1.18
3981 GMC- 003 (376- 388) ICP	0.27	2.29	0.03	14.1	0.4	<10	20	<0.05	0.02	0.02	<0.01	0.71	5.0	291	0.44
3981 GMC- 003 (485- 495) ICP	0.27	4.95	0.19	267	0.5	<10	80	0.08	0.07	0.01	0.02	16.55	1.3	152	1.05
3981 GMC- 003 (610- 628) ICP	0.26	2.44	0.25	84.7	0.6	<10	50	0.10	0.03	0.02	0.02	12.80	2.3	146	1.54
3981 GMC- 006 (341- 362) ICP	0.26	2.86	0.03	21.8	0.5	<10	20	0.05	0.01	0.01	<0.01	0.67	0.8	235	0.80
3981 GMC- 006 (525- 544) ICP	0.24	4.99	0.24	163.0	0.4	<10	60	0.32	0.04	0.02	0.01	14.40	0.8	145	1.71
3981 GMC- 006 (593- 613) ICP	0.25	6.28	0.16	88.2	1.6	<10	40	0.06	0.05	0.03	<0.01	7.95	0.6	177	0.93
3981 GMC- 006 (625- 637.5) ICP	0.28	12.40	0.14	138.0	1.4	<10	60	0.07	0.11	0.04	0.04	12.00	2.0	192	0.46
3981 GMC- 006 (755- 773) ICP	0.22	5.28	0.32	167.5	0.4	<10	120	0.08	0.06	0.03	0.01	18.20	0.6	93	1.13
3981 GMC- 012 (523- 533) ICP	0.26	2.06	0.18	146.0	0.3	<10	50	0.12	0.06	0.02	0.01	10.70	1.2	127	1.45
3981 GMC- 012 (682- 700) ICP	0.25	1.77	0.16	133.0	0.3	<10	80	0.06	0.19	0.02	0.03	23.6	0.8	129	0.89
3981 GMC- 012 (780- 800) ICP	0.26	1.32	0.26	83.1	0.2	<10	80	0.07	0.09	0.02	0.09	17.35	1.6	132	0.83
3981 GMC- 012 (832- 851) ICP	0.25	2.71	0.35	67.3	<0.2	<10	50	0.12	0.20	0.07	0.03	37.1	3.7	102	3.27
3981 GMC- 012 (919- 946) ICP	0.26	0.59	0.71	501	<0.2	<10	50	0.36	0.30	0.18	0.25	49.3	12.6	24	5.72
3981 GMC- 014 (44- 59) ICP	0.26	0.21	1.38	289	<0.2	<10	40	2.47	0.36	0.81	0.12	61.5	3.3	18	16.40
3981 GMC- 014 (142- 152) ICP	0.26	0.05	0.54	284	<0.2	<10	110	0.23	0.09	0.13	0.01	32.5	0.5	53	5.25
3981 GMC- 014 (176- 184) ICP	0.26	0.09	1.01	292	<0.2	<10	70	0.96	0.23	0.09	0.35	63.8	11.8	20	6.32
3981 GMC- 014 (208- 215) ICP	0.24	0.12	0.10	267	0.2	<10	40	0.15	0.02	0.01	0.01	2.97	0.5	222	1.72
3981 GMC- 014 (285- 306) ICP	0.25	0.68	0.16	184.5	0.2	<10	40	0.06	0.02	0.03	<0.01	7.17	0.4	170	4.38
3981 GMC- 014 (420- 434) ICP	0.23	0.63	0.28	210	0.2	<10	90	0.13	0.09	0.11	<0.01	20.6	0.5	109	1.43
3981 GMC- 014 (510- 530) ICP	0.26	0.15	1.41	193.0	<0.2	<10	30	1.51	0.21	3.25	0.07	43.7	23.3	39	8.03
3981 GMC- 014 (703- 737) ICP	0.26	2.23	0.26	197.5	0.4	<10	50	0.08	0.09	0.05	<0.01	18.05	0.7	104	1.74
3981 Calico Le. Res. aft. CN Dest. ICP (	0.28	7.54	0.15	172.5	1.2	<10	50	0.14	0.34	0.04	0.06	15.80	1.4	31	0.90

Comments: Complete sample ID for #69 is 3981 Calico Leach Res. after CN Destruct. ICP

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CERTIFICATE OF ANALYSIS RE15021302

Sample Description / Method / Analyte / Units / LOR	ME- MS41 Cu ppm 0.2	ME- MS41 Fe % 0.01	ME- MS41 Ga ppm 0.05	ME- MS41 Ge ppm 0.05	ME- MS41 Hf ppm 0.02	ME- MS41 Hg ppm 0.01	ME- MS41 In ppm 0.005	ME- MS41 K % 0.01	ME- MS41 La ppm 0.2	ME- MS41 Li ppm 0.1	ME- MS41 Mg % 0.01	ME- MS41 Mn ppm 5	ME- MS41 Mo ppm 0.05	ME- MS41 Na % 0.01	ME- MS41 Nb ppm 0.05
3981 CAL- 004 (705- 715) ICP	4.9	0.45	0.35	<0.05	0.03	1.58	<0.005	0.13	2.2	0.6	<0.01	14	9.34	0.01	0.21
3981 CAL- 004 (770- 780) ICP	7.7	0.55	0.69	<0.05	0.03	1.48	0.006	0.28	6.5	0.7	0.01	13	23.0	<0.01	0.08
3981 CAL- 004 (860- 875) ICP	17.7	0.82	0.92	<0.05	0.03	3.06	0.010	0.18	8.2	1.6	0.01	69	19.15	0.03	0.11
3981 GMC- 002 (654- 675) ICP	11.9	0.96	0.85	<0.05	0.05	3.95	0.015	0.16	8.4	1.2	0.01	19	11.95	0.01	0.05
3981 GMC- 002 (675- 693) ICP	7.9	0.92	0.90	<0.05	0.03	2.47	0.010	0.22	8.9	1.1	<0.01	17	18.95	0.02	0.15
3981 GMC- 002 (774- 791) ICP	9.5	0.61	0.46	<0.05	0.06	2.53	0.009	0.15	9.8	1.0	<0.01	11	6.54	0.01	0.21
3981 GMC- 002 (802- 820) ICP	9.8	0.64	0.66	<0.05	0.04	1.22	<0.005	0.11	7.9	0.9	0.01	15	5.52	0.02	0.34
3981 GMC- 003 (376- 388) ICP	5.1	0.47	2.57	<0.05	<0.02	0.37	<0.005	0.02	0.3	0.6	<0.01	28	4.50	<0.01	<0.05
3981 GMC- 003 (485- 495) ICP	8.7	1.23	1.50	0.05	0.06	1.73	0.022	0.26	8.1	0.7	<0.01	28	10.20	0.01	0.09
3981 GMC- 003 (610- 628) ICP	7.6	0.55	0.86	<0.05	0.02	0.74	<0.005	0.16	6.6	1.1	0.01	83	12.35	0.01	0.18
3981 GMC- 006 (341- 362) ICP	7.8	0.37	1.80	<0.05	<0.02	0.69	<0.005	0.02	0.4	0.6	<0.01	35	7.96	<0.01	0.06
3981 GMC- 006 (525- 544) ICP	7.2	0.84	1.26	0.05	0.02	1.57	0.007	0.17	7.4	0.7	0.01	36	6.09	0.02	0.22
3981 GMC- 006 (593- 613) ICP	11.6	0.54	0.76	<0.05	0.04	1.66	0.007	0.14	4.3	1.1	0.01	32	10.55	0.01	0.18
3981 GMC- 006 (625- 637.5) ICP	14.6	1.18	0.56	<0.05	0.10	4.07	0.017	0.15	5.8	1.2	0.01	41	13.25	<0.01	0.16
3981 GMC- 006 (755- 773) ICP	8.5	0.87	1.12	<0.05	0.03	0.48	0.010	0.37	12.7	0.8	0.01	18	14.20	0.01	0.10
3981 GMC- 012 (523- 533) ICP	6.4	0.50	1.22	<0.05	0.02	1.52	0.006	0.14	5.7	1.0	0.01	25	11.65	0.02	0.20
3981 GMC- 012 (682- 700) ICP	14.1	0.79	0.85	0.06	0.07	0.61	0.014	0.18	12.5	0.9	0.01	22	16.55	0.01	0.24
3981 GMC- 012 (780- 800) ICP	10.2	0.82	0.84	0.05	0.03	1.21	0.009	0.25	8.6	0.7	<0.01	34	27.7	0.01	0.20
3981 GMC- 012 (832- 851) ICP	30.0	1.11	2.03	0.06	0.03	1.87	0.015	0.25	21.1	0.5	0.01	25	14.90	0.01	0.05
3981 GMC- 012 (919- 946) ICP	14.5	2.09	2.24	0.06	0.03	0.12	0.030	0.28	26.6	0.7	0.04	15	5.33	0.02	<0.05
3981 GMC- 014 (44- 59) ICP	13.8	1.84	5.49	0.09	0.05	0.39	0.038	0.32	31.9	9.1	0.18	73	1.28	0.10	0.38
3981 GMC- 014 (142- 152) ICP	6.0	0.72	2.74	0.06	0.03	1.12	0.016	0.25	17.0	1.2	0.06	40	33.5	0.02	0.37
3981 GMC- 014 (176- 184) ICP	16.6	1.02	3.59	0.08	0.05	1.19	0.044	0.31	31.4	1.5	0.05	31	2.51	0.01	<0.05
3981 GMC- 014 (208- 215) ICP	7.9	0.91	1.57	<0.05	0.02	0.39	0.015	0.12	1.5	1.1	<0.01	29	22.6	<0.01	0.06
3981 GMC- 014 (285- 306) ICP	5.9	0.59	2.27	<0.05	<0.02	0.72	0.005	0.14	4.1	0.9	0.01	25	18.05	<0.01	0.07
3981 GMC- 014 (420- 434) ICP	5.7	0.76	1.61	0.05	0.02	0.59	0.012	0.26	12.3	1.3	0.01	21	14.40	0.04	0.16
3981 GMC- 014 (510- 530) ICP	14.1	1.88	5.31	0.06	0.05	0.45	0.036	0.29	22.4	27.8	0.56	518	2.55	0.02	0.07
3981 GMC- 014 (703- 737) ICP	11.0	0.69	1.11	0.05	0.02	0.39	0.013	0.22	9.5	0.9	0.01	21	16.75	0.03	0.15
3981 Calico Le. Res. aft. CN Dest. ICP (	92.7	1.40	0.80	0.05	0.05	2.05	0.013	0.13	7.6	0.6	0.01	47	14.05	0.01	0.23

Comments: Complete sample ID for #69 is 3981 Calico Leach Res. after CN Destruct. ICP

***** See Appendix Page for comments regarding this certificate *****

ALS USA Inc.
4977 Energy Way
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Phone: 775 356 5395 Fax: 775 355 0179 www.alsglobal.com

To: MCCLELLAND LABS
1016 GREG ST
SPARKS NV 89431

Finalized Date: 24- FEB- 2015
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE15021302

Sample Description / Method / Analyte / Units / LOR	ME- MS41 Ni ppm 0.2	ME- MS41 P ppm 10	ME- MS41 Pb ppm 0.2	ME- MS41 Rb ppm 0.1	ME- MS41 Re ppm 0.001	ME- MS41 S % 0.01	ME- MS41 Sb ppm 0.05	ME- MS41 Sc ppm 0.1	ME- MS41 Se ppm 0.2	ME- MS41 Sn ppm 0.2	ME- MS41 Sr ppm 0.2	ME- MS41 Ta ppm 0.01	ME- MS41 Te ppm 0.01	ME- MS41 Th ppm 0.2	ME- MS41 Ti % 0.005
3981 CAL- 004 (705- 715) ICP	2.7	30	5.9	3.2	0.001	0.11	4.94	0.1	1.2	0.2	10.2	<0.01	0.02	0.4	<0.005
3981 CAL- 004 (770- 780) ICP	2.7	60	7.8	7.6	<0.001	0.17	6.63	0.2	0.9	0.2	33.2	<0.01	0.02	1.9	<0.005
3981 CAL- 004 (860- 875) ICP	5.3	90	8.4	6.8	0.001	0.23	19.25	0.3	1.8	0.2	23.0	<0.01	0.02	1.7	<0.005
3981 GMC- 002 (654- 675) ICP	5.3	60	50.3	4.8	<0.001	0.25	10.40	0.4	1.2	0.3	32.2	<0.01	0.02	0.5	<0.005
3981 GMC- 002 (675- 693) ICP	4.0	100	12.8	5.6	<0.001	0.24	18.30	0.3	1.2	0.3	42.6	<0.01	0.02	1.9	<0.005
3981 GMC- 002 (774- 791) ICP	7.0	130	12.3	4.8	0.001	0.12	8.72	0.3	1.1	0.3	48.8	<0.01	0.01	1.4	0.005
3981 GMC- 002 (802- 820) ICP	5.0	90	5.5	4.3	0.001	0.12	11.25	0.3	1.3	0.3	22.6	<0.01	0.01	3.4	0.005
3981 GMC- 003 (376- 388) ICP	9.9	10	2.4	1.2	0.001	0.02	3.85	0.1	0.7	0.3	4.0	<0.01	0.01	<0.2	<0.005
3981 GMC- 003 (485- 495) ICP	10.9	40	5.9	6.2	0.001	0.65	43.4	0.3	5.9	0.4	10.4	<0.01	0.01	1.1	<0.005
3981 GMC- 003 (610- 628) ICP	10.1	60	3.4	5.8	0.001	0.13	4.61	0.2	1.6	0.4	19.3	<0.01	0.01	2.0	<0.005
3981 GMC- 006 (341- 362) ICP	16.7	<10	0.5	1.6	<0.001	0.02	3.89	0.1	2.1	0.4	3.3	<0.01	0.01	<0.2	<0.005
3981 GMC- 006 (525- 544) ICP	9.4	120	3.8	5.8	0.001	0.22	10.75	0.3	5.5	0.4	26.1	<0.01	0.01	2.0	<0.005
3981 GMC- 006 (593- 613) ICP	14.1	20	3.6	5.2	0.001	0.11	10.25	0.3	3.6	0.5	6.2	<0.01	<0.01	1.0	<0.005
3981 GMC- 006 (625- 637.5) ICP	13.7	50	5.9	4.5	0.001	0.44	22.3	0.4	3.8	0.6	15.9	<0.01	0.01	0.5	0.005
3981 GMC- 006 (755- 773) ICP	6.0	110	11.3	9.2	<0.001	0.33	8.20	0.4	2.6	0.3	51.9	<0.01	0.02	2.6	<0.005
3981 GMC- 012 (523- 533) ICP	8.7	50	4.6	6.3	0.001	0.18	9.67	0.3	1.2	0.3	12.8	<0.01	0.01	1.5	<0.005
3981 GMC- 012 (682- 700) ICP	11.2	80	9.9	5.2	0.001	0.34	5.66	0.3	2.2	0.6	10.5	<0.01	0.03	2.1	0.005
3981 GMC- 012 (780- 800) ICP	12.8	80	7.2	6.5	0.001	0.53	5.48	0.3	1.1	0.4	12.9	<0.01	0.01	2.2	<0.005
3981 GMC- 012 (832- 851) ICP	10.9	200	21.4	11.2	0.003	0.85	6.29	0.4	2.5	0.5	27.1	<0.01	0.04	2.4	<0.005
3981 GMC- 012 (919- 946) ICP	17.6	220	19.2	19.5	0.001	2.45	7.21	0.9	2.2	0.3	9.3	<0.01	0.02	4.6	<0.005
3981 GMC- 014 (44- 59) ICP	6.1	540	26.4	28.8	<0.001	0.47	7.09	2.2	1.2	0.9	31.2	<0.01	0.05	6.8	<0.005
3981 GMC- 014 (142- 152) ICP	3.5	210	14.4	9.9	<0.001	0.17	43.5	0.4	1.0	0.4	47.3	<0.01	0.01	3.8	<0.005
3981 GMC- 014 (176- 184) ICP	13.8	390	15.2	18.4	0.001	1.06	12.30	2.0	0.9	0.6	60.3	<0.01	0.02	2.9	<0.005
3981 GMC- 014 (208- 215) ICP	14.5	40	2.8	2.4	0.001	0.18	35.7	0.4	0.7	0.5	35.7	<0.01	0.01	0.2	<0.005
3981 GMC- 014 (285- 306) ICP	11.8	20	2.3	6.6	<0.001	0.17	11.00	0.3	0.8	0.5	9.9	<0.01	0.01	0.7	<0.005
3981 GMC- 014 (420- 434) ICP	6.5	90	5.6	9.6	<0.001	0.43	5.90	0.4	0.8	0.5	9.3	<0.01	0.02	2.9	<0.005
3981 GMC- 014 (510- 530) ICP	10.6	470	13.2	18.2	0.001	0.51	5.79	1.8	0.9	0.9	83.1	<0.01	0.03	3.9	<0.005
3981 GMC- 014 (703- 737) ICP	6.6	30	4.9	8.1	0.001	0.30	6.33	0.5	1.5	0.4	10.6	<0.01	0.03	2.6	<0.005
3981 Calico Le. Res. af.t. CN Dest. ICP (	7.5	120	10.2	3.5	<0.001	0.34	13.65	0.4	2.8	1.1	26.0	<0.01	0.02	1.4	<0.005

Comments: Complete sample ID for #69 is 3981 Calico Leach Res. after CN Destruct. ICP

***** See Appendix Page for comments regarding this certificate *****

ALS USA Inc.
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To: MCCLELLAND LABS
1016 GREG ST
SPARKS NV 89431

Finalized Date: 24- FEB- 2015
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE15021302

Sample Description / Method / Analyte / Units / LOR	ME- MS41 Tl ppm 0.02	ME- MS41 U ppm 0.05	ME- MS41 V ppm 1	ME- MS41 W ppm 0.05	ME- MS41 Y ppm 0.05	ME- MS41 Zn ppm 2	ME- MS41 Zr ppm 0.5
3981 CAL- 004 (705- 715) ICP	0.13	0.19	2	3.19	0.29	3	1.1
3981 CAL- 004 (770- 780) ICP	0.13	0.52	5	1.65	1.27	8	0.9
3981 CAL- 004 (860- 875) ICP	0.90	0.88	5	1.60	2.02	17	1.1
3981 GMC- 002 (654- 675) ICP	0.31	0.56	11	0.22	1.84	14	1.8
3981 GMC- 002 (675- 693) ICP	0.45	0.53	7	0.33	1.62	11	1.2
3981 GMC- 002 (774- 791) ICP	0.14	0.51	5	0.52	0.79	11	2.1
3981 GMC- 002 (802- 820) ICP	0.13	0.89	3	0.09	1.95	11	1.3
3981 GMC- 003 (376- 388) ICP	0.21	<0.05	2	1.56	0.17	7	<0.5
3981 GMC- 003 (485- 495) ICP	1.14	0.29	4	0.24	1.70	15	1.8
3981 GMC- 003 (610- 628) ICP	0.55	0.33	3	0.08	1.17	7	0.6
3981 GMC- 006 (341- 362) ICP	0.22	<0.05	10	0.31	0.11	5	<0.5
3981 GMC- 006 (525- 544) ICP	0.25	0.34	4	0.41	1.30	10	0.6
3981 GMC- 006 (593- 613) ICP	0.24	0.35	3	0.07	0.93	8	1.4
3981 GMC- 006 (625- 637.5) ICP	0.49	0.72	3	0.40	1.37	11	3.0
3981 GMC- 006 (755- 773) ICP	0.25	0.54	5	0.25	0.45	4	0.9
3981 GMC- 012 (523- 533) ICP	0.40	0.39	2	0.11	1.11	6	0.7
3981 GMC- 012 (682- 700) ICP	0.20	0.57	3	0.11	1.70	8	2.1
3981 GMC- 012 (780- 800) ICP	0.25	0.58	4	0.19	1.47	15	0.8
3981 GMC- 012 (832- 851) ICP	0.37	1.53	4	0.36	2.80	14	0.8
3981 GMC- 012 (919- 946) ICP	0.58	0.96	3	0.05	7.70	70	0.8
3981 GMC- 014 (44- 59) ICP	0.22	2.81	13	0.22	8.81	57	1.1
3981 GMC- 014 (142- 152) ICP	0.29	0.97	3	0.44	1.97	6	0.7
3981 GMC- 014 (176- 184) ICP	0.90	0.73	6	0.05	7.59	108	1.0
3981 GMC- 014 (208- 215) ICP	0.19	0.10	11	0.10	0.33	4	0.6
3981 GMC- 014 (285- 306) ICP	0.31	0.12	4	0.16	0.26	4	0.5
3981 GMC- 014 (420- 434) ICP	0.30	0.68	5	0.06	1.37	19	0.8
3981 GMC- 014 (510- 530) ICP	0.18	0.82	12	1.73	8.13	56	1.1
3981 GMC- 014 (703- 737) ICP	0.20	0.43	3	0.05	1.28	2	0.8
3981 Calico Le. Res. aft. CN Dest. ICP (	0.47	0.67	7	1.55	1.58	12	1.5

Comments: Complete sample ID for #69 is 3981 Calico Leach Res. after CN Destruct. ICP

***** See Appendix Page for comments regarding this certificate *****

ALS USA Inc.
4977 Energy Way
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Phone: 775 356 5395 Fax: 775 355 0179 www.alsglobal.com

To: MCCLELLAND LABS
1016 GREG ST
SPARKS NV 89431

Finalized Date: 24- FEB- 2015
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE15021302

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi- quantitative due to the small sample weight used (0.5g).
ME- MS41

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Reno located at 4977 Energy Way, Reno, NV, USA.
LOG- 24 LOG- QC PUL- 31 PUL- QC
WEI- 21

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.
ME- MS41

ALS USA Inc.
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Reno NV 89502
Phone: 775 356 5395 Fax: 775 355 0179 www.alsglobal.com

To: MCCLELLAND LABS
1016 GREG ST
SPARKS NV 89431

Finalized Date: 11- MAR- 2015
Account: EIM

CERTIFICATE RE15029166

Project: 3981

This report is for 36 Pulp samples submitted to our lab in Reno, NV, USA on 27- FEB- 2015.

The following have access to data associated with this certificate:

CHRISTINE DEBURLE	JACK MCPARTLAND	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 24	Pulp Login - Rcd w/o Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION
ME- MS41	51 anal. aqua regia ICPMS

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim 'or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project. Statement required by Nevada State Law NRS 519

To: MCCLELLAND LABS
ATTN: JACK MCPARTLAND
1016 GREG ST
SPARKS NV 89431

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:
Colin Ramshaw, Vancouver Laboratory Manager

ALS USA Inc.
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To: MCCLELLAND LABS
1016 GREG ST
SPARKS NV 89431

Finalized Date: 11- MAR- 2015
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE15029166

Sample Description / Method / Analyte / Units / LOR	WEI- 21 Recvd Wt. kg 0.02	ME- MS41 Ag ppm 0.01	ME- MS41 Al % 0.01	ME- MS41 As ppm 0.1	ME- MS41 Au ppm 0.2	ME- MS41 B ppm 10	ME- MS41 Ba ppm 10	ME- MS41 Be ppm 0.05	ME- MS41 Bi ppm 0.01	ME- MS41 Ca % 0.01	ME- MS41 Cd ppm 0.01	ME- MS41 Ce ppm 0.02	ME- MS41 Co ppm 0.1	ME- MS41 Cr ppm 1	ME- MS41 Cs ppm 0.05
3981 026- 042 (135- 155) Comp ICP	0.03	0.05	0.26	80.8	<0.2	<10	50	0.79	0.08	0.07	0.03	18.45	2.9	7	9.97
3981 026- 042 (185- 205) Comp ICP	0.02	0.06	0.20	39.0	<0.2	<10	40	0.50	0.04	0.06	0.07	9.31	2.7	8	3.98
3981 026- 042 (210- 230) Comp ICP	0.02	0.05	0.33	196.0	0.2	<10	40	1.01	0.07	0.23	0.09	27.0	3.6	8	8.33
3981 026- 042 (310- 330) Comp ICP	0.02	1.92	0.07	56.7	0.2	<10	50	0.09	0.02	0.01	0.01	4.49	1.1	45	1.11
3981 026- 042 (405- 425) Comp ICP	0.02	1.46	0.20	202	0.2	<10	40	0.14	0.10	0.01	0.02	14.35	0.8	44	1.61
3981 026- 042 (645- 665) Comp ICP	0.02	1.95	0.17	91.8	<0.2	<10	50	0.05	0.05	0.02	0.02	11.75	0.7	55	0.74
3981 026- 042 (735- 755) Comp ICP	0.02	2.05	0.16	70.2	<0.2	<10	70	0.08	0.11	0.06	0.01	18.80	1.0	54	1.43
3981 026- 042 (835- 855) Comp ICP	0.02	1.12	0.31	281	0.2	<10	30	0.44	0.14	0.16	0.07	30.8	4.4	79	3.11
3981 026- 156 (85- 90) Comp ICP	0.02	0.53	0.59	139.5	0.5	<10	60	0.47	0.11	0.17	0.05	20.2	4.5	16	4.00
3981 026- 156 (100- 120) Comp ICP	0.02	0.18	0.40	100.5	0.4	<10	50	0.28	0.15	0.08	0.01	31.5	1.5	9	3.81
3981 026- 156 (145- 165) Comp ICP	0.02	0.07	0.30	48.5	0.2	<10	50	0.60	0.07	0.06	0.02	20.1	2.0	11	8.13
3981 026- 156 (240- 260) Comp ICP	0.02	0.34	0.35	94.4	0.3	<10	40	0.89	0.10	0.16	0.06	16.90	2.1	45	3.62
3981 026- 156 (260- 280) Comp ICP	0.02	0.40	0.11	55.2	0.2	<10	30	0.25	0.03	0.04	0.01	4.82	1.1	105	1.37
3981 026- 156 (650- 670) Comp ICP	0.02	2.78	0.47	85.5	0.3	<10	80	0.19	0.05	0.03	0.01	18.10	0.8	42	3.42
3981 026- 160 (470- 490) Comp ICP	0.02	2.32	0.20	106.5	0.4	<10	40	0.09	0.03	0.01	0.01	12.40	1.0	22	1.10
3981 026- 160 (510- 530) Comp ICP	0.02	3.20	0.31	223	0.6	<10	90	0.13	0.11	0.02	0.01	18.40	1.1	19	1.26
3981 026- 160 (530- 550) Comp ICP	0.02	1.19	0.39	151.0	0.2	<10	50	0.45	0.05	0.04	0.02	12.20	1.0	15	0.92
3981 026- 160 (610- 630) Comp ICP	0.02	1.69	0.23	75.1	0.2	<10	40	0.15	0.06	0.03	0.01	16.60	0.5	28	1.94
3981 026- 160 (660- 680) Comp ICP	0.02	2.68	0.21	68.6	0.4	<10	90	0.07	0.15	0.01	0.03	16.00	1.7	70	0.79
3981 026- 042 (155- 160) Comp ICP	<0.02	0.77	0.12	77.9	0.7	<10	30	0.71	0.05	0.03	0.11	6.69	2.4	30	4.03
3981 026- 042 (230- 350) Comp ICP	0.02	0.08	0.42	173.5	0.2	<10	30	0.55	0.14	0.26	0.06	32.2	2.5	8	8.09
3981 026- 042 (330- 350) Comp ICP	0.02	1.77	0.07	48.3	0.3	<10	60	0.08	0.02	0.01	0.01	3.26	0.9	37	1.05
3981 026- 042 (450- 470) Comp ICP	0.02	1.70	0.22	183.5	0.3	<10	40	0.21	0.11	0.02	0.02	18.50	0.7	56	2.34
3981 026- 042 (535- 555) Comp ICP	0.02	0.72	0.84	205	0.3	<10	30	1.31	0.14	2.24	0.34	30.9	6.5	46	2.47
3981 026- 042 (700- 720) Comp ICP	0.02	1.86	0.20	152.5	0.6	<10	50	0.06	0.06	0.08	0.03	14.95	1.0	61	0.75
3981 026- 042 (855- 875) Comp ICP	0.02	0.32	0.19	75.6	<0.2	<10	30	0.44	0.05	0.04	0.02	13.35	1.8	93	1.10
3981 026- 156 (170- 190) Comp ICP	0.02	0.16	0.25	13.7	0.2	<10	40	0.44	0.04	0.04	0.01	10.45	1.5	9	3.65
3981 026- 156 (315- 335) Comp ICP	0.02	0.95	0.08	28.4	0.3	<10	50	0.10	0.02	0.02	0.01	4.00	1.6	150	1.68
3981 026- 156 (340- 360) Comp ICP	0.02	1.81	0.15	111.5	0.2	<10	50	0.09	0.05	0.03	0.01	12.35	1.8	90	3.22
3981 026- 156 (625- 645) Comp ICP	0.02	2.61	0.36	109.5	0.3	<10	70	0.15	0.08	0.03	0.03	17.30	1.8	50	1.26
3981 026- 156 (700- 720) Comp ICP	0.02	1.06	0.42	68.3	<0.2	<10	70	0.17	0.10	0.03	0.01	26.6	0.7	34	2.43
3981 026- 160 (555- 580) Comp ICP	0.02	0.98	0.44	139.5	0.4	<10	70	0.35	0.08	0.03	0.04	15.25	3.2	22	1.91
3981 026- 012 (345- 360) Comp ICP	0.02	1.90	0.18	208	0.2	<10	80	0.08	0.25	0.18	0.10	22.0	0.9	23	2.87
3981 026- 012 (700- 715) Comp ICP	0.02	1.60	0.32	74.8	0.5	<10	60	0.26	0.13	0.09	0.03	28.1	1.6	19	2.79
3981 026- 041 (205- 225) Comp ICP	0.02	0.24	0.49	239	0.3	<10	50	1.44	0.09	0.20	0.12	33.1	5.0	58	11.15
3981 026- 129 (30- 50) Comp ICP	0.02	0.09	0.56	79.6	<0.2	<10	80	0.56	0.14	0.25	0.30	27.3	2.1	46	10.45

***** See Appendix Page for comments regarding this certificate *****

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To: MCCLELLAND LABS
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Finalized Date: 11- MAR- 2015
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE15029166

Sample Description / Method / Analyte / Units / LOR	ME- MS41 Cu ppm 0.2	ME- MS41 Fe % 0.01	ME- MS41 Ga ppm 0.05	ME- MS41 Ge ppm 0.05	ME- MS41 Hf ppm 0.02	ME- MS41 Hg ppm 0.01	ME- MS41 In ppm 0.005	ME- MS41 K % 0.01	ME- MS41 La ppm 0.2	ME- MS41 Li ppm 0.1	ME- MS41 Mg % 0.01	ME- MS41 Mn ppm 5	ME- MS41 Mo ppm 0.05	ME- MS41 Na % 0.01	ME- MS41 Nb ppm 0.05
3981 026- 042 (135- 155) Comp ICP	12.4	1.02	2.08	0.12	0.07	0.23	0.013	0.09	9.6	2.2	0.04	62	1.61	0.03	0.19
3981 026- 042 (185- 205) Comp ICP	5.2	0.69	0.93	0.05	0.04	0.23	<0.005	0.10	4.7	1.1	0.01	121	1.12	0.04	0.20
3981 026- 042 (210- 230) Comp ICP	8.6	1.21	3.25	0.08	0.04	0.97	0.014	0.12	13.9	1.3	0.04	179	2.27	0.03	0.16
3981 026- 042 (310- 330) Comp ICP	11.1	2.23	0.85	<0.05	0.02	1.73	<0.005	0.05	2.2	0.9	<0.01	140	8.61	0.01	0.18
3981 026- 042 (405- 425) Comp ICP	11.6	1.03	1.56	<0.05	0.03	0.66	0.011	0.12	7.3	1.4	0.01	44	3.24	0.03	0.27
3981 026- 042 (645- 665) Comp ICP	10.8	0.61	0.99	<0.05	0.02	3.08	<0.005	0.22	6.0	0.5	<0.01	7	13.70	0.02	0.11
3981 026- 042 (735- 755) Comp ICP	15.9	0.69	0.72	<0.05	0.03	2.53	0.007	0.17	11.0	0.7	0.01	12	10.05	0.03	0.13
3981 026- 042 (835- 855) Comp ICP	24.2	1.35	1.46	<0.05	0.03	0.37	0.013	0.18	17.1	1.3	0.03	37	26.6	0.03	0.12
3981 026- 156 (85- 90) Comp ICP	18.4	2.10	7.67	0.05	0.20	2.21	0.019	0.21	10.5	2.9	0.08	72	3.90	0.03	<0.05
3981 026- 156 (100- 120) Comp ICP	7.2	0.91	3.29	0.05	0.10	1.63	0.017	0.22	16.2	2.0	0.03	26	2.28	0.02	0.06
3981 026- 156 (145- 165) Comp ICP	5.9	1.00	3.01	0.06	0.09	1.15	0.013	0.13	10.8	2.0	0.04	63	1.16	0.03	0.25
3981 026- 156 (240- 260) Comp ICP	9.9	1.20	2.24	0.05	0.09	1.71	0.013	0.15	8.8	2.5	0.03	113	3.56	0.02	0.20
3981 026- 156 (260- 280) Comp ICP	6.1	1.50	1.04	<0.05	0.03	1.44	0.005	0.04	2.3	1.1	0.01	102	5.79	0.01	0.08
3981 026- 156 (650- 670) Comp ICP	5.6	1.07	2.05	<0.05	0.04	1.38	0.008	0.36	10.3	1.3	0.02	44	11.95	0.01	0.11
3981 026- 160 (470- 490) Comp ICP	7.5	1.26	1.07	<0.05	0.02	1.64	0.005	0.13	6.5	2.0	0.01	76	10.95	0.02	0.22
3981 026- 160 (510- 530) Comp ICP	7.1	1.52	1.51	<0.05	0.08	2.36	0.016	0.27	9.6	1.7	0.01	71	23.6	0.03	0.35
3981 026- 160 (530- 550) Comp ICP	5.8	1.14	1.85	<0.05	0.03	1.01	0.007	0.16	6.3	2.3	0.04	54	8.14	0.02	0.24
3981 026- 160 (610- 630) Comp ICP	6.0	0.96	1.33	<0.05	0.04	1.98	0.009	0.17	8.5	1.0	0.01	38	11.70	0.02	0.11
3981 026- 160 (660- 680) Comp ICP	11.4	1.22	0.64	<0.05	0.05	2.81	0.007	0.23	9.3	1.1	<0.01	58	6.05	0.01	0.22
3981 026- 042 (155- 160) Comp ICP	17.0	2.20	1.22	0.06	0.04	3.46	<0.005	0.07	3.4	1.0	0.01	153	3.49	0.01	0.19
3981 026- 042 (230- 350) Comp ICP	15.9	1.54	5.67	0.06	0.03	3.16	0.019	0.17	16.8	2.0	0.05	189	9.94	0.04	0.08
3981 026- 042 (330- 350) Comp ICP	12.0	2.07	1.08	<0.05	0.02	1.52	<0.005	0.05	1.6	1.3	<0.01	132	4.88	0.01	0.15
3981 026- 042 (450- 470) Comp ICP	8.6	0.77	2.33	0.05	0.07	1.92	0.012	0.12	9.7	1.4	0.01	17	6.00	0.04	0.41
3981 026- 042 (535- 555) Comp ICP	12.0	1.21	4.97	0.05	0.03	2.59	0.022	0.12	15.9	38.9	0.86	294	8.26	0.09	0.20
3981 026- 042 (700- 720) Comp ICP	12.7	0.74	0.83	<0.05	<0.02	0.63	0.007	0.18	6.8	0.7	0.01	19	27.5	0.03	0.13
3981 026- 042 (855- 875) Comp ICP	7.8	0.56	0.84	<0.05	0.02	0.14	<0.005	0.11	7.4	1.3	0.02	43	12.30	0.04	0.11
3981 026- 156 (170- 190) Comp ICP	4.0	0.64	1.37	<0.05	0.07	0.27	<0.005	0.12	5.3	1.3	0.02	51	0.72	0.03	0.17
3981 026- 156 (315- 335) Comp ICP	8.7	1.82	1.00	<0.05	0.03	2.19	<0.005	0.04	2.1	1.2	0.01	134	8.37	0.01	0.11
3981 026- 156 (340- 360) Comp ICP	6.6	1.37	1.20	<0.05	0.04	1.09	0.006	0.14	6.4	1.1	0.01	87	6.47	0.01	0.11
3981 026- 156 (625- 645) Comp ICP	7.8	1.30	1.36	<0.05	0.08	1.21	0.016	0.25	8.8	1.3	0.01	53	21.1	0.04	0.23
3981 026- 156 (700- 720) Comp ICP	6.0	0.91	1.98	<0.05	0.05	2.13	0.009	0.36	14.4	1.0	0.02	39	6.80	0.01	0.14
3981 026- 160 (555- 580) Comp ICP	7.9	1.47	2.56	<0.05	0.09	1.23	0.013	0.15	7.6	9.8	0.02	108	17.35	0.01	0.15
3981 026- 012 (345- 360) Comp ICP	27.1	1.50	2.17	<0.05	0.03	4.02	0.012	0.19	11.6	0.8	0.04	66	10.85	0.02	<0.05
3981 026- 012 (700- 715) Comp ICP	22.6	1.46	1.55	<0.05	0.04	2.26	0.010	0.20	16.0	1.0	0.02	78	11.10	0.01	0.14
3981 026- 041 (205- 225) Comp ICP	38.2	1.47	5.33	0.09	0.08	2.23	0.022	0.17	16.7	3.6	0.09	192	5.51	0.12	0.16
3981 026- 129 (30- 50) Comp ICP	7.3	1.08	4.04	0.15	0.08	1.94	0.038	0.13	13.8	2.6	0.08	104	1.54	0.02	0.11

***** See Appendix Page for comments regarding this certificate *****

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Finalized Date: 11- MAR- 2015
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE15029166

Sample Description / Method / Analyte / Units / LOR	ME- MS41 Ni ppm 0.2	ME- MS41 P ppm 10	ME- MS41 Pb ppm 0.2	ME- MS41 Rb ppm 0.1	ME- MS41 Re ppm 0.001	ME- MS41 S % 0.01	ME- MS41 Sb ppm 0.05	ME- MS41 Sc ppm 0.1	ME- MS41 Se ppm 0.2	ME- MS41 Sn ppm 0.2	ME- MS41 Sr ppm 0.2	ME- MS41 Ta ppm 0.01	ME- MS41 Te ppm 0.01	ME- MS41 Th ppm 0.2	ME- MS41 Ti % 0.005
3981 026- 042 (135- 155) Comp ICP	7.6	160	31.1	8.1	<0.001	0.01	23.9	0.7	0.4	0.4	15.9	<0.01	0.01	3.0	0.006
3981 026- 042 (185- 205) Comp ICP	8.6	200	18.9	5.9	<0.001	<0.01	10.60	0.3	0.3	0.2	7.0	<0.01	<0.01	2.2	<0.005
3981 026- 042 (210- 230) Comp ICP	8.0	740	40.8	10.3	<0.001	0.01	28.7	0.6	0.5	0.3	35.3	<0.01	0.01	3.6	<0.005
3981 026- 042 (310- 330) Comp ICP	40.6	30	16.5	2.4	0.001	0.06	8.59	0.2	0.8	0.4	12.9	<0.01	0.01	0.3	<0.005
3981 026- 042 (405- 425) Comp ICP	9.1	150	13.3	6.0	<0.001	0.17	7.56	0.5	1.8	0.4	21.8	<0.01	0.01	1.4	0.006
3981 026- 042 (645- 665) Comp ICP	2.6	120	15.5	5.3	<0.001	0.34	7.10	0.2	1.1	0.2	11.5	<0.01	0.02	2.3	<0.005
3981 026- 042 (735- 755) Comp ICP	3.6	320	31.2	5.9	0.001	0.34	7.71	0.2	1.0	0.3	21.4	<0.01	0.03	1.3	<0.005
3981 026- 042 (835- 855) Comp ICP	10.2	200	131.5	10.4	<0.001	1.04	5.70	0.5	1.7	0.4	15.5	<0.01	0.02	4.5	<0.005
3981 026- 156 (85- 90) Comp ICP	9.1	140	113.5	11.3	0.001	0.37	17.30	1.4	0.6	0.4	44.7	<0.01	0.01	3.1	0.005
3981 026- 156 (100- 120) Comp ICP	3.3	170	43.2	11.4	0.001	0.12	17.80	1.2	0.7	0.4	36.4	<0.01	0.01	3.7	<0.005
3981 026- 156 (145- 165) Comp ICP	6.8	140	20.6	9.7	<0.001	<0.01	13.80	0.6	0.5	0.3	17.3	<0.01	0.01	3.6	0.007
3981 026- 156 (240- 260) Comp ICP	21.0	540	50.0	10.3	0.001	<0.01	26.6	0.8	0.3	0.3	12.6	<0.01	0.01	3.2	0.007
3981 026- 156 (260- 280) Comp ICP	46.4	110	11.9	3.7	<0.001	0.01	9.78	0.3	0.8	0.2	22.2	<0.01	0.01	0.5	<0.005
3981 026- 156 (650- 670) Comp ICP	18.3	70	20.1	13.9	<0.001	0.25	7.95	0.4	0.6	0.3	24.7	<0.01	0.01	2.9	<0.005
3981 026- 160 (470- 490) Comp ICP	10.2	80	4.9	5.5	<0.001	0.17	11.85	0.4	1.1	0.6	9.2	<0.01	<0.01	1.5	<0.005
3981 026- 160 (510- 530) Comp ICP	8.8	150	8.3	9.0	0.001	0.36	10.05	0.6	3.1	0.5	13.7	<0.01	0.01	1.9	0.007
3981 026- 160 (530- 550) Comp ICP	7.2	550	13.9	6.6	0.001	0.17	9.91	0.4	1.0	0.7	18.4	<0.01	0.01	1.7	<0.005
3981 026- 160 (610- 630) Comp ICP	11.6	180	6.4	7.0	<0.001	0.19	9.32	0.3	0.6	0.3	40.7	<0.01	0.02	1.5	<0.005
3981 026- 160 (660- 680) Comp ICP	32.0	70	11.7	7.9	0.001	0.41	9.67	0.2	2.3	0.2	11.3	<0.01	0.02	1.3	<0.005
3981 026- 042 (155- 160) Comp ICP	26.8	70	12.7	4.7	0.001	0.04	23.4	0.3	0.8	0.3	5.7	<0.01	0.01	1.0	<0.005
3981 026- 042 (230- 350) Comp ICP	6.4	710	32.8	14.1	<0.001	<0.01	32.1	1.0	1.2	0.7	11.3	<0.01	0.01	3.5	<0.005
3981 026- 042 (330- 350) Comp ICP	31.1	30	6.9	2.8	0.001	0.04	8.00	0.2	1.6	0.4	11.6	<0.01	<0.01	0.3	<0.005
3981 026- 042 (450- 470) Comp ICP	4.7	150	12.1	7.1	<0.001	0.14	7.95	0.7	1.9	0.4	15.0	<0.01	0.01	2.0	0.015
3981 026- 042 (535- 555) Comp ICP	15.5	470	29.3	9.4	<0.001	0.02	10.70	1.1	0.6	0.4	61.2	<0.01	0.04	3.1	0.005
3981 026- 042 (700- 720) Comp ICP	5.1	200	14.5	5.0	0.001	0.42	7.35	0.3	1.6	0.3	11.8	<0.01	0.02	2.1	<0.005
3981 026- 042 (855- 875) Comp ICP	6.5	150	19.1	4.9	<0.001	0.14	1.91	0.3	0.5	0.2	14.4	<0.01	0.02	2.2	<0.005
3981 026- 156 (170- 190) Comp ICP	5.3	90	12.3	7.7	<0.001	<0.01	4.90	0.4	0.2	0.5	13.9	<0.01	0.01	2.3	<0.005
3981 026- 156 (315- 335) Comp ICP	65.1	20	25.3	3.2	0.001	0.02	4.47	0.2	0.7	0.3	10.7	<0.01	<0.01	0.3	<0.005
3981 026- 156 (340- 360) Comp ICP	39.2	70	7.9	7.7	<0.001	0.15	8.63	0.3	0.9	0.3	29.3	<0.01	0.01	1.2	<0.005
3981 026- 156 (625- 645) Comp ICP	22.7	180	14.3	9.8	0.001	0.43	13.70	0.5	0.6	0.3	26.4	<0.01	0.01	1.6	0.005
3981 026- 156 (700- 720) Comp ICP	14.5	100	14.6	13.2	<0.001	0.26	5.05	0.4	0.4	0.3	39.2	<0.01	0.02	2.0	<0.005
3981 026- 160 (555- 580) Comp ICP	12.2	220	6.1	8.6	0.001	0.08	7.94	0.7	1.1	0.5	31.1	<0.01	0.01	1.4	0.005
3981 026- 012 (345- 360) Comp ICP	15.6	60	41.0	6.9	<0.001	0.23	22.1	0.5	0.9	0.5	21.7	<0.01	0.04	2.5	<0.005
3981 026- 012 (700- 715) Comp ICP	10.4	240	43.4	8.8	0.002	0.20	5.43	0.4	2.0	0.4	52.7	<0.01	0.02	3.1	<0.005
3981 026- 041 (205- 225) Comp ICP	8.5	560	124.5	14.3	<0.001	0.07	55.5	1.2	0.8	1.8	14.3	<0.01	0.01	3.6	0.005
3981 026- 129 (30- 50) Comp ICP	5.2	110	12.8	12.7	<0.001	0.01	28.4	1.7	0.4	0.8	41.2	<0.01	0.01	3.1	<0.005

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Finalized Date: 11- MAR- 2015
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Project: 3981

CERTIFICATE OF ANALYSIS RE15029166

Sample Description	Method / Analyte / Units / LOR	ME- MS41 Tl ppm 0.02	ME- MS41 U ppm 0.05	ME- MS41 V ppm 1	ME- MS41 W ppm 0.05	ME- MS41 Y ppm 0.05	ME- MS41 Zn ppm 2	ME- MS41 Zr ppm 0.5
3981 026- 042 (135- 155) Comp ICP		0.37	1.18	12	2.50	4.98	45	2.4
3981 026- 042 (185- 205) Comp ICP		0.09	0.61	3	1.23	5.10	24	1.3
3981 026- 042 (210- 230) Comp ICP		0.25	1.31	10	1.91	6.50	32	1.4
3981 026- 042 (310- 330) Comp ICP		0.20	0.09	4	0.49	0.50	6	0.8
3981 026- 042 (405- 425) Comp ICP		0.35	0.37	8	0.43	1.35	14	1.2
3981 026- 042 (645- 665) Comp ICP		0.25	0.28	3	0.71	0.65	9	0.5
3981 026- 042 (735- 755) Comp ICP		0.35	0.67	3	0.82	0.89	11	1.1
3981 026- 042 (835- 855) Comp ICP		0.38	0.85	3	1.05	5.13	62	1.0
3981 026- 156 (85- 90) Comp ICP		0.79	0.82	25	14.50	2.36	60	6.3
3981 026- 156 (100- 120) Comp ICP		0.54	1.20	9	8.66	2.19	23	3.1
3981 026- 156 (145- 165) Comp ICP		0.29	1.44	15	4.93	4.20	27	2.9
3981 026- 156 (240- 260) Comp ICP		0.21	1.37	13	2.91	3.31	42	3.2
3981 026- 156 (260- 280) Comp ICP		0.11	0.48	6	1.40	0.88	9	0.9
3981 026- 156 (650- 670) Comp ICP		0.36	0.37	6	2.91	1.04	10	1.4
3981 026- 160 (470- 490) Comp ICP		0.30	0.29	4	0.74	1.62	6	0.9
3981 026- 160 (510- 530) Comp ICP		0.51	0.76	9	0.50	2.52	4	2.8
3981 026- 160 (530- 550) Comp ICP		0.22	0.51	7	1.04	5.79	23	0.9
3981 026- 160 (610- 630) Comp ICP		0.24	0.47	6	0.53	1.19	4	1.2
3981 026- 160 (660- 680) Comp ICP		0.42	0.35	2	0.82	0.70	3	1.8
3981 026- 042 (155- 160) Comp ICP		0.18	0.87	10	2.13	1.37	21	1.3
3981 026- 042 (230- 350) Comp ICP		0.22	0.90	12	1.35	3.84	33	1.0
3981 026- 042 (330- 350) Comp ICP		0.26	0.06	3	0.61	0.40	5	0.8
3981 026- 042 (450- 470) Comp ICP		0.29	0.53	12	0.24	1.44	14	2.5
3981 026- 042 (535- 555) Comp ICP		0.20	0.42	16	0.79	7.28	112	1.0
3981 026- 042 (700- 720) Comp ICP		0.27	0.32	3	2.80	1.21	18	0.5
3981 026- 042 (855- 875) Comp ICP		0.22	0.48	3	0.66	3.79	29	0.5
3981 026- 156 (170- 190) Comp ICP		0.22	0.58	6	2.49	4.88	16	2.3
3981 026- 156 (315- 335) Comp ICP		0.32	0.09	5	2.12	0.57	15	0.8
3981 026- 156 (340- 360) Comp ICP		0.45	0.25	4	0.67	1.05	5	1.1
3981 026- 156 (625- 645) Comp ICP		0.40	0.50	7	4.26	1.59	10	2.6
3981 026- 156 (700- 720) Comp ICP		0.35	0.40	10	1.25	1.83	6	1.6
3981 026- 160 (555- 580) Comp ICP		0.41	0.58	14	0.65	6.06	21	3.1
3981 026- 012 (345- 360) Comp ICP		0.47	0.49	4	0.42	1.13	16	0.7
3981 026- 012 (700- 715) Comp ICP		0.30	1.10	7	0.48	3.55	26	1.3
3981 026- 041 (205- 225) Comp ICP		0.21	1.18	22	4.22	5.09	91	2.6
3981 026- 129 (30- 50) Comp ICP		1.56	0.48	21	2.09	3.64	392	1.6

***** See Appendix Page for comments regarding this certificate *****

ALS USA Inc.
4977 Energy Way
Reno NV 89502
Phone: 775 356 5395 Fax: 775 355 0179 www.alsglobal.com

To: MCCLELLAND LABS
1016 GREG ST
SPARKS NV 89431

Finalized Date: 11- MAR- 2015
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE15029166

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi- quantitative due to the small sample weight used (0.5g).
ME- MS41

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Reno located at 4977 Energy Way, Reno, NV, USA.
LOG- 24 WEI- 21

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.
ME- MS41

Appendix B4
SVL Laboratories Reports

www.svl.net One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
3981 CAL-001 (380-400) ABA	W5B0249-01	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-001 (487-505.4) ABA	W5B0249-02	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-001 (505.4-523) ABA	W5B0249-03	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-001 (677-687) ABA	W5B0249-04	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-001 (750-762) ABA	W5B0249-05	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-001 (782-801) ABA	W5B0249-06	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-001 (787-801) ABA	W5B0249-07	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-001 (812-822) ABA	W5B0249-08	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-001 (822-825) ABA	W5B0249-09	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-001 (847-857) ABA	W5B0249-10	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-001 (852.5-857) ABA	W5B0249-11	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-002 (57-67) ABA	W5B0249-12	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-002 (86-95) ABA	W5B0249-13	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-002 (120-132) ABA	W5B0249-14	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-002 (177-187) ABA	W5B0249-15	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-002 (235-255) ABA	W5B0249-16	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-002 (270-280) ABA	W5B0249-17	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-002 (355-375) ABA	W5B0249-18	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-002 (409-422) ABA	W5B0249-19	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-002 (425-430) ABA	W5B0249-20	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

Case Narrative

Nevada does not accredit for NAG titration.

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-001 (380-400) ABA**
SVL Sample ID: **W5B0249-01 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	ABA	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 14:10	
Modified Sobek	**AGP**	0.4	TCaCO3/kT	0.3			N/A		02/19/15 14:10	
Modified Sobek	**ANP**	0.5	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 14:10	
Modified Sobek	**Non-Sulfate Sulfur**	0.014	%	0.010	0.006		W508023	AGF	02/19/15 12:45	
Modified Sobek	**Pyritic Sulfur**	0.01	%	0.01			N/A		02/19/15 14:10	
Modified Sobek	**Sulfate Sulfur**	0.01	%	0.01			N/A		02/19/15 12:45	
Modified Sobek	**Total Sulfur**	0.025	%	0.010	0.006		W508023	AGF	02/17/15 09:57	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	0.5	TCaCO3/kT	0.3			N/A		02/19/15 15:36	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 15:36	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 14:10	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 15:36	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/19/15 15:36	
Modified Sobek	**Sulfate Sulfur-HCl**	0.03	%	0.01			N/A		02/19/15 15:36	
Modified Sobek	**Total Sulfur**	0.025	%	0.010	0.006		W508023	AGF	02/17/15 09:57	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.4°C**	5.54	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.7°C**	7.72	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 13:37	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Kirby Gray

Kirby Gray
Technical Director

SVL holds the following certifications:
AZ:0538, **CA**:2080, **FL**(**NELAC**):E87993, **ID**:ID00019 & ID00965 (Microbiology), **NV**:ID000192007A, **WA**:C573

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-001 (487-505.4) ABA**
SVL Sample ID: **W5B0249-02 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-6.8	TCaCO3/kT	0.3			N/A		02/19/15 14:13	
Modified Sobek	**AGP**	7.3	TCaCO3/kT	0.3			N/A		02/19/15 14:13	
Modified Sobek	**ANP**	0.5	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5
Modified Sobek	**Non-extractable Sulfur**	0.024	%	0.010	0.006		W508023	AGF	02/19/15 14:13	
Modified Sobek	**Non-Sulfate Sulfur**	0.256	%	0.010	0.006		W508023	AGF	02/19/15 12:50	
Modified Sobek	**Pyritic Sulfur**	0.23	%	0.01			N/A		02/19/15 14:13	
Modified Sobek	**Sulfate Sulfur**	0.16	%	0.01			N/A		02/19/15 12:50	
Modified Sobek	**Total Sulfur**	0.411	%	0.010	0.006		W508023	AGF	02/17/15 10:01	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-2.8	TCaCO3/kT	0.3			N/A		02/19/15 15:39	
Modified Sobek	**AGP-HCl**	3.3	TCaCO3/kT	0.3			N/A		02/19/15 15:39	
Modified Sobek	**Non-extractable Sulfur**	0.024	%	0.010	0.006		W508023	AGF	02/19/15 14:13	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.130	%	0.010	0.006		W508023	AGF	02/19/15 15:39	
Modified Sobek	**Pyritic Sulfur-HCl**	0.11	%	0.01			N/A		02/19/15 15:39	
Modified Sobek	**Sulfate Sulfur-HCl**	0.28	%	0.01			N/A		02/19/15 15:39	
Modified Sobek	**Total Sulfur**	0.411	%	0.010	0.006		W508023	AGF	02/17/15 10:01	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.4°C**	3.09	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 4.5**	2.3	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 7**	10.4	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.6°C**	5.44	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 13:40	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Kirby Gray

Kirby Gray
Technical Director

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-001 (505.4-523) ABA**
SVL Sample ID: **W5B0249-03 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-11.7	TCaCO3/kT	0.3			N/A		02/19/15 14:23	
Modified Sobek	**AGP**	11.7	TCaCO3/kT	0.3			N/A		02/19/15 14:23	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.012	%	0.010	0.006		W508023	AGF	02/19/15 14:23	
Modified Sobek	**Non-Sulfate Sulfur**	0.386	%	0.010	0.006		W508023	AGF	02/19/15 12:54	
Modified Sobek	**Pyritic Sulfur**	0.37	%	0.01			N/A		02/19/15 14:23	
Modified Sobek	**Sulfate Sulfur**	0.18	%	0.01			N/A		02/19/15 12:54	
Modified Sobek	**Total Sulfur**	0.562	%	0.010	0.006		W508023	AGF	02/17/15 10:03	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-10.0	TCaCO3/kT	0.3			N/A		02/19/15 15:42	
Modified Sobek	**AGP-HCl**	10.0	TCaCO3/kT	0.3			N/A		02/19/15 15:42	
Modified Sobek	**Non-extractable Sulfur**	0.012	%	0.010	0.006		W508023	AGF	02/19/15 14:23	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.331	%	0.010	0.006		W508023	AGF	02/19/15 15:42	
Modified Sobek	**Pyritic Sulfur-HCl**	0.32	%	0.01			N/A		02/19/15 15:42	
Modified Sobek	**Sulfate Sulfur-HCl**	0.23	%	0.01			N/A		02/19/15 15:42	
Modified Sobek	**Total Sulfur**	0.562	%	0.010	0.006		W508023	AGF	02/17/15 10:03	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.1°C**	2.59	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 4.5**	10.0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 7**	3.9	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.4°C**	5.95	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 13:43	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Kirby Gray
Technical Director

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-001 (677-687) ABA**
SVL Sample ID: **W5B0249-04 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-8.1	TCaCO3/kT	0.3			N/A		02/19/15 14:26	
Modified Sobek	**AGP**	8.1	TCaCO3/kT	0.3			N/A		02/19/15 14:26	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.032	%	0.010	0.006		W508023	AGF	02/19/15 14:26	
Modified Sobek	**Non-Sulfate Sulfur**	0.292	%	0.010	0.006		W508023	AGF	02/19/15 12:58	
Modified Sobek	**Pyritic Sulfur**	0.26	%	0.01			N/A		02/19/15 14:26	
Modified Sobek	**Sulfate Sulfur**	0.22	%	0.01			N/A		02/19/15 12:58	
Modified Sobek	**Total Sulfur**	0.509	%	0.010	0.006		W508023	AGF	02/17/15 10:13	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-4.7	TCaCO3/kT	0.3			N/A		02/19/15 15:45	
Modified Sobek	**AGP-HCl**	4.7	TCaCO3/kT	0.3			N/A		02/19/15 15:45	
Modified Sobek	**Non-extractable Sulfur**	0.032	%	0.010	0.006		W508023	AGF	02/19/15 14:26	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.182	%	0.010	0.006		W508023	AGF	02/19/15 15:45	
Modified Sobek	**Pyritic Sulfur-HCl**	0.15	%	0.01			N/A		02/19/15 15:45	
Modified Sobek	**Sulfate Sulfur-HCl**	0.33	%	0.01			N/A		02/19/15 15:45	
Modified Sobek	**Total Sulfur**	0.509	%	0.010	0.006		W508023	AGF	02/17/15 10:13	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.2°C**	2.66	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 4.5**	5.9	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 7**	7.0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.0°C**	5.43	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 13:52	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Kirby Gray

Kirby Gray
Technical Director

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-001 (750-762) ABA**
SVL Sample ID: **W5B0249-05 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-2.0	TCaCO3/kT	0.3			N/A		02/19/15 14:29	
Modified Sobek	**AGP**	2.0	TCaCO3/kT	0.3			N/A		02/19/15 14:29	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.037	%	0.010	0.006		W508023	AGF	02/19/15 14:29	
Modified Sobek	**Non-Sulfate Sulfur**	0.102	%	0.010	0.006		W508023	AGF	02/19/15 13:08	
Modified Sobek	**Pyritic Sulfur**	0.07	%	0.01			N/A		02/19/15 14:29	
Modified Sobek	**Sulfate Sulfur**	0.28	%	0.01			N/A		02/19/15 13:08	
Modified Sobek	**Total Sulfur**	0.380	%	0.010	0.006		W508023	AGF	02/17/15 10:16	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-1.7	TCaCO3/kT	0.3			N/A		02/19/15 15:48	
Modified Sobek	**AGP-HCl**	1.7	TCaCO3/kT	0.3			N/A		02/19/15 15:48	
Modified Sobek	**Non-extractable Sulfur**	0.037	%	0.010	0.006		W508023	AGF	02/19/15 14:29	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.090	%	0.010	0.006		W508023	AGF	02/19/15 15:48	
Modified Sobek	**Pyritic Sulfur-HCl**	0.05	%	0.01			N/A		02/19/15 15:48	
Modified Sobek	**Sulfate Sulfur-HCl**	0.29	%	0.01			N/A		02/19/15 15:48	
Modified Sobek	**Total Sulfur**	0.380	%	0.010	0.006		W508023	AGF	02/17/15 10:16	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.9°C**	3.70	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 4.5**	0.6	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 7**	13.9	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.1°C**	6.57	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 13:55	

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Kirby Gray
Technical Director

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-001 (782-801) ABA**
SVL Sample ID: **W5B0249-06 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	0.3	TCaCO3/kT	0.3			N/A		02/19/15 14:32	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 14:32	
Modified Sobek	**ANP**	0.5	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5
Modified Sobek	**Non-extractable Sulfur**	0.024	%	0.010	0.006		W508023	AGF	02/19/15 14:32	
Modified Sobek	**Non-Sulfate Sulfur**	0.030	%	0.010	0.006		W508023	AGF	02/19/15 13:11	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		02/19/15 14:32	
Modified Sobek	**Sulfate Sulfur**	0.15	%	0.01			N/A		02/19/15 13:11	
Modified Sobek	**Total Sulfur**	0.178	%	0.010	0.006		W508023	AGF	02/17/15 10:19	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	1.2	TCaCO3/kT	0.3			N/A		02/19/15 15:51	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 15:51	
Modified Sobek	**Non-extractable Sulfur**	0.024	%	0.010	0.006		W508023	AGF	02/19/15 14:32	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 15:51	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/19/15 15:51	
Modified Sobek	**Sulfate Sulfur-HCl**	0.18	%	0.01			N/A		02/19/15 15:51	
Modified Sobek	**Total Sulfur**	0.178	%	0.010	0.006		W508023	AGF	02/17/15 10:19	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.7°C**	5.66	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.6°C**	7.36	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 13:58	

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Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-001 (787-801) ABA**
SVL Sample ID: **W5B0249-07 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	ABA	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 14:35	
Modified Sobek	**AGP**	0.6	TCaCO3/kT	0.3			N/A		02/19/15 14:35	
Modified Sobek	**ANP**	0.5	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5
Modified Sobek	**Non-extractable Sulfur**	0.023	%	0.010	0.006		W508023	AGF	02/19/15 14:35	
Modified Sobek	**Non-Sulfate Sulfur**	0.044	%	0.010	0.006		W508023	AGF	02/19/15 13:14	
Modified Sobek	**Pyritic Sulfur**	0.02	%	0.01			N/A		02/19/15 14:35	
Modified Sobek	**Sulfate Sulfur**	0.12	%	0.01			N/A		02/19/15 13:14	
Modified Sobek	**Total Sulfur**	0.167	%	0.010	0.006		W508023	AGF	02/17/15 10:22	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	0.8	TCaCO3/kT	0.3			N/A		02/19/15 15:54	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 15:54	
Modified Sobek	**Non-extractable Sulfur**	0.023	%	0.010	0.006		W508023	AGF	02/19/15 14:35	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.014	%	0.010	0.006		W508023	AGF	02/19/15 15:54	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/19/15 15:54	
Modified Sobek	**Sulfate Sulfur-HCl**	0.15	%	0.01			N/A		02/19/15 15:54	
Modified Sobek	**Total Sulfur**	0.167	%	0.010	0.006		W508023	AGF	02/17/15 10:22	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.5°C**	5.46	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.6°C**	7.36	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 14:01	

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Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-001 (812-822) ABA**
SVL Sample ID: **W5B0249-08 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-1.3	TCaCO3/kT	0.3			N/A		02/19/15 14:38	
Modified Sobek	**AGP**	1.3	TCaCO3/kT	0.3			N/A		02/19/15 14:38	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5
Modified Sobek	**Non-extractable Sulfur**	0.011	%	0.010	0.006		W508023	AGF	02/19/15 14:38	
Modified Sobek	**Non-Sulfate Sulfur**	0.054	%	0.010	0.006		W508023	AGF	02/19/15 13:17	
Modified Sobek	**Pyritic Sulfur**	0.04	%	0.01			N/A		02/19/15 14:38	
Modified Sobek	**Sulfate Sulfur**	0.10	%	0.01			N/A		02/19/15 13:17	
Modified Sobek	**Total Sulfur**	0.150	%	0.010	0.006		W508023	AGF	02/17/15 10:25	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-0.9	TCaCO3/kT	0.3			N/A		02/19/15 15:57	
Modified Sobek	**AGP-HCl**	0.9	TCaCO3/kT	0.3			N/A		02/19/15 15:57	
Modified Sobek	**Non-extractable Sulfur**	0.011	%	0.010	0.006		W508023	AGF	02/19/15 14:38	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.041	%	0.010	0.006		W508023	AGF	02/19/15 15:57	
Modified Sobek	**Pyritic Sulfur-HCl**	0.03	%	0.01			N/A		02/19/15 15:57	
Modified Sobek	**Sulfate Sulfur-HCl**	0.11	%	0.01			N/A		02/19/15 15:57	
Modified Sobek	**Total Sulfur**	0.150	%	0.010	0.006		W508023	AGF	02/17/15 10:25	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.6°C**	4.97	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.3°C**	7.29	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 14:04	

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Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-001 (822-825) ABA**
SVL Sample ID: **W5B0249-09 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-0.8	TCaCO3/kT	0.3			N/A		02/19/15 14:41	
Modified Sobek	**AGP**	0.8	TCaCO3/kT	0.3			N/A		02/19/15 14:41	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.045	%	0.010	0.006		W508023	AGF	02/19/15 14:41	
Modified Sobek	**Non-Sulfate Sulfur**	0.071	%	0.010	0.006		W508023	AGF	02/19/15 13:20	
Modified Sobek	**Pyritic Sulfur**	0.03	%	0.01			N/A		02/19/15 14:41	
Modified Sobek	**Sulfate Sulfur**	0.30	%	0.01			N/A		02/19/15 13:20	
Modified Sobek	**Total Sulfur**	0.366	%	0.010	0.006		W508023	AGF	02/17/15 10:28	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	1.4	TCaCO3/kT	0.3			N/A		02/19/15 16:01	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 16:01	
Modified Sobek	**Non-extractable Sulfur**	0.045	%	0.010	0.006		W508023	AGF	02/19/15 14:41	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 16:01	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/19/15 16:01	
Modified Sobek	**Sulfate Sulfur-HCl**	0.37	%	0.01			N/A		02/19/15 16:01	
Modified Sobek	**Total Sulfur**	0.366	%	0.010	0.006		W508023	AGF	02/17/15 10:28	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.4°C**	5.44	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.0°C**	6.58	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 14:07	

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Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-001 (847-857) ABA**
SVL Sample ID: **W5B0249-10 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-0.5	TCaCO3/kT	0.3			N/A		02/19/15 14:44	
Modified Sobek	**AGP**	0.5	TCaCO3/kT	0.3			N/A		02/19/15 14:44	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 14:44	
Modified Sobek	**Non-Sulfate Sulfur**	0.017	%	0.010	0.006		W508023	AGF	02/19/15 13:23	
Modified Sobek	**Pyritic Sulfur**	0.02	%	0.01			N/A		02/19/15 14:44	
Modified Sobek	**Sulfate Sulfur**	0.03	%	0.01			N/A		02/19/15 13:23	
Modified Sobek	**Total Sulfur**	0.047	%	0.010	0.006		W508023	AGF	02/17/15 10:31	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	ABA-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 16:04	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 16:04	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 14:44	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 16:04	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/19/15 16:04	
Modified Sobek	**Sulfate Sulfur-HCl**	0.05	%	0.01			N/A		02/19/15 16:04	
Modified Sobek	**Total Sulfur**	0.047	%	0.010	0.006		W508023	AGF	02/17/15 10:31	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.9°C**	5.46	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.5°C**	6.81	pH Units				W508107	MCB	02/24/15 12:34	A7
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 14:11	

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Kirby Gray

Kirby Gray
Technical Director

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Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-001 (852.5-857) ABA**
SVL Sample ID: **W5B0249-11 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	ABA	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 14:47	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 14:47	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 14:47	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 13:26	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		02/19/15 14:47	
Modified Sobek	**Sulfate Sulfur**	0.02	%	0.01			N/A		02/19/15 13:26	
Modified Sobek	**Total Sulfur**	0.017	%	0.010	0.006		W508023	AGF	02/17/15 10:34	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	ABA-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 16:13	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 16:13	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 14:47	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 16:13	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/19/15 16:13	
Modified Sobek	**Sulfate Sulfur-HCl**	0.02	%	0.01			N/A		02/19/15 16:13	
Modified Sobek	**Total Sulfur**	0.017	%	0.010	0.006		W508023	AGF	02/17/15 10:34	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.3°C**	5.48	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.5°C**	6.77	pH Units				W508107	MCB	02/24/15 12:34	A7
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 14:13	

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Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-002 (57-67) ABA**
SVL Sample ID: **W5B0249-12 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	ABA	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 14:50	
Modified Sobek	**AGP**	0.5	TCaCO3/kT	0.3			N/A		02/19/15 14:50	
Modified Sobek	**ANP**	0.5	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 14:50	
Modified Sobek	**Non-Sulfate Sulfur**	0.016	%	0.010	0.006		W508023	AGF	02/19/15 13:29	
Modified Sobek	**Pyritic Sulfur**	0.02	%	0.01			N/A		02/19/15 14:50	
Modified Sobek	**Sulfate Sulfur**	0.02	%	0.01			N/A		02/19/15 13:29	
Modified Sobek	**Total Sulfur**	0.037	%	0.010	0.006		W508023	AGF	02/17/15 10:37	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	0.5	TCaCO3/kT	0.3			N/A		02/19/15 16:16	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/19/15 16:16	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 14:50	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 16:16	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/19/15 16:16	
Modified Sobek	**Sulfate Sulfur-HCl**	0.04	%	0.01			N/A		02/19/15 16:16	
Modified Sobek	**Total Sulfur**	0.037	%	0.010	0.006		W508023	AGF	02/17/15 10:37	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.0°C**	5.42	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.0°C**	7.03	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 14:17	

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Kirby Gray

Kirby Gray
Technical Director

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-002 (86-95) ABA**
SVL Sample ID: **W5B0249-13 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-7.7	TCaCO3/kT	0.3			N/A		02/19/15 14:59	
Modified Sobek	**AGP**	7.7	TCaCO3/kT	0.3			N/A		02/19/15 14:59	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 14:59	
Modified Sobek	**Non-Sulfate Sulfur**	0.246	%	0.010	0.006		W508023	AGF	02/19/15 13:32	
Modified Sobek	**Pyritic Sulfur**	0.25	%	0.01			N/A		02/19/15 14:59	
Modified Sobek	**Sulfate Sulfur**	0.23	%	0.01			N/A		02/19/15 13:32	
Modified Sobek	**Total Sulfur**	0.471	%	0.010	0.006		W508023	AGF	02/17/15 10:40	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-7.9	TCaCO3/kT	0.3			N/A		02/19/15 16:19	
Modified Sobek	**AGP-HCl**	7.9	TCaCO3/kT	0.3			N/A		02/19/15 16:19	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 14:59	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.253	%	0.010	0.006		W508023	AGF	02/19/15 16:19	
Modified Sobek	**Pyritic Sulfur-HCl**	0.25	%	0.01			N/A		02/19/15 16:19	
Modified Sobek	**Sulfate Sulfur-HCl**	0.22	%	0.01			N/A		02/19/15 16:19	
Modified Sobek	**Total Sulfur**	0.471	%	0.010	0.006		W508023	AGF	02/17/15 10:40	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.2°C**	2.37	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 4.5**	9.2	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 7**	2.5	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.3°C**	6.36	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 14:20	

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1016 Greg Street
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Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-002 (120-132) ABA**
SVL Sample ID: **W5B0249-14 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-25.9	TCaCO3/kT	0.3			N/A		02/19/15 15:02	
Modified Sobek	**AGP**	25.9	TCaCO3/kT	0.3			N/A		02/19/15 15:02	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 15:02	
Modified Sobek	**Non-Sulfate Sulfur**	0.829	%	0.010	0.006		W508023	AGF	02/19/15 13:37	
Modified Sobek	**Pyritic Sulfur**	0.83	%	0.01			N/A		02/19/15 15:02	
Modified Sobek	**Sulfate Sulfur**	0.28	%	0.01			N/A		02/19/15 13:37	
Modified Sobek	**Total Sulfur**	1.11	%	0.010	0.006		W508023	AGF	02/17/15 10:50	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-21.3	TCaCO3/kT	0.3			N/A		02/19/15 16:22	
Modified Sobek	**AGP-HCl**	21.3	TCaCO3/kT	0.3			N/A		02/19/15 16:22	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 15:02	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.682	%	0.010	0.006		W508023	AGF	02/19/15 16:22	
Modified Sobek	**Pyritic Sulfur-HCl**	0.68	%	0.01			N/A		02/19/15 16:22	
Modified Sobek	**Sulfate Sulfur-HCl**	0.43	%	0.01			N/A		02/19/15 16:22	
Modified Sobek	**Total Sulfur**	1.11	%	0.010	0.006		W508023	AGF	02/17/15 10:50	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.0°C**	2.47	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 4.5**	23.1	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 7**	3.7	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.5°C**	6.11	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 14:29	

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1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-002 (177-187) ABA**
SVL Sample ID: **W5B0249-15 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-1.4	TCaCO3/kT	0.3			N/A		02/19/15 15:06	
Modified Sobek	**AGP**	1.4	TCaCO3/kT	0.3			N/A		02/19/15 15:06	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 15:06	
Modified Sobek	**Non-Sulfate Sulfur**	0.044	%	0.010	0.006		W508023	AGF	02/19/15 13:46	
Modified Sobek	**Pyritic Sulfur**	0.04	%	0.01			N/A		02/19/15 15:06	
Modified Sobek	**Sulfate Sulfur**	0.04	%	0.01			N/A		02/19/15 13:46	
Modified Sobek	**Total Sulfur**	0.084	%	0.010	0.006		W508023	AGF	02/17/15 10:53	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-1.7	TCaCO3/kT	0.3			N/A		02/19/15 16:25	
Modified Sobek	**AGP-HCl**	1.7	TCaCO3/kT	0.3			N/A		02/19/15 16:25	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 15:06	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.053	%	0.010	0.006		W508023	AGF	02/19/15 16:25	
Modified Sobek	**Pyritic Sulfur-HCl**	0.05	%	0.01			N/A		02/19/15 16:25	
Modified Sobek	**Sulfate Sulfur-HCl**	0.03	%	0.01			N/A		02/19/15 16:25	
Modified Sobek	**Total Sulfur**	0.084	%	0.010	0.006		W508023	AGF	02/17/15 10:53	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.1°C**	3.96	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 4.5**	0.2	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 7**	15.4	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.4°C**	6.91	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 14:32	

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Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-002 (235-255) ABA**
SVL Sample ID: **W5B0249-16 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-3.0	TCaCO3/kT	0.3			N/A		02/19/15 15:08	
Modified Sobek	**AGP**	3.5	TCaCO3/kT	0.3			N/A		02/19/15 15:08	
Modified Sobek	**ANP**	0.5	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5
Modified Sobek	**Non-extractable Sulfur**	0.014	%	0.010	0.006		W508023	AGF	02/19/15 15:08	
Modified Sobek	**Non-Sulfate Sulfur**	0.126	%	0.010	0.006		W508023	AGF	02/19/15 13:49	
Modified Sobek	**Pyritic Sulfur**	0.11	%	0.01			N/A		02/19/15 15:08	
Modified Sobek	**Sulfate Sulfur**	0.10	%	0.01			N/A		02/19/15 13:49	
Modified Sobek	**Total Sulfur**	0.225	%	0.010	0.006		W508023	AGF	02/17/15 10:56	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-3.7	TCaCO3/kT	0.3			N/A		02/19/15 16:28	
Modified Sobek	**AGP-HCl**	4.2	TCaCO3/kT	0.3			N/A		02/19/15 16:28	
Modified Sobek	**Non-extractable Sulfur**	0.014	%	0.010	0.006		W508023	AGF	02/19/15 15:08	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.149	%	0.010	0.006		W508023	AGF	02/19/15 16:28	
Modified Sobek	**Pyritic Sulfur-HCl**	0.14	%	0.01			N/A		02/19/15 16:28	
Modified Sobek	**Sulfate Sulfur-HCl**	0.08	%	0.01			N/A		02/19/15 16:28	
Modified Sobek	**Total Sulfur**	0.225	%	0.010	0.006		W508023	AGF	02/17/15 10:56	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.9°C**	2.66	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 4.5**	3.5	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 7**	10.2	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.1°C**	6.68	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 14:35	

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Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-002 (270-280) ABA**
SVL Sample ID: **W5B0249-17 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-2.3	TCaCO3/kT	0.3			N/A		02/19/15 15:12	
Modified Sobek	**AGP**	2.3	TCaCO3/kT	0.3			N/A		02/19/15 15:12	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 15:12	
Modified Sobek	**Non-Sulfate Sulfur**	0.074	%	0.010	0.006		W508023	AGF	02/19/15 13:52	
Modified Sobek	**Pyritic Sulfur**	0.07	%	0.01			N/A		02/19/15 15:12	
Modified Sobek	**Sulfate Sulfur**	0.05	%	0.01			N/A		02/19/15 13:52	
Modified Sobek	**Total Sulfur**	0.121	%	0.010	0.006		W508023	AGF	02/17/15 10:59	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-2.6	TCaCO3/kT	0.3			N/A		02/19/15 16:31	
Modified Sobek	**AGP-HCl**	2.6	TCaCO3/kT	0.3			N/A		02/19/15 16:31	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508023	AGF	02/19/15 15:12	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.082	%	0.010	0.006		W508023	AGF	02/19/15 16:31	
Modified Sobek	**Pyritic Sulfur-HCl**	0.08	%	0.01			N/A		02/19/15 16:31	
Modified Sobek	**Sulfate Sulfur-HCl**	0.04	%	0.01			N/A		02/19/15 16:31	
Modified Sobek	**Total Sulfur**	0.121	%	0.010	0.006		W508023	AGF	02/17/15 10:59	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.5°C**	2.83	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 4.5**	1.8	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 7**	13.9	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.3°C**	6.85	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 14:38	

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Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-002 (355-375) ABA**
SVL Sample ID: **W5B0249-18 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-2.8	TCaCO3/kT	0.3			N/A		02/19/15 15:15	
Modified Sobek	**AGP**	2.8	TCaCO3/kT	0.3			N/A		02/19/15 15:15	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.012	%	0.010	0.006		W508023	AGF	02/19/15 15:15	
Modified Sobek	**Non-Sulfate Sulfur**	0.101	%	0.010	0.006		W508023	AGF	02/19/15 13:55	
Modified Sobek	**Pyritic Sulfur**	0.09	%	0.01			N/A		02/19/15 15:15	
Modified Sobek	**Sulfate Sulfur**	0.06	%	0.01			N/A		02/19/15 13:55	
Modified Sobek	**Total Sulfur**	0.159	%	0.010	0.006		W508023	AGF	02/17/15 11:02	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-3.2	TCaCO3/kT	0.3			N/A		02/19/15 16:34	
Modified Sobek	**AGP-HCl**	3.2	TCaCO3/kT	0.3			N/A		02/19/15 16:34	
Modified Sobek	**Non-extractable Sulfur**	0.012	%	0.010	0.006		W508023	AGF	02/19/15 15:15	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.116	%	0.010	0.006		W508023	AGF	02/19/15 16:34	
Modified Sobek	**Pyritic Sulfur-HCl**	0.10	%	0.01			N/A		02/19/15 16:34	
Modified Sobek	**Sulfate Sulfur-HCl**	0.04	%	0.01			N/A		02/19/15 16:34	
Modified Sobek	**Total Sulfur**	0.159	%	0.010	0.006		W508023	AGF	02/17/15 11:02	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.7°C**	2.86	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 4.5**	1.8	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 7**	12.5	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.0°C**	6.82	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 14:41	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Kirby Gray

Kirby Gray
Technical Director

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Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-002 (409-422) ABA**
SVL Sample ID: **W5B0249-19 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-7.4	TCaCO3/kT	0.3			N/A		02/19/15 15:18	
Modified Sobek	**AGP**	7.4	TCaCO3/kT	0.3			N/A		02/19/15 15:18	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.016	%	0.010	0.006		W508023	AGF	02/19/15 15:18	
Modified Sobek	**Non-Sulfate Sulfur**	0.253	%	0.010	0.006		W508023	AGF	02/19/15 13:58	
Modified Sobek	**Pyritic Sulfur**	0.24	%	0.01			N/A		02/19/15 15:18	
Modified Sobek	**Sulfate Sulfur**	0.18	%	0.01			N/A		02/19/15 13:58	
Modified Sobek	**Total Sulfur**	0.436	%	0.010	0.006		W508023	AGF	02/17/15 11:05	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-8.0	TCaCO3/kT	0.3			N/A		02/19/15 16:37	
Modified Sobek	**AGP-HCl**	8.0	TCaCO3/kT	0.3			N/A		02/19/15 16:37	
Modified Sobek	**Non-extractable Sulfur**	0.016	%	0.010	0.006		W508023	AGF	02/19/15 15:18	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.271	%	0.010	0.006		W508023	AGF	02/19/15 16:37	
Modified Sobek	**Pyritic Sulfur-HCl**	0.26	%	0.01			N/A		02/19/15 16:37	
Modified Sobek	**Sulfate Sulfur-HCl**	0.17	%	0.01			N/A		02/19/15 16:37	
Modified Sobek	**Total Sulfur**	0.436	%	0.010	0.006		W508023	AGF	02/17/15 11:05	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.0°C**	2.58	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 4.5**	6.3	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	**NAG@pH 7**	4.9	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.7°C**	6.47	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 14:44	

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Kirby Gray

Kirby Gray
Technical Director

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1016 Greg Street
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Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Client Sample ID: **3981 CAL-002 (425-430) ABA**
SVL Sample ID: **W5B0249-20 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-1.4	TCaCO3/kT	0.3			N/A		02/19/15 15:21	
Modified Sobek	**AGP**	1.4	TCaCO3/kT	0.3			N/A		02/19/15 15:21	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508023	MCB	02/19/15 13:36	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.011	%	0.010	0.006		W508023	AGF	02/19/15 15:21	
Modified Sobek	**Non-Sulfate Sulfur**	0.054	%	0.010	0.006		W508023	AGF	02/19/15 14:01	
Modified Sobek	**Pyritic Sulfur**	0.04	%	0.01			N/A		02/19/15 15:21	
Modified Sobek	**Sulfate Sulfur**	0.08	%	0.01			N/A		02/19/15 14:01	
Modified Sobek	**Total Sulfur**	0.136	%	0.010	0.006		W508023	AGF	02/17/15 11:08	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-1.2	TCaCO3/kT	0.3			N/A		02/19/15 16:40	
Modified Sobek	**AGP-HCl**	1.2	TCaCO3/kT	0.3			N/A		02/19/15 16:40	
Modified Sobek	**Non-extractable Sulfur**	0.011	%	0.010	0.006		W508023	AGF	02/19/15 15:21	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.050	%	0.010	0.006		W508023	AGF	02/19/15 16:40	
Modified Sobek	**Pyritic Sulfur-HCl**	0.04	%	0.01			N/A		02/19/15 16:40	
Modified Sobek	**Sulfate Sulfur-HCl**	0.09	%	0.01			N/A		02/19/15 16:40	
Modified Sobek	**Total Sulfur**	0.136	%	0.010	0.006		W508023	AGF	02/17/15 11:08	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.1°C**	4.90	pH Units				W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508108	MCB	02/23/15 12:00	
EPA 600/2-78-054	**Paste pH @18.8°C**	7.11	pH Units				W508107	MCB	02/24/15 12:34	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508112	MCB	02/18/15 14:47	

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Kirby Gray
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Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms								
Modified Sobek	ANP	TCaCO3/kT	<0.3	0.0	0.3	W508023	19-Feb-15	
Modified Sobek	Non-extractable Sulfur	%	<0.010	0.006	0.010	W508023	19-Feb-15	
Modified Sobek	Non-Sulfate Sulfur	%	<0.010	0.006	0.010	W508023	19-Feb-15	
Modified Sobek	Total Sulfur	%	<0.010	0.006	0.010	W508023	17-Feb-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)								
Modified Sobek	Non-extractable Sulfur	%	<0.010	0.006	0.010	W508023	19-Feb-15	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.010	0.006	0.010	W508023	19-Feb-15	
Modified Sobek	Total Sulfur	%	<0.010	0.006	0.010	W508023	17-Feb-15	
Classical Chemistry Parameters								
LECO	Total Inorganic Carbon	%	<0.100	0.007	0.100	W508112	18-Feb-15	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	223	216	103	80 - 120	W508023	19-Feb-15	
Modified Sobek	Total Sulfur	%	2.15	2.00	108	80 - 120	W508023	17-Feb-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Total Sulfur	%	2.15	2.00	108	80 - 120	W508023	17-Feb-15	
Classical Chemistry Parameters									
AMIRA P387A	NAG pH	pH Units	7.14	7.93	90.0	90 - 110	W508108	23-Feb-15	
EPA 600/2-78-054	Paste pH	pH Units	7.40	7.40	100	93.7 - 106.3	W508107	24-Feb-15	
LECO	Total Inorganic Carbon	%	0.970	1.00	97.0	80 - 120	W508112	18-Feb-15	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	0.5	0.5	0.0	20	W508023	19-Feb-15	
Modified Sobek	Non-extractable Sulfur	%	<0.010	<0.010	UDL	20	W508023	19-Feb-15	
Modified Sobek	Non-Sulfate Sulfur	%	0.012	0.014	8.4	20	W508023	19-Feb-15	
Modified Sobek	Total Sulfur	%	0.026	0.025	3.5	20	W508023	17-Feb-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Non-extractable Sulfur	%	<0.010	<0.010	UDL	20	W508023	19-Feb-15	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.010	<0.010	UDL	20	W508023	19-Feb-15	
Modified Sobek	Total Sulfur	%	0.026	0.025	3.5	20	W508023	17-Feb-15	

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Project Name: MLI: 3981
Work Order: **W5B0249**
Reported: 24-Feb-15 14:11

Quality Control - DUPLICATE Data (Continued)

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Classical Chemistry Parameters									
AMIRA P387A	NAG pH	pH Units	5.54	5.54	0.0	20	W508108	23-Feb-15	
AMIRA P387A	NAG@pH 4.5	kg H2SO4/T	0	0	UDL	20	W508108	23-Feb-15	
AMIRA P387A	NAG@pH 7	kg H2SO4/T	0	0	UDL	20	W508108	23-Feb-15	
EPA 600/2-78-054	Paste pH	pH Units	7.67	7.72	0.7	20	W508107	24-Feb-15	
LECO	Total Inorganic Carbon	%	<0.100	<0.100	UDL	20	W508112	18-Feb-15	

Notes and Definitions

A5	5 g of sample used in ANP analysis
A6	Titration of the sample required a greater amount of titrant than did the preparation blank.
A7	Sample is hygroscopic. Additional water was added to sample to maintain saturation.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
3981 CAL-002 (430-438) ABA	W5B0251-01	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-002 (480-496) ABA	W5B0251-02	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-002 (527-541.5) ABA	W5B0251-03	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-002 (697-706) ABA	W5B0251-04	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-002 (740-747) ABA	W5B0251-05	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-003 (663-674) ABA	W5B0251-06	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-003 (675-685) ABA	W5B0251-07	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-003 (692-710) ABA	W5B0251-08	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-003 (710-732) ABA	W5B0251-09	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-003 (755-772) ABA	W5B0251-10	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-003 (808-830) ABA	W5B0251-11	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-004 (35-55) ABA	W5B0251-12	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-004 (160-175) ABA	W5B0251-13	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-004 (250-270) ABA	W5B0251-14	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-004 (295-315) ABA	W5B0251-15	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-004 (360-370) ABA	W5B0251-16	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-004 (445-455) ABA	W5B0251-17	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-004 (520-530) ABA	W5B0251-18	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-004 (585-595) ABA	W5B0251-19	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-004 (630-640) ABA	W5B0251-20	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

Case Narrative

Nevada does not accredit for NAG titration.

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-002 (430-438) ABA**
SVL Sample ID: **W5B0251-01 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-11.3	TCaCO3/kT	0.3			N/A		02/20/15 12:16	
Modified Sobek	**AGP**	11.3	TCaCO3/kT	0.3			N/A		02/20/15 12:16	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5,R2B
Modified Sobek	**Non-extractable Sulfur**	0.015	%	0.010	0.006		W508025	MCB	02/20/15 12:16	R2B
Modified Sobek	**Non-Sulfate Sulfur**	0.376	%	0.010	0.006		W508025	MCB	02/20/15 10:56	
Modified Sobek	**Pyritic Sulfur**	0.36	%	0.01			N/A		02/20/15 12:16	
Modified Sobek	**Sulfate Sulfur**	0.26	%	0.01			N/A		02/20/15 10:56	
Modified Sobek	**Total Sulfur**	0.632	%	0.010	0.006		W508025	MCB	02/17/15 11:27	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-11.7	TCaCO3/kT	0.3			N/A		02/20/15 13:30	
Modified Sobek	**AGP-HCl**	11.7	TCaCO3/kT	0.3			N/A		02/20/15 13:30	
Modified Sobek	**Non-extractable Sulfur**	0.015	%	0.010	0.006		W508025	MCB	02/20/15 12:16	R2B
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.389	%	0.010	0.006		W508025	MCB	02/20/15 13:30	
Modified Sobek	**Pyritic Sulfur-HCl**	0.37	%	0.01			N/A		02/20/15 13:30	
Modified Sobek	**Sulfate Sulfur-HCl**	0.24	%	0.01			N/A		02/20/15 13:30	
Modified Sobek	**Total Sulfur**	0.632	%	0.010	0.006		W508025	MCB	02/17/15 11:27	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.0°C**	2.73	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 4.5**	11.2	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 7**	4.4	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	R2B
EPA 600/2-78-054	**Paste pH @17.7°C**	6.57	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:06	

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John Kern
Laboratory Director

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-002 (480-496) ABA**
SVL Sample ID: **W5B0251-02 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-3.1	TCaCO3/kT	0.3			N/A		02/20/15 12:19	
Modified Sobek	**AGP**	3.1	TCaCO3/kT	0.3			N/A		02/20/15 12:19	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5
Modified Sobek	**Non-extractable Sulfur**	0.012	%	0.010	0.006		W508025	MCB	02/20/15 12:19	
Modified Sobek	**Non-Sulfate Sulfur**	0.111	%	0.010	0.006		W508025	MCB	02/20/15 10:59	
Modified Sobek	**Pyritic Sulfur**	0.10	%	0.01			N/A		02/20/15 12:19	
Modified Sobek	**Sulfate Sulfur**	0.13	%	0.01			N/A		02/20/15 10:59	
Modified Sobek	**Total Sulfur**	0.238	%	0.010	0.006		W508025	MCB	02/17/15 11:30	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-2.7	TCaCO3/kT	0.3			N/A		02/20/15 13:33	
Modified Sobek	**AGP-HCl**	2.7	TCaCO3/kT	0.3			N/A		02/20/15 13:33	
Modified Sobek	**Non-extractable Sulfur**	0.012	%	0.010	0.006		W508025	MCB	02/20/15 12:19	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.098	%	0.010	0.006		W508025	MCB	02/20/15 13:33	
Modified Sobek	**Pyritic Sulfur-HCl**	0.09	%	0.01			N/A		02/20/15 13:33	
Modified Sobek	**Sulfate Sulfur-HCl**	0.14	%	0.01			N/A		02/20/15 13:33	
Modified Sobek	**Total Sulfur**	0.238	%	0.010	0.006		W508025	MCB	02/17/15 11:30	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.3°C**	3.29	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 4.5**	1.2	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 7**	10.2	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @18.0°C**	6.85	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:09	

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John Kern
Laboratory Director

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-002 (527-541.5) ABA**
SVL Sample ID: **W5B0251-03 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-2.0	TCaCO3/kT	0.3			N/A		02/20/15 12:22	
Modified Sobek	**AGP**	2.4	TCaCO3/kT	0.3			N/A		02/20/15 12:22	
Modified Sobek	**ANP**	0.5	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 12:22	
Modified Sobek	**Non-Sulfate Sulfur**	0.078	%	0.010	0.006		W508025	MCB	02/20/15 11:02	
Modified Sobek	**Pyritic Sulfur**	0.08	%	0.01			N/A		02/20/15 12:22	
Modified Sobek	**Sulfate Sulfur**	0.06	%	0.01			N/A		02/20/15 11:02	
Modified Sobek	**Total Sulfur**	0.143	%	0.010	0.006		W508025	MCB	02/17/15 11:33	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-2.3	TCaCO3/kT	0.3			N/A		02/20/15 13:36	
Modified Sobek	**AGP-HCl**	2.8	TCaCO3/kT	0.3			N/A		02/20/15 13:36	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 12:22	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.089	%	0.010	0.006		W508025	MCB	02/20/15 13:36	
Modified Sobek	**Pyritic Sulfur-HCl**	0.09	%	0.01			N/A		02/20/15 13:36	
Modified Sobek	**Sulfate Sulfur-HCl**	0.05	%	0.01			N/A		02/20/15 13:36	
Modified Sobek	**Total Sulfur**	0.143	%	0.010	0.006		W508025	MCB	02/17/15 11:33	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.2°C**	3.91	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 4.5**	0.4	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 7**	11.7	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @18.1°C**	7.13	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:12	

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John Kern
Laboratory Director

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-002 (697-706) ABA**
SVL Sample ID: **W5B0251-04 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-2.7	TCaCO3/kT	0.3			N/A		02/20/15 12:25	
Modified Sobek	**AGP**	2.7	TCaCO3/kT	0.3			N/A		02/20/15 12:25	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.025	%	0.010	0.006		W508025	MCB	02/20/15 12:25	
Modified Sobek	**Non-Sulfate Sulfur**	0.110	%	0.010	0.006		W508025	MCB	02/20/15 11:05	
Modified Sobek	**Pyritic Sulfur**	0.09	%	0.01			N/A		02/20/15 12:25	
Modified Sobek	**Sulfate Sulfur**	0.23	%	0.01			N/A		02/20/15 11:05	
Modified Sobek	**Total Sulfur**	0.342	%	0.010	0.006		W508025	MCB	02/17/15 11:36	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-2.2	TCaCO3/kT	0.3			N/A		02/20/15 13:39	
Modified Sobek	**AGP-HCl**	2.2	TCaCO3/kT	0.3			N/A		02/20/15 13:39	
Modified Sobek	**Non-extractable Sulfur**	0.025	%	0.010	0.006		W508025	MCB	02/20/15 12:25	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.094	%	0.010	0.006		W508025	MCB	02/20/15 13:39	
Modified Sobek	**Pyritic Sulfur-HCl**	0.07	%	0.01			N/A		02/20/15 13:39	
Modified Sobek	**Sulfate Sulfur-HCl**	0.25	%	0.01			N/A		02/20/15 13:39	
Modified Sobek	**Total Sulfur**	0.342	%	0.010	0.006		W508025	MCB	02/17/15 11:36	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.1°C**	3.45	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 4.5**	2.0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 7**	10.2	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @17.9°C**	7.22	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:15	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-002 (740-747) ABA**
SVL Sample ID: **W5B0251-05 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-37.5	TCaCO3/kT	0.3			N/A		02/20/15 12:29	
Modified Sobek	**AGP**	37.5	TCaCO3/kT	0.3			N/A		02/20/15 12:29	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.011	%	0.010	0.006		W508025	MCB	02/20/15 12:29	
Modified Sobek	**Non-Sulfate Sulfur**	1.21	%	0.010	0.006		W508025	MCB	02/20/15 11:10	
Modified Sobek	**Pyritic Sulfur**	1.20	%	0.01			N/A		02/20/15 12:29	
Modified Sobek	**Sulfate Sulfur**	0.32	%	0.01			N/A		02/20/15 11:10	
Modified Sobek	**Total Sulfur**	1.53	%	0.010	0.006		W508025	MCB	02/17/15 11:39	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-35.9	TCaCO3/kT	0.3			N/A		02/20/15 13:44	
Modified Sobek	**AGP-HCl**	35.9	TCaCO3/kT	0.3			N/A		02/20/15 13:44	
Modified Sobek	**Non-extractable Sulfur**	0.011	%	0.010	0.006		W508025	MCB	02/20/15 12:29	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	1.16	%	0.010	0.006		W508025	MCB	02/20/15 13:44	
Modified Sobek	**Pyritic Sulfur-HCl**	1.15	%	0.01			N/A		02/20/15 13:44	
Modified Sobek	**Sulfate Sulfur-HCl**	0.37	%	0.01			N/A		02/20/15 13:44	
Modified Sobek	**Total Sulfur**	1.53	%	0.010	0.006		W508025	MCB	02/17/15 11:39	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @19.7°C**	2.39	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 4.5**	32.5	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 7**	6.0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @18.1°C**	4.69	pH Units				W508106	AGF	02/24/15 12:22	A7
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:18	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-003 (663-674) ABA**
SVL Sample ID: **W5B0251-06 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-4.5	TCaCO3/kT	0.3			N/A		02/20/15 12:31	
Modified Sobek	**AGP**	5.5	TCaCO3/kT	0.3			N/A		02/20/15 12:31	
Modified Sobek	**ANP**	1.0	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 12:31	
Modified Sobek	**Non-Sulfate Sulfur**	0.177	%	0.010	0.006		W508025	MCB	02/20/15 11:13	
Modified Sobek	**Pyritic Sulfur**	0.18	%	0.01			N/A		02/20/15 12:31	
Modified Sobek	**Sulfate Sulfur**	0.14	%	0.01			N/A		02/20/15 11:13	
Modified Sobek	**Total Sulfur**	0.315	%	0.010	0.006		W508025	MCB	02/17/15 11:43	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-5.2	TCaCO3/kT	0.3			N/A		02/20/15 13:47	
Modified Sobek	**AGP-HCl**	6.2	TCaCO3/kT	0.3			N/A		02/20/15 13:47	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 12:31	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.197	%	0.010	0.006		W508025	MCB	02/20/15 13:47	
Modified Sobek	**Pyritic Sulfur-HCl**	0.20	%	0.01			N/A		02/20/15 13:47	
Modified Sobek	**Sulfate Sulfur-HCl**	0.12	%	0.01			N/A		02/20/15 13:47	
Modified Sobek	**Total Sulfur**	0.315	%	0.010	0.006		W508025	MCB	02/17/15 11:43	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.1°C**	2.84	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 4.5**	5.0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 7**	3.8	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @17.8°C**	6.44	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:21	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-003 (675-685) ABA**
SVL Sample ID: **W5B0251-07 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-42.4	TCaCO3/kT	0.3			N/A		02/20/15 12:35	
Modified Sobek	**AGP**	42.4	TCaCO3/kT	0.3			N/A		02/20/15 12:35	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.035	%	0.010	0.006		W508025	MCB	02/20/15 12:35	
Modified Sobek	**Non-Sulfate Sulfur**	1.39	%	0.010	0.006		W508025	MCB	02/20/15 11:18	
Modified Sobek	**Pyritic Sulfur**	1.36	%	0.01			N/A		02/20/15 12:35	
Modified Sobek	**Sulfate Sulfur**	0.47	%	0.01			N/A		02/20/15 11:18	
Modified Sobek	**Total Sulfur**	1.86	%	0.010	0.006		W508025	MCB	02/17/15 11:46	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-32.4	TCaCO3/kT	0.3			N/A		02/20/15 13:51	
Modified Sobek	**AGP-HCl**	32.4	TCaCO3/kT	0.3			N/A		02/20/15 13:51	
Modified Sobek	**Non-extractable Sulfur**	0.035	%	0.010	0.006		W508025	MCB	02/20/15 12:35	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	1.07	%	0.010	0.006		W508025	MCB	02/20/15 13:51	
Modified Sobek	**Pyritic Sulfur-HCl**	1.04	%	0.01			N/A		02/20/15 13:51	
Modified Sobek	**Sulfate Sulfur-HCl**	0.79	%	0.01			N/A		02/20/15 13:51	
Modified Sobek	**Total Sulfur**	1.86	%	0.010	0.006		W508025	MCB	02/17/15 11:46	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.2°C**	2.33	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 4.5**	38.0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 7**	9.2	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @18.2°C**	3.76	pH Units				W508106	AGF	02/24/15 12:22	A7
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:24	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-003 (692-710) ABA**
SVL Sample ID: **W5B0251-08 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-3.3	TCaCO3/kT	0.3			N/A		02/20/15 12:38	
Modified Sobek	**AGP**	3.3	TCaCO3/kT	0.3			N/A		02/20/15 12:38	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.047	%	0.010	0.006		W508025	MCB	02/20/15 12:38	
Modified Sobek	**Non-Sulfate Sulfur**	0.154	%	0.010	0.006		W508025	MCB	02/20/15 11:23	
Modified Sobek	**Pyritic Sulfur**	0.11	%	0.01			N/A		02/20/15 12:38	
Modified Sobek	**Sulfate Sulfur**	0.18	%	0.01			N/A		02/20/15 11:23	
Modified Sobek	**Total Sulfur**	0.338	%	0.010	0.006		W508025	MCB	02/17/15 11:49	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	1.5	TCaCO3/kT	0.3			N/A		02/20/15 13:54	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 13:54	
Modified Sobek	**Non-extractable Sulfur**	0.047	%	0.010	0.006		W508025	MCB	02/20/15 12:38	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 13:54	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/20/15 13:54	
Modified Sobek	**Sulfate Sulfur-HCl**	0.34	%	0.01			N/A		02/20/15 13:54	
Modified Sobek	**Total Sulfur**	0.338	%	0.010	0.006		W508025	MCB	02/17/15 11:49	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.0°C**	6.08	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @17.7°C**	6.67	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:27	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-003 (710-732) ABA**
SVL Sample ID: **W5B0251-09 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-1.3	TCaCO3/kT	0.3			N/A		02/20/15 12:47	
Modified Sobek	**AGP**	1.3	TCaCO3/kT	0.3			N/A		02/20/15 12:47	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 12:47	
Modified Sobek	**Non-Sulfate Sulfur**	0.043	%	0.010	0.006		W508025	MCB	02/20/15 11:32	
Modified Sobek	**Pyritic Sulfur**	0.04	%	0.01			N/A		02/20/15 12:47	
Modified Sobek	**Sulfate Sulfur**	0.09	%	0.01			N/A		02/20/15 11:32	
Modified Sobek	**Total Sulfur**	0.130	%	0.010	0.006		W508025	MCB	02/17/15 11:52	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-0.8	TCaCO3/kT	0.3			N/A		02/20/15 14:03	
Modified Sobek	**AGP-HCl**	0.8	TCaCO3/kT	0.3			N/A		02/20/15 14:03	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 12:47	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.024	%	0.010	0.006		W508025	MCB	02/20/15 14:03	
Modified Sobek	**Pyritic Sulfur-HCl**	0.02	%	0.01			N/A		02/20/15 14:03	
Modified Sobek	**Sulfate Sulfur-HCl**	0.11	%	0.01			N/A		02/20/15 14:03	
Modified Sobek	**Total Sulfur**	0.130	%	0.010	0.006		W508025	MCB	02/17/15 11:52	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.2°C**	5.60	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @17.3°C**	7.10	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:30	

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-003 (755-772) ABA**
SVL Sample ID: **W5B0251-10 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-0.4	TCaCO3/kT	0.3			N/A		02/20/15 12:50	
Modified Sobek	**AGP**	0.4	TCaCO3/kT	0.3			N/A		02/20/15 12:50	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5
Modified Sobek	**Non-extractable Sulfur**	0.012	%	0.010	0.006		W508025	MCB	02/20/15 12:50	
Modified Sobek	**Non-Sulfate Sulfur**	0.025	%	0.010	0.006		W508025	MCB	02/20/15 11:35	
Modified Sobek	**Pyritic Sulfur**	0.01	%	0.01			N/A		02/20/15 12:50	
Modified Sobek	**Sulfate Sulfur**	0.06	%	0.01			N/A		02/20/15 11:35	
Modified Sobek	**Total Sulfur**	0.082	%	0.010	0.006		W508025	MCB	02/17/15 11:55	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	0.4	TCaCO3/kT	0.3			N/A		02/20/15 14:06	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 14:06	
Modified Sobek	**Non-extractable Sulfur**	0.012	%	0.010	0.006		W508025	MCB	02/20/15 12:50	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 14:06	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/20/15 14:06	
Modified Sobek	**Sulfate Sulfur-HCl**	0.08	%	0.01			N/A		02/20/15 14:06	
Modified Sobek	**Total Sulfur**	0.082	%	0.010	0.006		W508025	MCB	02/17/15 11:55	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.1°C**	5.41	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @17.6°C**	7.34	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:34	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-003 (808-830) ABA**
SVL Sample ID: **W5B0251-11 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	0.5	TCaCO3/kT	0.3			N/A		02/20/15 12:53	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 12:53	
Modified Sobek	**ANP**	0.5	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 12:53	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 11:38	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		02/20/15 12:53	
Modified Sobek	**Sulfate Sulfur**	0.02	%	0.01			N/A		02/20/15 11:38	
Modified Sobek	**Total Sulfur**	0.016	%	0.010	0.006		W508025	MCB	02/17/15 12:04	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	0.5	TCaCO3/kT	0.3			N/A		02/20/15 14:09	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 14:09	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 12:53	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 14:09	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/20/15 14:09	
Modified Sobek	**Sulfate Sulfur-HCl**	0.02	%	0.01			N/A		02/20/15 14:09	
Modified Sobek	**Total Sulfur**	0.016	%	0.010	0.006		W508025	MCB	02/17/15 12:04	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.4°C**	5.79	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @17.0°C**	7.64	pH Units				W508106	AGF	02/24/15 12:22	A7
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:43	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-004 (35-55) ABA**
SVL Sample ID: **W5B0251-12 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	3.0	TCaCO3/kT	0.3			N/A		02/20/15 12:14	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		02/17/15 12:07	
Modified Sobek	**ANP**	3.0	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/17/15 12:07	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/17/15 12:07	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		02/17/15 12:07	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		02/17/15 12:07	
Modified Sobek	Total Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/17/15 12:07	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	3.0	TCaCO3/kT	0.3			N/A		02/20/15 12:14	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/17/15 12:07	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/17/15 12:07	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508025	MCB	02/17/15 12:07	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/17/15 12:07	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		02/17/15 12:07	
Modified Sobek	Total Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/17/15 12:07	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.2°C**	6.14	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @17.3°C**	7.99	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:46	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-004 (160-175) ABA**
SVL Sample ID: **W5B0251-13 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	1.5	TCaCO3/kT	0.3			N/A		02/20/15 12:14	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		02/17/15 12:10	
Modified Sobek	**ANP**	1.5	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/17/15 12:10	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/17/15 12:10	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		02/17/15 12:10	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		02/17/15 12:10	
Modified Sobek	Total Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/17/15 12:10	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	1.5	TCaCO3/kT	0.3			N/A		02/20/15 12:14	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/17/15 12:10	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/17/15 12:10	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508025	MCB	02/17/15 12:10	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/17/15 12:10	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		02/17/15 12:10	
Modified Sobek	Total Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/17/15 12:10	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.4°C**	5.88	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @17.4°C**	8.01	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:49	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-004 (250-270) ABA**
SVL Sample ID: **W5B0251-14 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	1.0	TCaCO3/kT	0.3			N/A		02/20/15 12:56	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 12:56	
Modified Sobek	**ANP**	1.0	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 12:56	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 11:41	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		02/20/15 12:56	
Modified Sobek	**Sulfate Sulfur**	0.01	%	0.01			N/A		02/20/15 11:41	
Modified Sobek	**Total Sulfur**	0.011	%	0.010	0.006		W508025	MCB	02/17/15 12:13	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	1.0	TCaCO3/kT	0.3			N/A		02/20/15 14:12	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 14:12	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 12:56	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 14:12	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/20/15 14:12	
Modified Sobek	**Sulfate Sulfur-HCl**	0.01	%	0.01			N/A		02/20/15 14:12	
Modified Sobek	**Total Sulfur**	0.011	%	0.010	0.006		W508025	MCB	02/17/15 12:13	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.0°C**	5.93	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @17.5°C**	7.83	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:52	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-004 (295-315) ABA**
SVL Sample ID: **W5B0251-15 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-2.3	TCaCO3/kT	0.3			N/A		02/20/15 12:59	
Modified Sobek	**AGP**	2.3	TCaCO3/kT	0.3			N/A		02/20/15 12:59	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 12:59	
Modified Sobek	**Non-Sulfate Sulfur**	0.073	%	0.010	0.006		W508025	MCB	02/20/15 11:44	
Modified Sobek	**Pyritic Sulfur**	0.07	%	0.01			N/A		02/20/15 12:59	
Modified Sobek	**Sulfate Sulfur**	0.11	%	0.01			N/A		02/20/15 11:44	
Modified Sobek	**Total Sulfur**	0.181	%	0.010	0.006		W508025	MCB	02/17/15 12:16	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-4.2	TCaCO3/kT	0.3			N/A		02/20/15 14:15	
Modified Sobek	**AGP-HCl**	4.2	TCaCO3/kT	0.3			N/A		02/20/15 14:15	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 12:59	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.134	%	0.010	0.006		W508025	MCB	02/20/15 14:15	
Modified Sobek	**Pyritic Sulfur-HCl**	0.13	%	0.01			N/A		02/20/15 14:15	
Modified Sobek	**Sulfate Sulfur-HCl**	0.05	%	0.01			N/A		02/20/15 14:15	
Modified Sobek	**Total Sulfur**	0.181	%	0.010	0.006		W508025	MCB	02/17/15 12:16	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.1°C**	3.20	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 4.5**	1.4	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 7**	7.8	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @17.4°C**	5.44	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:55	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-004 (360-370) ABA**
SVL Sample ID: **W5B0251-16 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-0.8	TCaCO3/kT	0.3			N/A		02/20/15 13:02	
Modified Sobek	**AGP**	0.8	TCaCO3/kT	0.3			N/A		02/20/15 13:02	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 13:02	
Modified Sobek	**Non-Sulfate Sulfur**	0.026	%	0.010	0.006		W508025	MCB	02/20/15 11:47	
Modified Sobek	**Pyritic Sulfur**	0.03	%	0.01			N/A		02/20/15 13:02	
Modified Sobek	**Sulfate Sulfur**	0.05	%	0.01			N/A		02/20/15 11:47	
Modified Sobek	**Total Sulfur**	0.080	%	0.010	0.006		W508025	MCB	02/17/15 12:20	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-0.9	TCaCO3/kT	0.3			N/A		02/20/15 14:19	
Modified Sobek	**AGP-HCl**	0.9	TCaCO3/kT	0.3			N/A		02/20/15 14:19	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 13:02	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.029	%	0.010	0.006		W508025	MCB	02/20/15 14:19	
Modified Sobek	**Pyritic Sulfur-HCl**	0.03	%	0.01			N/A		02/20/15 14:19	
Modified Sobek	**Sulfate Sulfur-HCl**	0.05	%	0.01			N/A		02/20/15 14:19	
Modified Sobek	**Total Sulfur**	0.080	%	0.010	0.006		W508025	MCB	02/17/15 12:20	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.2°C**	5.41	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @18.2°C**	6.31	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 15:58	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-004 (445-455) ABA**
SVL Sample ID: **W5B0251-17 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-0.8	TCaCO3/kT	0.3			N/A		02/20/15 13:05	
Modified Sobek	**AGP**	0.8	TCaCO3/kT	0.3			N/A		02/20/15 13:05	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5
Modified Sobek	**Non-extractable Sulfur**	0.035	%	0.010	0.006		W508025	MCB	02/20/15 13:05	
Modified Sobek	**Non-Sulfate Sulfur**	0.060	%	0.010	0.006		W508025	MCB	02/20/15 11:50	
Modified Sobek	**Pyritic Sulfur**	0.03	%	0.01			N/A		02/20/15 13:05	
Modified Sobek	**Sulfate Sulfur**	0.23	%	0.01			N/A		02/20/15 11:50	
Modified Sobek	**Total Sulfur**	0.292	%	0.010	0.006		W508025	MCB	02/17/15 12:23	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	0.4	TCaCO3/kT	0.3			N/A		02/20/15 14:21	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 14:21	
Modified Sobek	**Non-extractable Sulfur**	0.035	%	0.010	0.006		W508025	MCB	02/20/15 13:05	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.022	%	0.010	0.006		W508025	MCB	02/20/15 14:21	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/20/15 14:21	
Modified Sobek	**Sulfate Sulfur-HCl**	0.27	%	0.01			N/A		02/20/15 14:21	
Modified Sobek	**Total Sulfur**	0.292	%	0.010	0.006		W508025	MCB	02/17/15 12:23	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @19.4°C**	5.55	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @18.4°C**	5.90	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 16:01	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-004 (520-530) ABA**
SVL Sample ID: **W5B0251-18 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-4.8	TCaCO3/kT	0.3			N/A		02/20/15 13:08	
Modified Sobek	**AGP**	4.8	TCaCO3/kT	0.3			N/A		02/20/15 13:08	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.013	%	0.010	0.006		W508025	MCB	02/20/15 13:08	
Modified Sobek	**Non-Sulfate Sulfur**	0.165	%	0.010	0.006		W508025	MCB	02/20/15 11:53	
Modified Sobek	**Pyritic Sulfur**	0.15	%	0.01			N/A		02/20/15 13:08	
Modified Sobek	**Sulfate Sulfur**	0.28	%	0.01			N/A		02/20/15 11:53	
Modified Sobek	**Total Sulfur**	0.440	%	0.010	0.006		W508025	MCB	02/17/15 12:26	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-4.2	TCaCO3/kT	0.3			N/A		02/20/15 14:25	
Modified Sobek	**AGP-HCl**	4.2	TCaCO3/kT	0.3			N/A		02/20/15 14:25	
Modified Sobek	**Non-extractable Sulfur**	0.013	%	0.010	0.006		W508025	MCB	02/20/15 13:08	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.149	%	0.010	0.006		W508025	MCB	02/20/15 14:25	
Modified Sobek	**Pyritic Sulfur-HCl**	0.14	%	0.01			N/A		02/20/15 14:25	
Modified Sobek	**Sulfate Sulfur-HCl**	0.29	%	0.01			N/A		02/20/15 14:25	
Modified Sobek	**Total Sulfur**	0.440	%	0.010	0.006		W508025	MCB	02/17/15 12:26	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @19.5°C**	2.88	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 4.5**	3.2	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 7**	10.2	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @18.1°C**	5.92	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 16:04	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-004 (585-595) ABA**
SVL Sample ID: **W5B0251-19 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-0.7	TCaCO3/kT	0.3			N/A		02/20/15 13:11	
Modified Sobek	**AGP**	1.2	TCaCO3/kT	0.3			N/A		02/20/15 13:11	
Modified Sobek	**ANP**	0.5	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 13:11	
Modified Sobek	**Non-Sulfate Sulfur**	0.038	%	0.010	0.006		W508025	MCB	02/20/15 11:56	
Modified Sobek	**Pyritic Sulfur**	0.04	%	0.01			N/A		02/20/15 13:11	
Modified Sobek	**Sulfate Sulfur**	0.07	%	0.01			N/A		02/20/15 11:56	
Modified Sobek	**Total Sulfur**	0.108	%	0.010	0.006		W508025	MCB	02/17/15 13:10	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-0.3	TCaCO3/kT	0.3			N/A		02/20/15 14:28	
Modified Sobek	**AGP-HCl**	0.8	TCaCO3/kT	0.3			N/A		02/20/15 14:28	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508025	MCB	02/20/15 13:11	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.027	%	0.010	0.006		W508025	MCB	02/20/15 14:28	
Modified Sobek	**Pyritic Sulfur-HCl**	0.03	%	0.01			N/A		02/20/15 14:28	
Modified Sobek	**Sulfate Sulfur-HCl**	0.08	%	0.01			N/A		02/20/15 14:28	
Modified Sobek	**Total Sulfur**	0.108	%	0.010	0.006		W508025	MCB	02/17/15 13:10	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @19.4°C**	5.11	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @18.1°C**	6.24	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 16:07	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Client Sample ID: **3981 CAL-004 (630-640) ABA**
SVL Sample ID: **W5B0251-20 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-9.5	TCaCO3/kT	0.3			N/A		02/20/15 13:14	
Modified Sobek	**AGP**	9.5	TCaCO3/kT	0.3			N/A		02/20/15 13:14	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508025	MCB	02/20/15 12:14	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.038	%	0.010	0.006		W508025	MCB	02/20/15 13:14	
Modified Sobek	**Non-Sulfate Sulfur**	0.343	%	0.010	0.006		W508025	MCB	02/20/15 12:01	
Modified Sobek	**Pyritic Sulfur**	0.30	%	0.01			N/A		02/20/15 13:14	
Modified Sobek	**Sulfate Sulfur**	0.29	%	0.01			N/A		02/20/15 12:01	
Modified Sobek	**Total Sulfur**	0.629	%	0.010	0.006		W508025	MCB	02/17/15 13:13	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-6.7	TCaCO3/kT	0.3			N/A		02/20/15 14:31	
Modified Sobek	**AGP-HCl**	6.7	TCaCO3/kT	0.3			N/A		02/20/15 14:31	
Modified Sobek	**Non-extractable Sulfur**	0.038	%	0.010	0.006		W508025	MCB	02/20/15 13:14	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.254	%	0.010	0.006		W508025	MCB	02/20/15 14:31	
Modified Sobek	**Pyritic Sulfur-HCl**	0.22	%	0.01			N/A		02/20/15 14:31	
Modified Sobek	**Sulfate Sulfur-HCl**	0.38	%	0.01			N/A		02/20/15 14:31	
Modified Sobek	**Total Sulfur**	0.629	%	0.010	0.006		W508025	MCB	02/17/15 13:13	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @19.5°C**	2.63	pH Units				W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 4.5**	7.0	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
AMIRA P387A	**NAG@pH 7**	5.2	kg H2SO4/T	0.1			W508109	MCB	02/24/15 12:40	
EPA 600/2-78-054	**Paste pH @18.1°C**	6.26	pH Units				W508106	AGF	02/24/15 12:22	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508113	MCB	02/18/15 16:10	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms								
Modified Sobek	ANP	TCaCO3/kT	<0.3	0.0	0.3	W508025	20-Feb-15	
Modified Sobek	Non-extractable Sulfur	%	<0.010	0.006	0.010	W508025	20-Feb-15	
Modified Sobek	Non-Sulfate Sulfur	%	<0.010	0.006	0.010	W508025	20-Feb-15	
Modified Sobek	Total Sulfur	%	<0.010	0.006	0.010	W508025	17-Feb-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)								
Modified Sobek	Non-extractable Sulfur	%	<0.010	0.006	0.010	W508025	20-Feb-15	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.010	0.006	0.010	W508025	20-Feb-15	
Modified Sobek	Total Sulfur	%	<0.010	0.006	0.010	W508025	17-Feb-15	
Classical Chemistry Parameters								
LECO	Total Inorganic Carbon	%	<0.100	0.007	0.100	W508113	18-Feb-15	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	206	216	95.2	80 - 120	W508025	20-Feb-15	
Modified Sobek	Total Sulfur	%	2.17	2.00	108	80 - 120	W508025	17-Feb-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Total Sulfur	%	2.17	2.00	108	80 - 120	W508025	17-Feb-15	
Classical Chemistry Parameters									
AMIRA P387A	NAG pH	pH Units	7.64	7.93	96.3	90 - 110	W508109	24-Feb-15	
EPA 600/2-78-054	Paste pH	pH Units	7.28	7.40	98.4	93.7 - 106.3	W508106	24-Feb-15	
LECO	Total Inorganic Carbon	%	0.951	1.00	95.1	80 - 120	W508113	18-Feb-15	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	0.5	<0.3	<RL	20	W508025	20-Feb-15	R2B
Modified Sobek	Non-extractable Sulfur	%	0.011	0.015	26.2	20	W508025	20-Feb-15	R2B
Modified Sobek	Non-Sulfate Sulfur	%	0.357	0.376	5.2	20	W508025	20-Feb-15	
Modified Sobek	Total Sulfur	%	0.629	0.632	0.5	20	W508025	17-Feb-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Non-extractable Sulfur	%	0.011	0.015	26.2	20	W508025	20-Feb-15	R2B
Modified Sobek	Non-Sulfate Sulfur-HCl	%	0.376	0.389	3.4	20	W508025	20-Feb-15	
Modified Sobek	Total Sulfur	%	0.629	0.632	0.5	20	W508025	17-Feb-15	

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Project Name: MLI: 3981
Work Order: **W5B0251**
Reported: 25-Feb-15 12:41

Quality Control - DUPLICATE Data (Continued)

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Classical Chemistry Parameters									
AMIRA P387A	NAG pH	pH Units	2.64	2.73	3.4	20	W508109	24-Feb-15	
AMIRA P387A	NAG@pH 4.5	kg H2SO4/T	11.0	11.2	1.8	20	W508109	24-Feb-15	
AMIRA P387A	NAG@pH 7	kg H2SO4/T	3.4	4.4	25.6	20	W508109	24-Feb-15	R2B
EPA 600/2-78-054	Paste pH	pH Units	6.49	6.57	1.2	20	W508106	24-Feb-15	
LECO	Total Inorganic Carbon	%	<0.100	<0.100	UDL	20	W508113	18-Feb-15	

Notes and Definitions

A5	5 g of sample used in ANP analysis
A6	Titration of the sample required a greater amount of titrant than did the preparation blank.
A7	Sample is hygroscopic. Additional water was added to sample to maintain saturation.
R2B	RPD exceeded the laboratory acceptance limit.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
3981 CAL-004 (705-715) ABA	W5B0252-01	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-004 (770-780) ABA	W5B0252-02	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CAL-004 (860-875) ABA	W5B0252-03	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-002 (654-675) ABA	W5B0252-04	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-002 (675-693) ABA	W5B0252-05	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-002 (774-791) ABA	W5B0252-06	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-002 (802-820) ABA	W5B0252-07	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-003 (376-388) ABA	W5B0252-08	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-003 (485-495) ABA	W5B0252-09	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-003 (610-628) ABA	W5B0252-10	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-006 (341-362) ABA	W5B0252-11	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-006 (525-544) ABA	W5B0252-12	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-006 (593-613) ABA	W5B0252-13	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-006 (625-637.5) ABA	W5B0252-14	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-006 (755-773) ABA	W5B0252-15	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-012 (523-533) ABA	W5B0252-16	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-012 (682-700) ABA	W5B0252-17	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-012 (780-800) ABA	W5B0252-18	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-012 (832-851) ABA	W5B0252-19	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-012 (919-946) ABA	W5B0252-20	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

Case Narrative

Nevada does not accredit for NAG titration.

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 CAL-004 (705-715) ABA**
SVL Sample ID: **W5B0252-01 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-0.9	TCaCO3/kT	0.3			N/A		02/23/15 15:50	
Modified Sobek	**AGP**	0.9	TCaCO3/kT	0.3			N/A		02/23/15 15:50	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 15:50	
Modified Sobek	**Non-Sulfate Sulfur**	0.030	%	0.010	0.006		W508026	MCB	02/23/15 14:26	
Modified Sobek	**Pyritic Sulfur**	0.03	%	0.01			N/A		02/23/15 15:50	
Modified Sobek	**Sulfate Sulfur**	0.09	%	0.01			N/A		02/23/15 14:26	
Modified Sobek	**Total Sulfur**	0.115	%	0.010	0.006		W508026	AGF	02/17/15 13:44	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-0.6	TCaCO3/kT	0.3			N/A		02/23/15 17:09	
Modified Sobek	**AGP-HCl**	0.6	TCaCO3/kT	0.3			N/A		02/23/15 17:09	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 15:50	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.018	%	0.010	0.006		W508026	MCB	02/23/15 17:09	
Modified Sobek	**Pyritic Sulfur-HCl**	0.02	%	0.01			N/A		02/23/15 17:09	
Modified Sobek	**Sulfate Sulfur-HCl**	0.10	%	0.01			N/A		02/23/15 17:09	
Modified Sobek	**Total Sulfur**	0.115	%	0.010	0.006		W508026	AGF	02/17/15 13:44	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.8°C**	5.47	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @18.8°C**	7.10	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 11:25	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Kirby Gray

Kirby Gray
Technical Director

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 CAL-004 (770-780) ABA**
SVL Sample ID: **W5B0252-02 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-0.9	TCaCO3/kT	0.3			N/A		02/23/15 15:53	
Modified Sobek	**AGP**	0.9	TCaCO3/kT	0.3			N/A		02/23/15 15:53	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.016	%	0.010	0.006		W508026	MCB	02/23/15 15:53	
Modified Sobek	**Non-Sulfate Sulfur**	0.043	%	0.010	0.006		W508026	MCB	02/23/15 14:30	
Modified Sobek	**Pyritic Sulfur**	0.03	%	0.01			N/A		02/23/15 15:53	
Modified Sobek	**Sulfate Sulfur**	0.15	%	0.01			N/A		02/23/15 14:30	
Modified Sobek	**Total Sulfur**	0.188	%	0.010	0.006		W508026	AGF	02/17/15 13:47	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	ABA-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/23/15 17:12	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/23/15 17:12	
Modified Sobek	**Non-extractable Sulfur**	0.016	%	0.010	0.006		W508026	MCB	02/23/15 15:53	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.010	%	0.010	0.006		W508026	MCB	02/23/15 17:12	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/23/15 17:12	
Modified Sobek	**Sulfate Sulfur-HCl**	0.18	%	0.01			N/A		02/23/15 17:12	
Modified Sobek	**Total Sulfur**	0.188	%	0.010	0.006		W508026	AGF	02/17/15 13:47	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.7°C**	5.65	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @18.4°C**	7.33	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 11:28	

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 CAL-004 (860-875) ABA**
SVL Sample ID: **W5B0252-03 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-2.6	TCaCO3/kT	0.3			N/A		02/23/15 15:56	
Modified Sobek	**AGP**	2.6	TCaCO3/kT	0.3			N/A		02/23/15 15:56	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5
Modified Sobek	**Non-extractable Sulfur**	0.012	%	0.010	0.006		W508026	MCB	02/23/15 15:56	
Modified Sobek	**Non-Sulfate Sulfur**	0.094	%	0.010	0.006		W508026	MCB	02/23/15 14:33	
Modified Sobek	**Pyritic Sulfur**	0.08	%	0.01			N/A		02/23/15 15:56	
Modified Sobek	**Sulfate Sulfur**	0.16	%	0.01			N/A		02/23/15 14:33	
Modified Sobek	**Total Sulfur**	0.251	%	0.010	0.006		W508026	AGF	02/17/15 13:56	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-3.0	TCaCO3/kT	0.3			N/A		02/23/15 17:15	
Modified Sobek	**AGP-HCl**	3.0	TCaCO3/kT	0.3			N/A		02/23/15 17:15	
Modified Sobek	**Non-extractable Sulfur**	0.012	%	0.010	0.006		W508026	MCB	02/23/15 15:56	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.108	%	0.010	0.006		W508026	MCB	02/23/15 17:15	
Modified Sobek	**Pyritic Sulfur-HCl**	0.10	%	0.01			N/A		02/23/15 17:15	
Modified Sobek	**Sulfate Sulfur-HCl**	0.14	%	0.01			N/A		02/23/15 17:15	
Modified Sobek	**Total Sulfur**	0.251	%	0.010	0.006		W508026	AGF	02/17/15 13:56	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.6°C**	3.14	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 4.5**	1.6	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 7**	13.1	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @18.4°C**	7.73	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 11:31	

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-002 (654-675) ABA**
SVL Sample ID: **W5B0252-04 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-2.4	TCaCO3/kT	0.3			N/A		02/23/15 15:59	
Modified Sobek	**AGP**	2.4	TCaCO3/kT	0.3			N/A		02/23/15 15:59	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.020	%	0.010	0.006		W508026	MCB	02/23/15 15:59	
Modified Sobek	**Non-Sulfate Sulfur**	0.095	%	0.010	0.006		W508026	MCB	02/23/15 14:36	
Modified Sobek	**Pyritic Sulfur**	0.08	%	0.01			N/A		02/23/15 15:59	
Modified Sobek	**Sulfate Sulfur**	0.18	%	0.01			N/A		02/23/15 14:36	
Modified Sobek	**Total Sulfur**	0.274	%	0.010	0.006		W508026	AGF	02/17/15 13:59	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-2.4	TCaCO3/kT	0.3			N/A		02/23/15 17:25	
Modified Sobek	**AGP-HCl**	2.4	TCaCO3/kT	0.3			N/A		02/23/15 17:25	
Modified Sobek	**Non-extractable Sulfur**	0.020	%	0.010	0.006		W508026	MCB	02/23/15 15:59	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.098	%	0.010	0.006		W508026	MCB	02/23/15 17:25	
Modified Sobek	**Pyritic Sulfur-HCl**	0.08	%	0.01			N/A		02/23/15 17:25	
Modified Sobek	**Sulfate Sulfur-HCl**	0.18	%	0.01			N/A		02/23/15 17:25	
Modified Sobek	**Total Sulfur**	0.274	%	0.010	0.006		W508026	AGF	02/17/15 13:59	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.8°C**	3.23	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 4.5**	1.0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 7**	13.5	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @18.0°C**	6.91	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 11:34	

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Kirby Gray

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-002 (675-693) ABA**
SVL Sample ID: **W5B0252-05 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-0.7	TCaCO3/kT	0.3			N/A		02/23/15 16:02	
Modified Sobek	**AGP**	0.7	TCaCO3/kT	0.3			N/A		02/23/15 16:02	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.020	%	0.010	0.006		W508026	MCB	02/23/15 16:02	
Modified Sobek	**Non-Sulfate Sulfur**	0.041	%	0.010	0.006		W508026	MCB	02/23/15 14:39	
Modified Sobek	**Pyritic Sulfur**	0.02	%	0.01			N/A		02/23/15 16:02	
Modified Sobek	**Sulfate Sulfur**	0.21	%	0.01			N/A		02/23/15 14:39	
Modified Sobek	**Total Sulfur**	0.251	%	0.010	0.006		W508026	AGF	02/17/15 14:03	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	0.6	TCaCO3/kT	0.3			N/A		02/23/15 17:28	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/23/15 17:28	
Modified Sobek	**Non-extractable Sulfur**	0.020	%	0.010	0.006		W508026	MCB	02/23/15 16:02	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 17:28	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/23/15 17:28	
Modified Sobek	**Sulfate Sulfur-HCl**	0.25	%	0.01			N/A		02/23/15 17:28	
Modified Sobek	**Total Sulfur**	0.251	%	0.010	0.006		W508026	AGF	02/17/15 14:03	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.2°C**	5.57	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @18.1°C**	7.16	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 11:37	

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-002 (774-791) ABA**
SVL Sample ID: **W5B0252-06 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-1.1	TCaCO3/kT	0.3			N/A		02/23/15 16:11	
Modified Sobek	**AGP**	1.1	TCaCO3/kT	0.3			N/A		02/23/15 16:11	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5
Modified Sobek	**Non-extractable Sulfur**	0.011	%	0.010	0.006		W508026	MCB	02/23/15 16:11	
Modified Sobek	**Non-Sulfate Sulfur**	0.045	%	0.010	0.006		W508026	MCB	02/23/15 14:42	
Modified Sobek	**Pyritic Sulfur**	0.03	%	0.01			N/A		02/23/15 16:11	
Modified Sobek	**Sulfate Sulfur**	0.09	%	0.01			N/A		02/23/15 14:42	
Modified Sobek	**Total Sulfur**	0.132	%	0.010	0.006		W508026	AGF	02/17/15 14:05	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-0.8	TCaCO3/kT	0.3			N/A		02/23/15 17:31	
Modified Sobek	**AGP-HCl**	0.8	TCaCO3/kT	0.3			N/A		02/23/15 17:31	
Modified Sobek	**Non-extractable Sulfur**	0.011	%	0.010	0.006		W508026	MCB	02/23/15 16:11	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.035	%	0.010	0.006		W508026	MCB	02/23/15 17:31	
Modified Sobek	**Pyritic Sulfur-HCl**	0.03	%	0.01			N/A		02/23/15 17:31	
Modified Sobek	**Sulfate Sulfur-HCl**	0.10	%	0.01			N/A		02/23/15 17:31	
Modified Sobek	**Total Sulfur**	0.132	%	0.010	0.006		W508026	AGF	02/17/15 14:05	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.1°C**	5.03	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @18.0°C**	7.42	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 11:40	

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Kirby Gray

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1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-002 (802-820) ABA**
SVL Sample ID: **W5B0252-07 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-1.7	TCaCO3/kT	0.3			N/A		02/23/15 16:14	
Modified Sobek	**AGP**	1.7	TCaCO3/kT	0.3			N/A		02/23/15 16:14	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 16:14	
Modified Sobek	**Non-Sulfate Sulfur**	0.055	%	0.010	0.006		W508026	MCB	02/23/15 14:45	
Modified Sobek	**Pyritic Sulfur**	0.06	%	0.01			N/A		02/23/15 16:14	
Modified Sobek	**Sulfate Sulfur**	0.07	%	0.01			N/A		02/23/15 14:45	
Modified Sobek	**Total Sulfur**	0.124	%	0.010	0.006		W508026	AGF	02/17/15 14:09	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-2.2	TCaCO3/kT	0.3			N/A		02/23/15 17:34	
Modified Sobek	**AGP-HCl**	2.2	TCaCO3/kT	0.3			N/A		02/23/15 17:34	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 16:14	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.070	%	0.010	0.006		W508026	MCB	02/23/15 17:34	
Modified Sobek	**Pyritic Sulfur-HCl**	0.07	%	0.01			N/A		02/23/15 17:34	
Modified Sobek	**Sulfate Sulfur-HCl**	0.05	%	0.01			N/A		02/23/15 17:34	
Modified Sobek	**Total Sulfur**	0.124	%	0.010	0.006		W508026	AGF	02/17/15 14:09	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.8°C**	3.84	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 4.5**	0.4	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 7**	13.7	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @17.5°C**	6.97	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 11:50	

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-003 (376-388) ABA**
SVL Sample ID: **W5B0252-08 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	ABA	< 0.3	TCaCO3/kT	0.3			N/A		02/23/15 16:17	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		02/23/15 16:17	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 16:17	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 14:54	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		02/23/15 16:17	
Modified Sobek	**Sulfate Sulfur**	0.01	%	0.01			N/A		02/23/15 14:54	
Modified Sobek	**Total Sulfur**	0.013	%	0.010	0.006		W508026	AGF	02/17/15 14:12	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	ABA-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/23/15 17:37	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/23/15 17:37	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 16:17	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 17:37	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/23/15 17:37	
Modified Sobek	**Sulfate Sulfur-HCl**	0.01	%	0.01			N/A		02/23/15 17:37	
Modified Sobek	**Total Sulfur**	0.013	%	0.010	0.006		W508026	AGF	02/17/15 14:12	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.9°C**	5.40	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @17.6°C**	7.23	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 11:53	

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1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-003 (485-495) ABA**
SVL Sample ID: **W5B0252-09 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-7.4	TCaCO3/kT	0.3			N/A		02/23/15 16:20	
Modified Sobek	**AGP**	7.4	TCaCO3/kT	0.3			N/A		02/23/15 16:20	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.038	%	0.010	0.006		W508026	MCB	02/23/15 16:20	
Modified Sobek	**Non-Sulfate Sulfur**	0.273	%	0.010	0.006		W508026	MCB	02/23/15 14:57	
Modified Sobek	**Pyritic Sulfur**	0.24	%	0.01			N/A		02/23/15 16:20	
Modified Sobek	**Sulfate Sulfur**	0.37	%	0.01			N/A		02/23/15 14:57	
Modified Sobek	**Total Sulfur**	0.647	%	0.010	0.006		W508026	AGF	02/17/15 14:15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-7.4	TCaCO3/kT	0.3			N/A		02/23/15 17:40	
Modified Sobek	**AGP-HCl**	7.4	TCaCO3/kT	0.3			N/A		02/23/15 17:40	
Modified Sobek	**Non-extractable Sulfur**	0.038	%	0.010	0.006		W508026	MCB	02/23/15 16:20	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.276	%	0.010	0.006		W508026	MCB	02/23/15 17:40	
Modified Sobek	**Pyritic Sulfur-HCl**	0.24	%	0.01			N/A		02/23/15 17:40	
Modified Sobek	**Sulfate Sulfur-HCl**	0.37	%	0.01			N/A		02/23/15 17:40	
Modified Sobek	**Total Sulfur**	0.647	%	0.010	0.006		W508026	AGF	02/17/15 14:15	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.6°C**	2.47	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 4.5**	8.4	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 7**	6.1	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @17.5°C**	6.08	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 11:56	

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-003 (610-628) ABA**
SVL Sample ID: **W5B0252-10 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-0.7	TCaCO3/kT	0.3			N/A		02/23/15 16:23	
Modified Sobek	**AGP**	0.7	TCaCO3/kT	0.3			N/A		02/23/15 16:23	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.015	%	0.010	0.006		W508026	MCB	02/23/15 16:23	
Modified Sobek	**Non-Sulfate Sulfur**	0.036	%	0.010	0.006		W508026	MCB	02/23/15 15:00	
Modified Sobek	**Pyritic Sulfur**	0.02	%	0.01			N/A		02/23/15 16:23	
Modified Sobek	**Sulfate Sulfur**	0.10	%	0.01			N/A		02/23/15 15:00	
Modified Sobek	**Total Sulfur**	0.138	%	0.010	0.006		W508026	AGF	02/17/15 14:18	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-0.4	TCaCO3/kT	0.3			N/A		02/23/15 17:43	
Modified Sobek	**AGP-HCl**	0.4	TCaCO3/kT	0.3			N/A		02/23/15 17:43	
Modified Sobek	**Non-extractable Sulfur**	0.015	%	0.010	0.006		W508026	MCB	02/23/15 16:23	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.028	%	0.010	0.006		W508026	MCB	02/23/15 17:43	
Modified Sobek	**Pyritic Sulfur-HCl**	0.01	%	0.01			N/A		02/23/15 17:43	
Modified Sobek	**Sulfate Sulfur-HCl**	0.11	%	0.01			N/A		02/23/15 17:43	
Modified Sobek	**Total Sulfur**	0.138	%	0.010	0.006		W508026	AGF	02/17/15 14:18	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.6°C**	5.23	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @17.3°C**	6.84	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 11:59	

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-006 (341-362) ABA**
SVL Sample ID: **W5B0252-11 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	ABA	< 0.3	TCaCO3/kT	0.3			N/A		02/23/15 16:27	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		02/23/15 16:27	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 16:27	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 15:03	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		02/23/15 16:27	
Modified Sobek	**Sulfate Sulfur**	0.02	%	0.01			N/A		02/23/15 15:03	
Modified Sobek	**Total Sulfur**	0.016	%	0.010	0.006		W508026	AGF	02/17/15 14:21	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	ABA-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/23/15 17:46	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/23/15 17:46	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 16:27	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 17:46	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/23/15 17:46	
Modified Sobek	**Sulfate Sulfur-HCl**	0.02	%	0.01			N/A		02/23/15 17:46	
Modified Sobek	**Total Sulfur**	0.016	%	0.010	0.006		W508026	AGF	02/17/15 14:21	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.9°C**	5.28	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @17.2°C**	6.99	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 12:02	

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-006 (525-544) ABA**
SVL Sample ID: **W5B0252-12 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-1.6	TCaCO3/kT	0.3			N/A		02/23/15 16:30	
Modified Sobek	**AGP**	1.6	TCaCO3/kT	0.3			N/A		02/23/15 16:30	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.015	%	0.010	0.006		W508026	MCB	02/23/15 16:30	
Modified Sobek	**Non-Sulfate Sulfur**	0.068	%	0.010	0.006		W508026	MCB	02/23/15 15:06	
Modified Sobek	**Pyritic Sulfur**	0.05	%	0.01			N/A		02/23/15 16:30	
Modified Sobek	**Sulfate Sulfur**	0.15	%	0.01			N/A		02/23/15 15:06	
Modified Sobek	**Total Sulfur**	0.216	%	0.010	0.006		W508026	AGF	02/17/15 14:24	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-1.8	TCaCO3/kT	0.3			N/A		02/23/15 17:49	
Modified Sobek	**AGP-HCl**	1.8	TCaCO3/kT	0.3			N/A		02/23/15 17:49	
Modified Sobek	**Non-extractable Sulfur**	0.015	%	0.010	0.006		W508026	MCB	02/23/15 16:30	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.074	%	0.010	0.006		W508026	MCB	02/23/15 17:49	
Modified Sobek	**Pyritic Sulfur-HCl**	0.06	%	0.01			N/A		02/23/15 17:49	
Modified Sobek	**Sulfate Sulfur-HCl**	0.14	%	0.01			N/A		02/23/15 17:49	
Modified Sobek	**Total Sulfur**	0.216	%	0.010	0.006		W508026	AGF	02/17/15 14:24	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.8°C**	3.58	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 4.5**	0.6	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 7**	11.9	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @17.0°C**	6.33	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 12:05	

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-006 (593-613) ABA**
SVL Sample ID: **W5B0252-13 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-1.4	TCaCO3/kT	0.3			N/A		02/23/15 16:33	
Modified Sobek	**AGP**	1.4	TCaCO3/kT	0.3			N/A		02/23/15 16:33	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 16:33	
Modified Sobek	**Non-Sulfate Sulfur**	0.045	%	0.010	0.006		W508026	MCB	02/23/15 15:10	
Modified Sobek	**Pyritic Sulfur**	0.05	%	0.01			N/A		02/23/15 16:33	
Modified Sobek	**Sulfate Sulfur**	0.06	%	0.01			N/A		02/23/15 15:10	
Modified Sobek	**Total Sulfur**	0.105	%	0.010	0.006		W508026	AGF	02/17/15 14:33	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-1.2	TCaCO3/kT	0.3			N/A		02/23/15 17:52	
Modified Sobek	**AGP-HCl**	1.2	TCaCO3/kT	0.3			N/A		02/23/15 17:52	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 16:33	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.039	%	0.010	0.006		W508026	MCB	02/23/15 17:52	
Modified Sobek	**Pyritic Sulfur-HCl**	0.04	%	0.01			N/A		02/23/15 17:52	
Modified Sobek	**Sulfate Sulfur-HCl**	0.07	%	0.01			N/A		02/23/15 17:52	
Modified Sobek	**Total Sulfur**	0.105	%	0.010	0.006		W508026	AGF	02/17/15 14:33	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.7°C**	4.71	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @17.2°C**	6.96	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 12:08	

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Kirby Gray

Kirby Gray
Technical Director

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-006 (625-637.5) ABA**
SVL Sample ID: **W5B0252-14 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-6.1	TCaCO3/kT	0.3			N/A		02/23/15 16:36	
Modified Sobek	**AGP**	6.1	TCaCO3/kT	0.3			N/A		02/23/15 16:36	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.022	%	0.010	0.006		W508026	MCB	02/23/15 16:36	
Modified Sobek	**Non-Sulfate Sulfur**	0.217	%	0.010	0.006		W508026	MCB	02/23/15 15:13	
Modified Sobek	**Pyritic Sulfur**	0.20	%	0.01			N/A		02/23/15 16:36	
Modified Sobek	**Sulfate Sulfur**	0.23	%	0.01			N/A		02/23/15 15:13	
Modified Sobek	**Total Sulfur**	0.444	%	0.010	0.006		W508026	AGF	02/17/15 14:36	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-6.9	TCaCO3/kT	0.3			N/A		02/23/15 18:01	
Modified Sobek	**AGP-HCl**	6.9	TCaCO3/kT	0.3			N/A		02/23/15 18:01	
Modified Sobek	**Non-extractable Sulfur**	0.022	%	0.010	0.006		W508026	MCB	02/23/15 16:36	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.241	%	0.010	0.006		W508026	MCB	02/23/15 18:01	
Modified Sobek	**Pyritic Sulfur-HCl**	0.22	%	0.01			N/A		02/23/15 18:01	
Modified Sobek	**Sulfate Sulfur-HCl**	0.20	%	0.01			N/A		02/23/15 18:01	
Modified Sobek	**Total Sulfur**	0.444	%	0.010	0.006		W508026	AGF	02/17/15 14:36	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.5°C**	2.58	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 4.5**	6.6	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 7**	5.5	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @17.0°C**	6.70	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 12:11	

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-006 (755-773) ABA**
SVL Sample ID: **W5B0252-15 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-1.4	TCaCO3/kT	0.3			N/A		02/23/15 16:39	
Modified Sobek	**AGP**	1.4	TCaCO3/kT	0.3			N/A		02/23/15 16:39	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.042	%	0.010	0.006		W508026	MCB	02/23/15 16:39	
Modified Sobek	**Non-Sulfate Sulfur**	0.087	%	0.010	0.006		W508026	MCB	02/23/15 15:16	
Modified Sobek	**Pyritic Sulfur**	0.05	%	0.01			N/A		02/23/15 16:39	
Modified Sobek	**Sulfate Sulfur**	0.26	%	0.01			N/A		02/23/15 15:16	
Modified Sobek	**Total Sulfur**	0.351	%	0.010	0.006		W508026	AGF	02/17/15 14:39	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	1.3	TCaCO3/kT	0.3			N/A		02/23/15 18:05	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/23/15 18:05	
Modified Sobek	**Non-extractable Sulfur**	0.042	%	0.010	0.006		W508026	MCB	02/23/15 16:39	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 18:05	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/23/15 18:05	
Modified Sobek	**Sulfate Sulfur-HCl**	0.35	%	0.01			N/A		02/23/15 18:05	
Modified Sobek	**Total Sulfur**	0.351	%	0.010	0.006		W508026	AGF	02/17/15 14:39	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.6°C**	5.64	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @17.1°C**	6.81	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 12:14	

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-012 (523-533) ABA**
SVL Sample ID: **W5B0252-16 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-2.0	TCaCO3/kT	0.3			N/A		02/23/15 16:48	
Modified Sobek	**AGP**	2.0	TCaCO3/kT	0.3			N/A		02/23/15 16:48	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 16:48	
Modified Sobek	**Non-Sulfate Sulfur**	0.062	%	0.010	0.006		W508026	MCB	02/23/15 15:19	
Modified Sobek	**Pyritic Sulfur**	0.06	%	0.01			N/A		02/23/15 16:48	
Modified Sobek	**Sulfate Sulfur**	0.12	%	0.01			N/A		02/23/15 15:19	
Modified Sobek	**Total Sulfur**	0.177	%	0.010	0.006		W508026	AGF	02/17/15 14:42	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-2.1	TCaCO3/kT	0.3			N/A		02/23/15 18:07	
Modified Sobek	**AGP-HCl**	2.1	TCaCO3/kT	0.3			N/A		02/23/15 18:07	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508026	MCB	02/23/15 16:48	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.067	%	0.010	0.006		W508026	MCB	02/23/15 18:07	
Modified Sobek	**Pyritic Sulfur-HCl**	0.07	%	0.01			N/A		02/23/15 18:07	
Modified Sobek	**Sulfate Sulfur-HCl**	0.11	%	0.01			N/A		02/23/15 18:07	
Modified Sobek	**Total Sulfur**	0.177	%	0.010	0.006		W508026	AGF	02/17/15 14:42	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.3°C**	3.36	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 4.5**	0.8	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 7**	12.3	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @17.1°C**	6.13	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 12:17	

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-012 (682-700) ABA**
SVL Sample ID: **W5B0252-17 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-3.8	TCaCO3/kT	0.3			N/A		02/23/15 16:51	
Modified Sobek	**AGP**	3.8	TCaCO3/kT	0.3			N/A		02/23/15 16:51	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.019	%	0.010	0.006		W508026	MCB	02/23/15 16:51	
Modified Sobek	**Non-Sulfate Sulfur**	0.140	%	0.010	0.006		W508026	MCB	02/23/15 15:22	
Modified Sobek	**Pyritic Sulfur**	0.12	%	0.01			N/A		02/23/15 16:51	
Modified Sobek	**Sulfate Sulfur**	0.22	%	0.01			N/A		02/23/15 15:22	
Modified Sobek	**Total Sulfur**	0.355	%	0.010	0.006		W508026	MCB	02/17/15 14:45	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-3.7	TCaCO3/kT	0.3			N/A		02/23/15 18:11	
Modified Sobek	**AGP-HCl**	3.7	TCaCO3/kT	0.3			N/A		02/23/15 18:11	
Modified Sobek	**Non-extractable Sulfur**	0.019	%	0.010	0.006		W508026	MCB	02/23/15 16:51	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.139	%	0.010	0.006		W508026	MCB	02/23/15 18:11	
Modified Sobek	**Pyritic Sulfur-HCl**	0.12	%	0.01			N/A		02/23/15 18:11	
Modified Sobek	**Sulfate Sulfur-HCl**	0.22	%	0.01			N/A		02/23/15 18:11	
Modified Sobek	**Total Sulfur**	0.355	%	0.010	0.006		W508026	AGF	02/17/15 14:45	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @18.1°C**	2.86	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 4.5**	2.9	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 7**	5.5	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @16.8°C**	6.53	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 12:26	

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Kirby Gray

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-012 (780-800) ABA**
SVL Sample ID: **W5B0252-18 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-5.6	TCaCO3/kT	0.3			N/A		02/23/15 16:54	
Modified Sobek	**AGP**	5.6	TCaCO3/kT	0.3			N/A		02/23/15 16:54	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.036	%	0.010	0.006		W508026	MCB	02/23/15 16:54	
Modified Sobek	**Non-Sulfate Sulfur**	0.214	%	0.010	0.006		W508026	MCB	02/23/15 15:31	
Modified Sobek	**Pyritic Sulfur**	0.18	%	0.01			N/A		02/23/15 16:54	
Modified Sobek	**Sulfate Sulfur**	0.35	%	0.01			N/A		02/23/15 15:31	
Modified Sobek	**Total Sulfur**	0.568	%	0.010	0.006		W508026	AGF	02/17/15 15:06	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-5.8	TCaCO3/kT	0.3			N/A		02/23/15 18:14	
Modified Sobek	**AGP-HCl**	5.8	TCaCO3/kT	0.3			N/A		02/23/15 18:14	
Modified Sobek	**Non-extractable Sulfur**	0.036	%	0.010	0.006		W508026	MCB	02/23/15 16:54	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.222	%	0.010	0.006		W508026	MCB	02/23/15 18:14	
Modified Sobek	**Pyritic Sulfur-HCl**	0.19	%	0.01			N/A		02/23/15 18:14	
Modified Sobek	**Sulfate Sulfur-HCl**	0.35	%	0.01			N/A		02/23/15 18:14	
Modified Sobek	**Total Sulfur**	0.568	%	0.010	0.006		W508026	AGF	02/17/15 15:06	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @18.1°C**	2.65	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 4.5**	5.5	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 7**	5.5	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @16.9°C**	6.53	pH Units				W508105	MCB	02/23/15 12:30	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 12:29	

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-012 (832-851) ABA**
SVL Sample ID: **W5B0252-19 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-16.4	TCaCO3/kT	0.3			N/A		02/23/15 16:57	
Modified Sobek	**AGP**	16.4	TCaCO3/kT	0.3			N/A		02/23/15 16:57	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.037	%	0.010	0.006		W508026	MCB	02/23/15 16:57	
Modified Sobek	**Non-Sulfate Sulfur**	0.563	%	0.010	0.006		W508026	MCB	02/23/15 15:36	
Modified Sobek	**Pyritic Sulfur**	0.53	%	0.01			N/A		02/23/15 16:57	
Modified Sobek	**Sulfate Sulfur**	0.32	%	0.01			N/A		02/23/15 15:36	
Modified Sobek	**Total Sulfur**	0.883	%	0.010	0.006		W508026	AGF	02/17/15 15:09	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-11.4	TCaCO3/kT	0.3			N/A		02/23/15 18:17	
Modified Sobek	**AGP-HCl**	11.4	TCaCO3/kT	0.3			N/A		02/23/15 18:17	
Modified Sobek	**Non-extractable Sulfur**	0.037	%	0.010	0.006		W508026	MCB	02/23/15 16:57	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.403	%	0.010	0.006		W508026	MCB	02/23/15 18:17	
Modified Sobek	**Pyritic Sulfur-HCl**	0.37	%	0.01			N/A		02/23/15 18:17	
Modified Sobek	**Sulfate Sulfur-HCl**	0.48	%	0.01			N/A		02/23/15 18:17	
Modified Sobek	**Total Sulfur**	0.883	%	0.010	0.006		W508026	AGF	02/17/15 15:09	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @18.5°C**	2.56	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 4.5**	13.5	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 7**	4.5	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @16.8°C**	3.78	pH Units				W508105	MCB	02/23/15 12:30	A7
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 12:32	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Kirby Gray

Kirby Gray
Technical Director

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Client Sample ID: **3981 GMC-012 (919-946) ABA**
SVL Sample ID: **W5B0252-20 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-58.1	TCaCO3/kT	0.3			N/A		02/23/15 17:00	
Modified Sobek	**AGP**	58.1	TCaCO3/kT	0.3			N/A		02/23/15 17:00	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508026	MCB	02/20/15 14:22	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.060	%	0.010	0.006		W508026	MCB	02/23/15 17:00	
Modified Sobek	**Non-Sulfate Sulfur**	1.92	%	0.010	0.006		W508026	MCB	02/23/15 15:41	
Modified Sobek	**Pyritic Sulfur**	1.86	%	0.01			N/A		02/23/15 17:00	
Modified Sobek	**Sulfate Sulfur**	0.82	%	0.02			N/A		02/23/15 15:41	
Modified Sobek	**Total Sulfur**	2.74	%	0.020	0.012	2	W508026	AGF	02/18/15 11:32	D2
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-49.1	TCaCO3/kT	0.3			N/A		02/23/15 18:21	
Modified Sobek	**AGP-HCl**	49.1	TCaCO3/kT	0.3			N/A		02/23/15 18:21	
Modified Sobek	**Non-extractable Sulfur**	0.060	%	0.010	0.006		W508026	MCB	02/23/15 17:00	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	1.63	%	0.010	0.006		W508026	MCB	02/23/15 18:21	
Modified Sobek	**Pyritic Sulfur-HCl**	1.57	%	0.01			N/A		02/23/15 18:21	
Modified Sobek	**Sulfate Sulfur-HCl**	1.11	%	0.02			N/A		02/23/15 18:21	
Modified Sobek	**Total Sulfur**	2.74	%	0.020	0.012	2	W508026	AGF	02/18/15 11:32	D2
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @18.3°C**	2.24	pH Units				W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 4.5**	52.4	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
AMIRA P387A	**NAG@pH 7**	11.7	kg H2SO4/T	0.1			W508110	MCB	02/23/15 14:41	
EPA 600/2-78-054	**Paste pH @17.5°C**	2.96	pH Units				W508105	MCB	02/23/15 12:30	A7
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W508114	AGF	02/19/15 12:35	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Kirby Gray

Kirby Gray
Technical Director

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1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms								
Modified Sobek	ANP	TCaCO3/kT	<0.3	0.0	0.3	W508026	20-Feb-15	
Modified Sobek	Non-extractable Sulfur	%	<0.010	0.006	0.010	W508026	23-Feb-15	
Modified Sobek	Non-Sulfate Sulfur	%	<0.010	0.006	0.010	W508026	23-Feb-15	
Modified Sobek	Total Sulfur	%	<0.010	0.006	0.010	W508026	17-Feb-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)								
Modified Sobek	Non-extractable Sulfur	%	<0.010	0.006	0.010	W508026	23-Feb-15	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.010	0.006	0.010	W508026	23-Feb-15	
Modified Sobek	Total Sulfur	%	<0.010	0.006	0.010	W508026	17-Feb-15	
Classical Chemistry Parameters								
LECO	Total Inorganic Carbon	%	<0.100	0.007	0.100	W508114	19-Feb-15	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	203	216	94.0	80 - 120	W508026	20-Feb-15	
Modified Sobek	Total Sulfur	%	2.15	2.00	108	80 - 120	W508026	17-Feb-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Total Sulfur	%	2.15	2.00	108	80 - 120	W508026	17-Feb-15	
Classical Chemistry Parameters									
AMIRA P387A	NAG pH	pH Units	7.18	7.93	90.5	90 - 110	W508110	23-Feb-15	
EPA 600/2-78-054	Paste pH	pH Units	7.26	7.40	98.1	93.7 - 106.3	W508105	23-Feb-15	
LECO	Total Inorganic Carbon	%	0.962	1.00	96.2	80 - 120	W508114	19-Feb-15	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	<0.3	<0.3	UDL	20	W508026	20-Feb-15	
Modified Sobek	Non-extractable Sulfur	%	<0.010	<0.010	<RL	20	W508026	23-Feb-15	
Modified Sobek	Non-Sulfate Sulfur	%	0.033	0.030	11.4	20	W508026	23-Feb-15	
Modified Sobek	Total Sulfur	%	0.115	0.115	0.0	20	W508026	17-Feb-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Non-extractable Sulfur	%	<0.010	<0.010	<RL	20	W508026	23-Feb-15	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	0.016	0.018	10.3	20	W508026	23-Feb-15	
Modified Sobek	Total Sulfur	%	0.115	0.115	0.0	20	W508026	17-Feb-15	

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Project Name: MLI: 3981
Work Order: **W5B0252**
Reported: 24-Feb-15 14:17

Quality Control - DUPLICATE Data (Continued)

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Classical Chemistry Parameters									
AMIRA P387A	NAG pH	pH Units	5.27	5.47	3.7	20	W508110	23-Feb-15	
AMIRA P387A	NAG@pH 4.5	kg H2SO4/T	0	0	UDL	20	W508110	23-Feb-15	
AMIRA P387A	NAG@pH 7	kg H2SO4/T	0	0	UDL	20	W508110	23-Feb-15	
EPA 600/2-78-054	Paste pH	pH Units	7.18	7.10	1.1	20	W508105	23-Feb-15	
LECO	Total Inorganic Carbon	%	<0.100	<0.100	UDL	20	W508114	19-Feb-15	

Notes and Definitions

A5	5 g of sample used in ANP analysis
A6	Titration of the sample required a greater amount of titrant than did the preparation blank.
A7	Sample is hygroscopic. Additional water was added to sample to maintain saturation.
D2	Sample required dilution due to high concentration of target analyte.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

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Project Name: MLI: 3981
Work Order: **W5B0253**
Reported: 04-Mar-15 09:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
3981 GMC-014 (44-59) ABA	W5B0253-01	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-014 (142-152) ABA	W5B0253-02	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-014 (176-184) ABA	W5B0253-03	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-014 (208-215) ABA	W5B0253-04	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-014 (285-306) ABA	W5B0253-05	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-014 (420-434) ABA	W5B0253-06	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-014 (510-530) ABA	W5B0253-07	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 GMC-014 (703-737) ABA	W5B0253-08	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	
3981 CALICO LEACH RES. AFTER CN DESTRUCT. ABA	W5B0253-09	Soil	11-Feb-15 09:00	TJ	13-Feb-2015	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

Case Narrative

03/04/15 HJG Report reissued for TIC on all samples. Analytical run requirements were not met in original analysis; therefore, reanalysis was required.
Reanalysis confirmed original analysis other than sample -07.

Nevada does not accredit for NAG titration.

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Project Name: MLI: 3981
Work Order: **W5B0253**
Reported: 04-Mar-15 09:00

Client Sample ID: **3981 GMC-014 (44-59) ABA**
SVL Sample ID: **W5B0253-01 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	ABA	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 09:28	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 09:28	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508020	MCB	02/18/15 14:32	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:28	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 08:40	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		02/20/15 09:28	
Modified Sobek	**Sulfate Sulfur**	0.44	%	0.01			N/A		02/20/15 08:40	
Modified Sobek	**Total Sulfur**	0.438	%	0.010	0.006		W508020	AGF	02/17/15 09:14	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	ABA-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 10:10	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 10:10	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:28	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 10:10	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/20/15 10:10	
Modified Sobek	**Sulfate Sulfur-HCl**	0.44	%	0.01			N/A		02/20/15 10:10	
Modified Sobek	**Total Sulfur**	0.438	%	0.010	0.006		W508020	AGF	02/17/15 09:14	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.4°C**	5.44	pH Units				W508111	MCB	02/20/15 13:03	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
EPA 600/2-78-054	**Paste pH @17.7°C**	5.92	pH Units				W508104	AGF	02/24/15 13:45	A7
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510057	AGF	03/03/15 14:06	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Project Name: MLI: 3981
Work Order: **W5B0253**
Reported: 04-Mar-15 09:00

Client Sample ID: **3981 GMC-014 (142-152) ABA**
SVL Sample ID: **W5B0253-02 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-1.6	TCaCO3/kT	0.3			N/A		02/20/15 09:30	
Modified Sobek	**AGP**	1.6	TCaCO3/kT	0.3			N/A		02/20/15 09:30	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508020	MCB	02/18/15 14:32	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:30	
Modified Sobek	**Non-Sulfate Sulfur**	0.050	%	0.010	0.006		W508020	AGF	02/20/15 08:43	
Modified Sobek	**Pyritic Sulfur**	0.05	%	0.01			N/A		02/20/15 09:30	
Modified Sobek	**Sulfate Sulfur**	0.12	%	0.01			N/A		02/20/15 08:43	
Modified Sobek	**Total Sulfur**	0.165	%	0.010	0.006		W508020	AGF	02/17/15 09:17	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	ABA-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 10:19	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 10:19	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:30	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 10:19	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/20/15 10:19	
Modified Sobek	**Sulfate Sulfur-HCl**	0.17	%	0.01			N/A		02/20/15 10:19	
Modified Sobek	**Total Sulfur**	0.165	%	0.010	0.006		W508020	AGF	02/17/15 09:17	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @23.6°C**	5.41	pH Units				W508111	MCB	02/20/15 13:03	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
EPA 600/2-78-054	**Paste pH @17.9°C**	6.62	pH Units				W508104	AGF	02/24/15 13:45	A7
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510057	AGF	03/03/15 14:09	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: MLI: 3981
Work Order: **W5B0253**
Reported: 04-Mar-15 09:00

Client Sample ID: **3981 GMC-014 (176-184) ABA**
SVL Sample ID: **W5B0253-03 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-15.2	TCaCO3/kT	0.3			N/A		02/20/15 09:34	
Modified Sobek	**AGP**	15.2	TCaCO3/kT	0.3			N/A		02/20/15 09:34	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508020	MCB	02/18/15 14:32	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:34	
Modified Sobek	**Non-Sulfate Sulfur**	0.488	%	0.010	0.006		W508020	AGF	02/20/15 08:46	
Modified Sobek	**Pyritic Sulfur**	0.49	%	0.01			N/A		02/20/15 09:34	
Modified Sobek	**Sulfate Sulfur**	0.62	%	0.01			N/A		02/20/15 08:46	
Modified Sobek	**Total Sulfur**	1.11	%	0.010	0.006		W508020	AGF	02/17/15 09:20	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-13.0	TCaCO3/kT	0.3			N/A		02/20/15 10:23	
Modified Sobek	**AGP-HCl**	13.0	TCaCO3/kT	0.3			N/A		02/20/15 10:23	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:34	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.417	%	0.010	0.006		W508020	AGF	02/20/15 10:23	
Modified Sobek	**Pyritic Sulfur-HCl**	0.42	%	0.01			N/A		02/20/15 10:23	
Modified Sobek	**Sulfate Sulfur-HCl**	0.69	%	0.01			N/A		02/20/15 10:23	
Modified Sobek	**Total Sulfur**	1.11	%	0.010	0.006		W508020	AGF	02/17/15 09:20	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.5°C**	2.70	pH Units				W508111	MCB	02/20/15 13:03	
AMIRA P387A	**NAG@pH 4.5**	18.8	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
AMIRA P387A	**NAG@pH 7**	10.9	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
EPA 600/2-78-054	**Paste pH @18.0°C**	3.29	pH Units				W508104	AGF	02/24/15 13:45	A7
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510057	AGF	03/03/15 14:12	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
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Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0253**
Reported: 04-Mar-15 09:00

Client Sample ID: **3981 GMC-014 (208-215) ABA**
SVL Sample ID: **W5B0253-04 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-0.7	TCaCO3/kT	0.3			N/A		02/20/15 09:43	
Modified Sobek	**AGP**	0.7	TCaCO3/kT	0.3			N/A		02/20/15 09:43	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508020	MCB	02/18/15 14:32	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:43	
Modified Sobek	**Non-Sulfate Sulfur**	0.022	%	0.010	0.006		W508020	AGF	02/20/15 08:49	
Modified Sobek	**Pyritic Sulfur**	0.02	%	0.01			N/A		02/20/15 09:43	
Modified Sobek	**Sulfate Sulfur**	0.16	%	0.01			N/A		02/20/15 08:49	
Modified Sobek	**Total Sulfur**	0.185	%	0.010	0.006		W508020	AGF	02/17/15 09:23	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	ABA-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 10:26	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 10:26	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:43	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 10:26	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/20/15 10:26	
Modified Sobek	**Sulfate Sulfur-HCl**	0.19	%	0.01			N/A		02/20/15 10:26	
Modified Sobek	**Total Sulfur**	0.185	%	0.010	0.006		W508020	AGF	02/17/15 09:23	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @23.1°C**	5.08	pH Units				W508111	MCB	02/20/15 13:03	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
EPA 600/2-78-054	**Paste pH @17.7°C**	6.30	pH Units				W508104	AGF	02/24/15 13:45	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510057	AGF	03/03/15 14:15	

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John Kern
Laboratory Director

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5B0253**
Reported: 04-Mar-15 09:00

Client Sample ID: **3981 GMC-014 (285-306) ABA**
SVL Sample ID: **W5B0253-05 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-0.9	TCaCO3/kT	0.3			N/A		02/20/15 09:46	
Modified Sobek	**AGP**	0.9	TCaCO3/kT	0.3			N/A		02/20/15 09:46	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508020	MCB	02/18/15 14:32	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:46	
Modified Sobek	**Non-Sulfate Sulfur**	0.029	%	0.010	0.006		W508020	AGF	02/20/15 08:52	
Modified Sobek	**Pyritic Sulfur**	0.03	%	0.01			N/A		02/20/15 09:46	
Modified Sobek	**Sulfate Sulfur**	0.14	%	0.01			N/A		02/20/15 08:52	
Modified Sobek	**Total Sulfur**	0.173	%	0.010	0.006		W508020	AGF	02/17/15 09:26	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	ABA-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 10:29	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 10:29	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:46	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 10:29	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/20/15 10:29	
Modified Sobek	**Sulfate Sulfur-HCl**	0.17	%	0.01			N/A		02/20/15 10:29	
Modified Sobek	**Total Sulfur**	0.173	%	0.010	0.006		W508020	AGF	02/17/15 09:26	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.8°C**	5.39	pH Units				W508111	MCB	02/20/15 13:03	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
EPA 600/2-78-054	**Paste pH @17.5°C**	6.16	pH Units				W508104	AGF	02/24/15 13:45	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510057	AGF	03/03/15 14:18	

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Project Name: MLI: 3981
Work Order: **W5B0253**
Reported: 04-Mar-15 09:00

Client Sample ID: **3981 GMC-014 (420-434) ABA**
SVL Sample ID: **W5B0253-06 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-4.9	TCaCO3/kT	0.3			N/A		02/20/15 09:49	
Modified Sobek	**AGP**	4.9	TCaCO3/kT	0.3			N/A		02/20/15 09:49	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508020	MCB	02/18/15 14:32	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.026	%	0.010	0.006		W508020	AGF	02/20/15 09:49	
Modified Sobek	**Non-Sulfate Sulfur**	0.184	%	0.010	0.006		W508020	AGF	02/20/15 08:57	
Modified Sobek	**Pyritic Sulfur**	0.16	%	0.01			N/A		02/20/15 09:49	
Modified Sobek	**Sulfate Sulfur**	0.33	%	0.01			N/A		02/20/15 08:57	
Modified Sobek	**Total Sulfur**	0.512	%	0.010	0.006		W508020	AGF	02/17/15 09:35	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	0.8	TCaCO3/kT	0.3			N/A		02/20/15 10:32	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		02/20/15 10:32	
Modified Sobek	**Non-extractable Sulfur**	0.026	%	0.010	0.006		W508020	AGF	02/20/15 09:49	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 10:32	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		02/20/15 10:32	
Modified Sobek	**Sulfate Sulfur-HCl**	0.51	%	0.01			N/A		02/20/15 10:32	
Modified Sobek	**Total Sulfur**	0.512	%	0.010	0.006		W508020	AGF	02/17/15 09:35	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.9°C**	5.64	pH Units				W508111	MCB	02/20/15 13:03	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
EPA 600/2-78-054	**Paste pH @17.5°C**	5.87	pH Units				W508104	AGF	02/24/15 13:45	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510057	AGF	03/03/15 14:21	

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Project Name: MLI: 3981
Work Order: **W5B0253**
Reported: 04-Mar-15 09:00

Client Sample ID: **3981 GMC-014 (510-530) ABA**
SVL Sample ID: **W5B0253-07 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	64.8	TCaCO3/kT	0.3			N/A		02/20/15 09:52	
Modified Sobek	**AGP**	7.9	TCaCO3/kT	0.3			N/A		02/20/15 09:52	
Modified Sobek	**ANP**	72.8	TCaCO3/kT	0.3	0.0		W508020	MCB	02/18/15 14:32	A1
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:52	
Modified Sobek	**Non-Sulfate Sulfur**	0.254	%	0.010	0.006		W508020	AGF	02/20/15 09:06	
Modified Sobek	**Pyritic Sulfur**	0.25	%	0.01			N/A		02/20/15 09:52	
Modified Sobek	**Sulfate Sulfur**	0.23	%	0.01			N/A		02/20/15 09:06	
Modified Sobek	**Total Sulfur**	0.485	%	0.010	0.006		W508020	AGF	02/17/15 09:38	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	65.1	TCaCO3/kT	0.3			N/A		02/20/15 10:35	
Modified Sobek	**AGP-HCl**	7.7	TCaCO3/kT	0.3			N/A		02/20/15 10:35	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:52	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.245	%	0.010	0.006		W508020	AGF	02/20/15 10:35	
Modified Sobek	**Pyritic Sulfur-HCl**	0.25	%	0.01			N/A		02/20/15 10:35	
Modified Sobek	**Sulfate Sulfur-HCl**	0.24	%	0.01			N/A		02/20/15 10:35	
Modified Sobek	**Total Sulfur**	0.485	%	0.010	0.006		W508020	AGF	02/17/15 09:38	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.7°C**	9.62	pH Units				W508111	MCB	02/20/15 13:03	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
EPA 600/2-78-054	**Paste pH @18.3°C**	7.24	pH Units				W508104	AGF	02/24/15 13:45	A7
LECO	**Total Inorganic Carbon**	0.803	%	0.100	0.007		W510057	AGF	03/03/15 14:24	

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Project Name: MLI: 3981
Work Order: **W5B0253**
Reported: 04-Mar-15 09:00

Client Sample ID: **3981 GMC-014 (703-737) ABA**
SVL Sample ID: **W5B0253-08 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-2.8	TCaCO3/kT	0.3			N/A		02/20/15 09:55	
Modified Sobek	**AGP**	2.8	TCaCO3/kT	0.3			N/A		02/20/15 09:55	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508020	MCB	02/18/15 14:32	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:55	
Modified Sobek	**Non-Sulfate Sulfur**	0.090	%	0.010	0.006		W508020	AGF	02/20/15 09:09	
Modified Sobek	**Pyritic Sulfur**	0.09	%	0.01			N/A		02/20/15 09:55	
Modified Sobek	**Sulfate Sulfur**	0.21	%	0.01			N/A		02/20/15 09:09	
Modified Sobek	**Total Sulfur**	0.296	%	0.010	0.006		W508020	AGF	02/17/15 09:42	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-2.1	TCaCO3/kT	0.3			N/A		02/20/15 10:38	
Modified Sobek	**AGP-HCl**	2.1	TCaCO3/kT	0.3			N/A		02/20/15 10:38	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:55	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.067	%	0.010	0.006		W508020	AGF	02/20/15 10:38	
Modified Sobek	**Pyritic Sulfur-HCl**	0.07	%	0.01			N/A		02/20/15 10:38	
Modified Sobek	**Sulfate Sulfur-HCl**	0.23	%	0.01			N/A		02/20/15 10:38	
Modified Sobek	**Total Sulfur**	0.296	%	0.010	0.006		W508020	AGF	02/17/15 09:42	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.3°C**	4.28	pH Units				W508111	MCB	02/20/15 13:03	
AMIRA P387A	**NAG@pH 4.5**	0.2	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
AMIRA P387A	**NAG@pH 7**	10.1	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
EPA 600/2-78-054	**Paste pH @18.1°C**	7.33	pH Units				W508104	AGF	02/24/15 13:45	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510057	AGF	03/03/15 14:27	

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Project Name: MLI: 3981
Work Order: **W5B0253**
Reported: 04-Mar-15 09:00

Client Sample ID: **3981 CALICO LEACH RES. AFTER CN DESTRUCT. ABA**
SVL Sample ID: **W5B0253-09 (Soil)**

Sample Report Page 1 of 1

Sampled: 11-Feb-15 09:00
Received: 13-Feb-15
Sampled By: TJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-2.8	TCaCO3/kT	0.3			N/A		02/20/15 09:58	
Modified Sobek	**AGP**	2.8	TCaCO3/kT	0.3			N/A		02/20/15 09:58	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W508020	MCB	02/18/15 14:32	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:58	
Modified Sobek	**Non-Sulfate Sulfur**	0.089	%	0.010	0.006		W508020	AGF	02/20/15 09:12	
Modified Sobek	**Pyritic Sulfur**	0.09	%	0.01			N/A		02/20/15 09:58	
Modified Sobek	**Sulfate Sulfur**	0.26	%	0.01			N/A		02/20/15 09:12	
Modified Sobek	**Total Sulfur**	0.346	%	0.010	0.006		W508020	AGF	02/17/15 09:44	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-3.9	TCaCO3/kT	0.3			N/A		02/20/15 10:41	
Modified Sobek	**AGP-HCl**	3.9	TCaCO3/kT	0.3			N/A		02/20/15 10:41	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W508020	AGF	02/20/15 09:58	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.125	%	0.010	0.006		W508020	AGF	02/20/15 10:41	
Modified Sobek	**Pyritic Sulfur-HCl**	0.13	%	0.01			N/A		02/20/15 10:41	
Modified Sobek	**Sulfate Sulfur-HCl**	0.22	%	0.01			N/A		02/20/15 10:41	
Modified Sobek	**Total Sulfur**	0.346	%	0.010	0.006		W508020	AGF	02/17/15 09:44	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.5°C**	3.21	pH Units				W508111	MCB	02/20/15 13:03	
AMIRA P387A	**NAG@pH 4.5**	2.2	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
AMIRA P387A	**NAG@pH 7**	2.4	kg H2SO4/T	0.1			W508111	MCB	02/20/15 13:03	
EPA 600/2-78-054	**Paste pH @17.6°C**	6.80	pH Units				W508104	AGF	02/24/15 13:45	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510057	AGF	03/03/15 14:30	

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Project Name: MLI: 3981
Work Order: **W5B0253**
Reported: 04-Mar-15 09:00

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms								
Modified Sobek	ANP	TCaCO3/kT	<0.3	0.0	0.3	W508020	18-Feb-15	
Modified Sobek	Non-extractable Sulfur	%	<0.010	0.006	0.010	W508020	20-Feb-15	
Modified Sobek	Non-Sulfate Sulfur	%	<0.010	0.006	0.010	W508020	20-Feb-15	
Modified Sobek	Total Sulfur	%	<0.010	0.006	0.010	W508020	17-Feb-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)								
Modified Sobek	Non-extractable Sulfur	%	<0.010	0.006	0.010	W508020	20-Feb-15	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.010	0.006	0.010	W508020	20-Feb-15	
Modified Sobek	Total Sulfur	%	<0.010	0.006	0.010	W508020	17-Feb-15	
Classical Chemistry Parameters								
LECO	Total Inorganic Carbon	%	<0.100	0.007	0.100	W510057	03-Mar-15	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	198	216	91.7	80 - 120	W508020	18-Feb-15	
Modified Sobek	Total Sulfur	%	2.10	2.00	105	80 - 120	W508020	17-Feb-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Total Sulfur	%	2.10	2.00	105	80 - 120	W508020	17-Feb-15	
Classical Chemistry Parameters									
AMIRA P387A	NAG pH	pH Units	7.41	7.93	93.4	90 - 110	W508111	20-Feb-15	
EPA 600/2-78-054	Paste pH	pH Units	7.59	7.40	103	93.7 - 106.3	W508104	24-Feb-15	
LECO	Total Inorganic Carbon	%	0.874	1.00	87.4	80 - 120	W510057	03-Mar-15	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	<0.3	<0.3	<RL	20	W508020	18-Feb-15	
Modified Sobek	Non-extractable Sulfur	%	<0.010	<0.010	UDL	20	W508020	20-Feb-15	
Modified Sobek	Non-Sulfate Sulfur	%	<0.010	<0.010	UDL	20	W508020	20-Feb-15	
Modified Sobek	Total Sulfur	%	0.443	0.438	1.1	20	W508020	17-Feb-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Non-extractable Sulfur	%	<0.010	<0.010	UDL	20	W508020	20-Feb-15	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.010	<0.010	<RL	20	W508020	20-Feb-15	
Modified Sobek	Total Sulfur	%	0.443	0.438	1.1	20	W508020	17-Feb-15	

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Project Name: MLI: 3981
Work Order: **W5B0253**
Reported: 04-Mar-15 09:00

Quality Control - DUPLICATE Data (Continued)

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Classical Chemistry Parameters									
AMIRA P387A	NAG pH	pH Units	5.24	5.44	3.8	20	W508111	20-Feb-15	
AMIRA P387A	NAG@pH 4.5	kg H2SO4/T	0	0	UDL	20	W508111	20-Feb-15	
AMIRA P387A	NAG@pH 7	kg H2SO4/T	0	0	UDL	20	W508111	20-Feb-15	
EPA 600/2-78-054	Paste pH	pH Units	5.84	5.92	1.4	20	W508104	24-Feb-15	
LECO	Total Inorganic Carbon	%	<0.100	<0.100	UDL	20	W510057	03-Mar-15	

Notes and Definitions

A1	1 g of sample used in ANP analysis
A5	5 g of sample used in ANP analysis
A6	Titration of the sample required a greater amount of titrant than did the preparation blank.
A7	Sample is hygroscopic. Additional water was added to sample to maintain saturation.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
3981 026-042 (135-155) COMP ABA	W5C0015-01	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-042 (185-205) COMP ABA	W5C0015-02	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-042 (210-230) COMP ABA	W5C0015-03	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-042 (310-330) COMP ABA	W5C0015-04	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-042 (405-425) COMP ABA	W5C0015-05	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-042 (645-665) COMP ABA	W5C0015-06	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-042 (735-755) COMP ABA	W5C0015-07	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-042 (835-855) COMP ABA	W5C0015-08	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-156 (85-90) COMP ABA	W5C0015-09	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-156 (100-120) COMP ABA	W5C0015-10	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-156 (145-165) COMP ABA	W5C0015-11	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-156 (240-260) COMP ABA	W5C0015-12	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-156 (260-280) COMP ABA	W5C0015-13	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-156 (650-670) COMP ABA	W5C0015-14	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-160 (470-490) COMP ABA	W5C0015-15	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-160 (510-530) COMP ABA	W5C0015-16	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-160 (530-550) COMP ABA	W5C0015-17	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-160 (610-630) COMP ABA	W5C0015-18	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-160 (660-680) COMP ABA	W5C0015-19	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-042 (155-160) COMP ABA	W5C0015-20	Soil	27-Feb-15 11:00	CM	03-Mar-2015	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

Case Narrative

Nevada does not accredit for NAG titration.

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-042 (135-155) COMP ABA**
SVL Sample ID: **W5C0015-01 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	0.5	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/10/15 10:13	
Modified Sobek	**ANP**	0.5	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5,R2B
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 10:13	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 08:31	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/10/15 10:13	
Modified Sobek	**Sulfate Sulfur**	0.02	%	0.01			N/A		03/10/15 08:31	
Modified Sobek	**Total Sulfur**	0.015	%	0.010	0.006		W510105	AGF	03/05/15 13:06	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	0.5	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/10/15 11:23	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 10:13	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 11:23	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/10/15 11:23	
Modified Sobek	**Sulfate Sulfur-HCl**	0.02	%	0.01			N/A		03/10/15 11:23	
Modified Sobek	**Total Sulfur**	0.015	%	0.010	0.006		W510105	AGF	03/05/15 13:06	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.8°C**	4.99	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.4°C**	7.67	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 13:14	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-042 (185-205) COMP ABA**
SVL Sample ID: **W5C0015-02 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	2.0	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/15 13:15	
Modified Sobek	**ANP**	2.0	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	MCB	03/05/15 13:15	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W510105	MCB	03/05/15 13:15	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/15 13:15	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/15 13:15	
Modified Sobek	Total Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/05/15 13:15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	2.0	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/15 13:15	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	MCB	03/05/15 13:15	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W510105	MCB	03/05/15 13:15	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/15 13:15	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/15 13:15	
Modified Sobek	Total Sulfur	< 0.010	%	0.010	0.006		W510105	MCB	03/05/15 13:15	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @23.6°C**	5.14	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.4°C**	8.08	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 13:17	

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-042 (210-230) COMP ABA**
SVL Sample ID: **W5C0015-03 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	3.0	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/10/15 10:16	
Modified Sobek	**ANP**	3.1	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 10:16	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 08:34	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/10/15 10:16	
Modified Sobek	**Sulfate Sulfur**	0.01	%	0.01			N/A		03/10/15 08:34	
Modified Sobek	**Total Sulfur**	0.013	%	0.010	0.006		W510105	AGF	03/05/15 13:18	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	3.0	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/10/15 11:26	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 10:16	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 11:26	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/10/15 11:26	
Modified Sobek	**Sulfate Sulfur-HCl**	0.01	%	0.01			N/A		03/10/15 11:26	
Modified Sobek	**Total Sulfur**	0.013	%	0.010	0.006		W510105	AGF	03/05/15 13:18	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.7°C**	5.08	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @19.1°C**	7.20	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 13:20	

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-042 (310-330) COMP ABA**
SVL Sample ID: **W5C0015-04 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	6.7	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP**	0.4	TCaCO3/kT	0.3			N/A		03/10/15 10:19	
Modified Sobek	**ANP**	7.1	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 10:19	
Modified Sobek	**Non-Sulfate Sulfur**	0.014	%	0.010	0.006		W510105	AGF	03/10/15 08:37	
Modified Sobek	**Pyritic Sulfur**	0.01	%	0.01			N/A		03/10/15 10:19	
Modified Sobek	**Sulfate Sulfur**	0.06	%	0.01			N/A		03/10/15 08:37	
Modified Sobek	**Total Sulfur**	0.068	%	0.010	0.006		W510105	AGF	03/05/15 13:21	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	6.6	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP-HCl**	0.6	TCaCO3/kT	0.3			N/A		03/10/15 11:29	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 10:19	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.018	%	0.010	0.006		W510105	AGF	03/10/15 11:29	
Modified Sobek	**Pyritic Sulfur-HCl**	0.02	%	0.01			N/A		03/10/15 11:29	
Modified Sobek	**Sulfate Sulfur-HCl**	0.05	%	0.01			N/A		03/10/15 11:29	
Modified Sobek	**Total Sulfur**	0.068	%	0.010	0.006		W510105	AGF	03/05/15 13:21	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.8°C**	4.64	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @19.3°C**	7.99	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 13:23	

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-042 (405-425) COMP ABA**
SVL Sample ID: **W5C0015-05 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-0.5	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP**	1.6	TCaCO3/kT	0.3			N/A		03/10/15 10:22	
Modified Sobek	**ANP**	1.0	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	**Non-extractable Sulfur**	0.013	%	0.010	0.006		W510105	AGF	03/10/15 10:22	
Modified Sobek	**Non-Sulfate Sulfur**	0.063	%	0.010	0.006		W510105	AGF	03/10/15 08:40	
Modified Sobek	**Pyritic Sulfur**	0.05	%	0.01			N/A		03/10/15 10:22	
Modified Sobek	**Sulfate Sulfur**	0.13	%	0.01			N/A		03/10/15 08:40	
Modified Sobek	**Total Sulfur**	0.193	%	0.010	0.006		W510105	AGF	03/05/15 13:24	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-1.0	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP-HCl**	2.0	TCaCO3/kT	0.3			N/A		03/10/15 11:32	
Modified Sobek	**Non-extractable Sulfur**	0.013	%	0.010	0.006		W510105	AGF	03/10/15 10:22	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.076	%	0.010	0.006		W510105	AGF	03/10/15 11:32	
Modified Sobek	**Pyritic Sulfur-HCl**	0.06	%	0.01			N/A		03/10/15 11:32	
Modified Sobek	**Sulfate Sulfur-HCl**	0.12	%	0.01			N/A		03/10/15 11:32	
Modified Sobek	**Total Sulfur**	0.193	%	0.010	0.006		W510105	AGF	03/05/15 13:24	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @23.1°C**	3.05	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 4.5**	1.2	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 7**	20.2	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.6°C**	5.76	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 13:26	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-042 (645-665) COMP ABA**
SVL Sample ID: **W5C0015-06 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-1.5	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP**	2.5	TCaCO3/kT	0.3			N/A		03/10/15 10:25	
Modified Sobek	**ANP**	1.0	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	**Non-extractable Sulfur**	0.038	%	0.010	0.006		W510105	AGF	03/10/15 10:25	
Modified Sobek	**Non-Sulfate Sulfur**	0.119	%	0.010	0.006		W510105	AGF	03/10/15 08:43	
Modified Sobek	**Pyritic Sulfur**	0.08	%	0.01			N/A		03/10/15 10:25	
Modified Sobek	**Sulfate Sulfur**	0.26	%	0.01			N/A		03/10/15 08:43	
Modified Sobek	**Total Sulfur**	0.374	%	0.010	0.006		W510105	AGF	03/05/15 13:27	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-0.7	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP-HCl**	1.7	TCaCO3/kT	0.3			N/A		03/10/15 11:35	
Modified Sobek	**Non-extractable Sulfur**	0.038	%	0.010	0.006		W510105	AGF	03/10/15 10:25	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.092	%	0.010	0.006		W510105	AGF	03/10/15 11:35	
Modified Sobek	**Pyritic Sulfur-HCl**	0.05	%	0.01			N/A		03/10/15 11:35	
Modified Sobek	**Sulfate Sulfur-HCl**	0.28	%	0.01			N/A		03/10/15 11:35	
Modified Sobek	**Total Sulfur**	0.374	%	0.010	0.006		W510105	AGF	03/05/15 13:27	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.9°C**	2.85	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 4.5**	1.7	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 7**	7.4	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.7°C**	6.83	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 13:29	

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-042 (735-755) COMP ABA**
SVL Sample ID: **W5C0015-07 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-3.8	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP**	3.8	TCaCO3/kT	0.3			N/A		03/10/15 10:28	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	**Non-extractable Sulfur**	0.019	%	0.010	0.006		W510105	AGF	03/10/15 10:28	
Modified Sobek	**Non-Sulfate Sulfur**	0.141	%	0.010	0.006		W510105	AGF	03/10/15 08:46	
Modified Sobek	**Pyritic Sulfur**	0.12	%	0.01			N/A		03/10/15 10:28	
Modified Sobek	**Sulfate Sulfur**	0.24	%	0.01			N/A		03/10/15 08:46	
Modified Sobek	**Total Sulfur**	0.382	%	0.010	0.006		W510105	AGF	03/05/15 13:30	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-3.6	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP-HCl**	3.6	TCaCO3/kT	0.3			N/A		03/10/15 11:39	
Modified Sobek	**Non-extractable Sulfur**	0.019	%	0.010	0.006		W510105	AGF	03/10/15 10:28	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.134	%	0.010	0.006		W510105	AGF	03/10/15 11:39	
Modified Sobek	**Pyritic Sulfur-HCl**	0.12	%	0.01			N/A		03/10/15 11:39	
Modified Sobek	**Sulfate Sulfur-HCl**	0.25	%	0.01			N/A		03/10/15 11:39	
Modified Sobek	**Total Sulfur**	0.382	%	0.010	0.006		W510105	AGF	03/05/15 13:30	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.9°C**	2.94	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 4.5**	2.3	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 7**	7.4	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.5°C**	7.47	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 13:39	

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-042 (835-855) COMP ABA**
SVL Sample ID: **W5C0015-08 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-26.3	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP**	27.3	TCaCO3/kT	0.3			N/A		03/10/15 10:31	
Modified Sobek	**ANP**	1.0	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 10:31	
Modified Sobek	**Non-Sulfate Sulfur**	0.875	%	0.010	0.006		W510105	AGF	03/10/15 08:51	
Modified Sobek	**Pyritic Sulfur**	0.88	%	0.01			N/A		03/10/15 10:31	
Modified Sobek	**Sulfate Sulfur**	0.30	%	0.01			N/A		03/10/15 08:51	
Modified Sobek	**Total Sulfur**	1.17	%	0.010	0.006		W510105	AGF	03/05/15 13:33	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-21.6	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP-HCl**	22.7	TCaCO3/kT	0.3			N/A		03/10/15 11:42	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 10:31	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.725	%	0.010	0.006		W510105	AGF	03/10/15 11:42	
Modified Sobek	**Pyritic Sulfur-HCl**	0.73	%	0.01			N/A		03/10/15 11:42	
Modified Sobek	**Sulfate Sulfur-HCl**	0.45	%	0.01			N/A		03/10/15 11:42	
Modified Sobek	**Total Sulfur**	1.17	%	0.010	0.006		W510105	AGF	03/05/15 13:33	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.6°C**	2.49	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 4.5**	19.4	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 7**	5.2	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.8°C**	6.51	pH Units				W510210	MCB	03/11/15 13:55	A7
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 13:41	

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-156 (85-90) COMP ABA**
SVL Sample ID: **W5C0015-09 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-3.1	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP**	5.1	TCaCO3/kT	0.3			N/A		03/10/15 10:40	
Modified Sobek	**ANP**	2.0	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	**Non-extractable Sulfur**	0.038	%	0.010	0.006		W510105	AGF	03/10/15 10:40	
Modified Sobek	**Non-Sulfate Sulfur**	0.202	%	0.010	0.006		W510105	AGF	03/10/15 08:55	
Modified Sobek	**Pyritic Sulfur**	0.16	%	0.01			N/A		03/10/15 10:40	
Modified Sobek	**Sulfate Sulfur**	0.21	%	0.01			N/A		03/10/15 08:55	
Modified Sobek	**Total Sulfur**	0.408	%	0.010	0.006		W510105	AGF	03/05/15 13:36	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-1.2	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP-HCl**	3.3	TCaCO3/kT	0.3			N/A		03/10/15 11:45	
Modified Sobek	**Non-extractable Sulfur**	0.038	%	0.010	0.006		W510105	AGF	03/10/15 10:40	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.142	%	0.010	0.006		W510105	AGF	03/10/15 11:45	
Modified Sobek	**Pyritic Sulfur-HCl**	0.10	%	0.01			N/A		03/10/15 11:45	
Modified Sobek	**Sulfate Sulfur-HCl**	0.27	%	0.01			N/A		03/10/15 11:45	
Modified Sobek	**Total Sulfur**	0.408	%	0.010	0.006		W510105	AGF	03/05/15 13:36	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.3°C**	3.82	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 4.5**	0.8	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 7**	12.0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @19.0°C**	7.18	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 13:45	

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-156 (100-120) COMP ABA**
SVL Sample ID: **W5C0015-10 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	0.5	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP**	0.6	TCaCO3/kT	0.3			N/A		03/10/15 10:43	
Modified Sobek	**ANP**	1.0	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	**Non-extractable Sulfur**	0.010	%	0.010	0.006		W510105	AGF	03/10/15 10:43	
Modified Sobek	**Non-Sulfate Sulfur**	0.028	%	0.010	0.006		W510105	AGF	03/10/15 09:05	
Modified Sobek	**Pyritic Sulfur**	0.02	%	0.01			N/A		03/10/15 10:43	
Modified Sobek	**Sulfate Sulfur**	0.12	%	0.01			N/A		03/10/15 09:05	
Modified Sobek	**Total Sulfur**	0.144	%	0.010	0.006		W510105	AGF	03/05/15 13:39	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	1.3	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/10/15 11:54	
Modified Sobek	**Non-extractable Sulfur**	0.010	%	0.010	0.006		W510105	AGF	03/10/15 10:43	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 11:54	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/10/15 11:54	
Modified Sobek	**Sulfate Sulfur-HCl**	0.14	%	0.01			N/A		03/10/15 11:54	
Modified Sobek	**Total Sulfur**	0.144	%	0.010	0.006		W510105	AGF	03/05/15 13:39	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.3°C**	5.45	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.7°C**	6.65	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 13:48	

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-156 (145-165) COMP ABA**
SVL Sample ID: **W5C0015-11 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	2.0	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/10/15 10:46	
Modified Sobek	**ANP**	2.0	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 10:46	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 09:08	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/10/15 10:46	
Modified Sobek	**Sulfate Sulfur**	0.01	%	0.01			N/A		03/10/15 09:08	
Modified Sobek	**Total Sulfur**	0.010	%	0.010	0.006		W510105	AGF	03/05/15 13:42	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	2.0	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/10/15 11:57	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 10:46	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 11:57	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/10/15 11:57	
Modified Sobek	**Sulfate Sulfur-HCl**	0.01	%	0.01			N/A		03/10/15 11:57	
Modified Sobek	**Total Sulfur**	0.010	%	0.010	0.006		W510105	AGF	03/05/15 13:42	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.2°C**	5.66	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.6°C**	7.20	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 13:51	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-156 (240-260) COMP ABA**
SVL Sample ID: **W5C0015-12 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	4.6	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/15 13:52	
Modified Sobek	**ANP**	4.6	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/05/15 13:52	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/05/15 13:52	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/15 13:52	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/15 13:52	
Modified Sobek	Total Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/05/15 13:52	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	4.6	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/15 13:52	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	MCB	03/05/15 13:52	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W510105	MCB	03/05/15 13:52	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/15 13:52	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/15 13:52	
Modified Sobek	Total Sulfur	< 0.010	%	0.010	0.006		W510105	MCB	03/05/15 13:52	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.5°C**	5.65	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.5°C**	6.94	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 13:54	

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John Kern
Laboratory Director

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-156 (260-280) COMP ABA**
SVL Sample ID: **W5C0015-13 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	4.1	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/15 13:54	
Modified Sobek	**ANP**	4.1	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	MCB	03/05/15 13:54	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W510105	MCB	03/05/15 13:54	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/15 13:54	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/15 13:54	
Modified Sobek	Total Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/05/15 13:54	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	4.1	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/15 13:54	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	MCB	03/05/15 13:54	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W510105	MCB	03/05/15 13:54	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/15 13:54	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/15 13:54	
Modified Sobek	Total Sulfur	< 0.010	%	0.010	0.006		W510105	MCB	03/05/15 13:54	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.1°C**	5.40	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.7°C**	6.53	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 13:57	

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-156 (650-670) COMP ABA**
SVL Sample ID: **W5C0015-14 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	1.2	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP**	0.8	TCaCO3/kT	0.3			N/A		03/10/15 10:50	
Modified Sobek	**ANP**	2.0	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	**Non-extractable Sulfur**	0.025	%	0.010	0.006		W510105	AGF	03/10/15 10:50	
Modified Sobek	**Non-Sulfate Sulfur**	0.051	%	0.010	0.006		W510105	AGF	03/10/15 09:11	
Modified Sobek	**Pyritic Sulfur**	0.03	%	0.01			N/A		03/10/15 10:50	
Modified Sobek	**Sulfate Sulfur**	0.24	%	0.01			N/A		03/10/15 09:11	
Modified Sobek	**Total Sulfur**	0.286	%	0.010	0.006		W510105	AGF	03/05/15 13:58	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	2.2	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/10/15 12:00	
Modified Sobek	**Non-extractable Sulfur**	0.025	%	0.010	0.006		W510105	AGF	03/10/15 10:50	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.021	%	0.010	0.006		W510105	AGF	03/10/15 12:00	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/10/15 12:00	
Modified Sobek	**Sulfate Sulfur-HCl**	0.27	%	0.01			N/A		03/10/15 12:00	
Modified Sobek	**Total Sulfur**	0.286	%	0.010	0.006		W510105	AGF	03/05/15 13:58	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.0°C**	5.55	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.8°C**	6.01	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 14:00	

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-160 (470-490) COMP ABA**
SVL Sample ID: **W5C0015-15 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	0.7	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP**	1.9	TCaCO3/kT	0.3			N/A		03/10/15 10:53	
Modified Sobek	**ANP**	2.5	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 10:53	
Modified Sobek	**Non-Sulfate Sulfur**	0.060	%	0.010	0.006		W510105	AGF	03/10/15 09:14	
Modified Sobek	**Pyritic Sulfur**	0.06	%	0.01			N/A		03/10/15 10:53	
Modified Sobek	**Sulfate Sulfur**	0.13	%	0.01			N/A		03/10/15 09:14	
Modified Sobek	**Total Sulfur**	0.187	%	0.010	0.006		W510105	AGF	03/05/15 14:01	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-0.4	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP-HCl**	3.0	TCaCO3/kT	0.3			N/A		03/10/15 12:03	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 10:53	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.095	%	0.010	0.006		W510105	AGF	03/10/15 12:03	
Modified Sobek	**Pyritic Sulfur-HCl**	0.10	%	0.01			N/A		03/10/15 12:03	
Modified Sobek	**Sulfate Sulfur-HCl**	0.09	%	0.01			N/A		03/10/15 12:03	
Modified Sobek	**Total Sulfur**	0.187	%	0.010	0.006		W510105	AGF	03/05/15 14:01	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.4°C**	3.27	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 4.5**	1.0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 7**	11.2	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.6°C**	5.43	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 14:03	

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-160 (510-530) COMP ABA**
SVL Sample ID: **W5C0015-16 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-4.7	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP**	6.2	TCaCO3/kT	0.3			N/A		03/10/15 10:56	
Modified Sobek	**ANP**	1.5	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	**Non-extractable Sulfur**	0.026	%	0.010	0.006		W510105	AGF	03/10/15 10:56	
Modified Sobek	**Non-Sulfate Sulfur**	0.224	%	0.010	0.006		W510105	AGF	03/10/15 09:18	
Modified Sobek	**Pyritic Sulfur**	0.20	%	0.01			N/A		03/10/15 10:56	
Modified Sobek	**Sulfate Sulfur**	0.22	%	0.01			N/A		03/10/15 09:18	
Modified Sobek	**Total Sulfur**	0.443	%	0.010	0.006		W510105	AGF	03/05/15 14:04	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-0.7	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP-HCl**	2.2	TCaCO3/kT	0.3			N/A		03/10/15 12:06	
Modified Sobek	**Non-extractable Sulfur**	0.026	%	0.010	0.006		W510105	AGF	03/10/15 10:56	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.098	%	0.010	0.006		W510105	AGF	03/10/15 12:06	
Modified Sobek	**Pyritic Sulfur-HCl**	0.07	%	0.01			N/A		03/10/15 12:06	
Modified Sobek	**Sulfate Sulfur-HCl**	0.35	%	0.01			N/A		03/10/15 12:06	
Modified Sobek	**Total Sulfur**	0.443	%	0.010	0.006		W510105	AGF	03/05/15 14:04	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.7°C**	3.10	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 4.5**	2.3	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 7**	8.9	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.6°C**	5.15	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 14:06	

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-160 (530-550) COMP ABA**
SVL Sample ID: **W5C0015-17 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	1.0	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP**	1.0	TCaCO3/kT	0.3			N/A		03/10/15 10:59	
Modified Sobek	**ANP**	2.0	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	**Non-extractable Sulfur**	0.014	%	0.010	0.006		W510105	AGF	03/10/15 10:59	
Modified Sobek	**Non-Sulfate Sulfur**	0.047	%	0.010	0.006		W510105	AGF	03/10/15 09:21	
Modified Sobek	**Pyritic Sulfur**	0.03	%	0.01			N/A		03/10/15 10:59	
Modified Sobek	**Sulfate Sulfur**	0.15	%	0.01			N/A		03/10/15 09:21	
Modified Sobek	**Total Sulfur**	0.199	%	0.010	0.006		W510105	AGF	03/05/15 14:07	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	0.8	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP-HCl**	1.2	TCaCO3/kT	0.3			N/A		03/10/15 12:09	
Modified Sobek	**Non-extractable Sulfur**	0.014	%	0.010	0.006		W510105	AGF	03/10/15 10:59	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.053	%	0.010	0.006		W510105	AGF	03/10/15 12:09	
Modified Sobek	**Pyritic Sulfur-HCl**	0.04	%	0.01			N/A		03/10/15 12:09	
Modified Sobek	**Sulfate Sulfur-HCl**	0.15	%	0.01			N/A		03/10/15 12:09	
Modified Sobek	**Total Sulfur**	0.199	%	0.010	0.006		W510105	AGF	03/05/15 14:07	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.6°C**	4.32	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 4.5**	0.2	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 7**	5.2	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.2°C**	5.65	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 14:15	

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-160 (610-630) COMP ABA**
SVL Sample ID: **W5C0015-18 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	ABA	< 0.3	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP**	0.4	TCaCO3/kT	0.3			N/A		03/10/15 11:02	
Modified Sobek	**ANP**	0.5	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	**Non-extractable Sulfur**	0.030	%	0.010	0.006		W510105	AGF	03/10/15 11:02	
Modified Sobek	**Non-Sulfate Sulfur**	0.044	%	0.010	0.006		W510105	AGF	03/10/15 09:24	
Modified Sobek	**Pyritic Sulfur**	0.01	%	0.01			N/A		03/10/15 11:02	
Modified Sobek	**Sulfate Sulfur**	0.22	%	0.01			N/A		03/10/15 09:24	
Modified Sobek	**Total Sulfur**	0.260	%	0.010	0.006		W510105	AGF	03/05/15 14:10	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	< 0.3	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/10/15 12:12	
Modified Sobek	**Non-extractable Sulfur**	0.030	%	0.010	0.006		W510105	AGF	03/10/15 11:02	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.038	%	0.010	0.006		W510105	AGF	03/10/15 12:12	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/10/15 12:12	
Modified Sobek	**Sulfate Sulfur-HCl**	0.22	%	0.01			N/A		03/10/15 12:12	
Modified Sobek	**Total Sulfur**	0.260	%	0.010	0.006		W510105	AGF	03/05/15 14:10	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.0°C**	4.77	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.7°C**	5.26	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 14:18	

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-160 (660-680) COMP ABA**
SVL Sample ID: **W5C0015-19 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-5.1	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP**	6.6	TCaCO3/kT	0.3			N/A		03/10/15 11:05	
Modified Sobek	**ANP**	1.5	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	**Non-extractable Sulfur**	0.021	%	0.010	0.006		W510105	AGF	03/10/15 11:05	
Modified Sobek	**Non-Sulfate Sulfur**	0.234	%	0.010	0.006		W510105	AGF	03/10/15 09:29	
Modified Sobek	**Pyritic Sulfur**	0.21	%	0.01			N/A		03/10/15 11:05	
Modified Sobek	**Sulfate Sulfur**	0.24	%	0.01			N/A		03/10/15 09:29	
Modified Sobek	**Total Sulfur**	0.477	%	0.010	0.006		W510105	AGF	03/05/15 14:13	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-3.8	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP-HCl**	5.3	TCaCO3/kT	0.3			N/A		03/10/15 12:15	
Modified Sobek	**Non-extractable Sulfur**	0.021	%	0.010	0.006		W510105	AGF	03/10/15 11:05	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.191	%	0.010	0.006		W510105	AGF	03/10/15 12:15	
Modified Sobek	**Pyritic Sulfur-HCl**	0.17	%	0.01			N/A		03/10/15 12:15	
Modified Sobek	**Sulfate Sulfur-HCl**	0.29	%	0.01			N/A		03/10/15 12:15	
Modified Sobek	**Total Sulfur**	0.477	%	0.010	0.006		W510105	AGF	03/05/15 14:13	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.3°C**	2.71	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 4.5**	5.8	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	**NAG@pH 7**	4.7	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @19.0°C**	4.82	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 14:21	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Client Sample ID: **3981 026-042 (155-160) COMP ABA**
SVL Sample ID: **W5C0015-20 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	5.6	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP**	0.5	TCaCO3/kT	0.3			N/A		03/10/15 11:08	
Modified Sobek	**ANP**	6.1	TCaCO3/kT	0.3	0.0		W510105	AGF	03/11/15 10:32	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 11:08	
Modified Sobek	**Non-Sulfate Sulfur**	0.016	%	0.010	0.006		W510105	AGF	03/10/15 09:32	
Modified Sobek	**Pyritic Sulfur**	0.02	%	0.01			N/A		03/10/15 11:08	
Modified Sobek	**Sulfate Sulfur**	0.03	%	0.01			N/A		03/10/15 09:32	
Modified Sobek	**Total Sulfur**	0.046	%	0.010	0.006		W510105	AGF	03/05/15 14:16	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	5.0	TCaCO3/kT	0.3			N/A		03/11/15 10:32	
Modified Sobek	**AGP-HCl**	1.1	TCaCO3/kT	0.3			N/A		03/10/15 12:18	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510105	AGF	03/10/15 11:08	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.035	%	0.010	0.006		W510105	AGF	03/10/15 12:18	
Modified Sobek	**Pyritic Sulfur-HCl**	0.04	%	0.01			N/A		03/10/15 12:18	
Modified Sobek	**Sulfate Sulfur-HCl**	0.01	%	0.01			N/A		03/10/15 12:18	
Modified Sobek	**Total Sulfur**	0.046	%	0.010	0.006		W510105	AGF	03/05/15 14:16	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.2°C**	4.88	pH Units				W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510103	MCB	03/12/15 14:27	
EPA 600/2-78-054 mod	**Paste pH @18.5°C**	7.80	pH Units				W510210	MCB	03/11/15 13:55	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510163	AGF	03/11/15 14:24	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms								
Modified Sobek	ANP	TCaCO3/kT	<0.3	0.0	0.3	W510105	11-Mar-15	
Modified Sobek	Non-extractable Sulfur	%	<0.010	0.006	0.010	W510105	10-Mar-15	
Modified Sobek	Non-Sulfate Sulfur	%	<0.010	0.006	0.010	W510105	10-Mar-15	
Modified Sobek	Total Sulfur	%	<0.010	0.006	0.010	W510105	05-Mar-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)								
Modified Sobek	Non-extractable Sulfur	%	<0.010	0.006	0.010	W510105	10-Mar-15	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.010	0.006	0.010	W510105	10-Mar-15	
Modified Sobek	Total Sulfur	%	<0.010	0.006	0.010	W510105	05-Mar-15	
Classical Chemistry Parameters								
LECO	Total Inorganic Carbon	%	<0.100	0.007	0.100	W510163	11-Mar-15	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	208	216	96.4	80 - 120	W510105	11-Mar-15	
Modified Sobek	Total Sulfur	%	1.94	2.00	97.0	80 - 120	W510105	05-Mar-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Total Sulfur	%	1.94	2.00	97.0	80 - 120	W510105	05-Mar-15	
Classical Chemistry Parameters									
AMIRA P387A	NAG pH	pH Units	7.31	7.93	92.2	90 - 110	W510103	12-Mar-15	
EPA 600/2-78-054 mod	Paste pH	pH Units	7.63	7.40	103	93.7 - 106.3	W510210	11-Mar-15	
LECO	Total Inorganic Carbon	%	0.896	1.00	89.6	80 - 120	W510163	11-Mar-15	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	1.0	0.5	66.2	20	W510105	11-Mar-15	R2B
Modified Sobek	Non-extractable Sulfur	%	<0.010	<0.010	UDL	20	W510105	10-Mar-15	
Modified Sobek	Non-Sulfate Sulfur	%	<0.010	<0.010	UDL	20	W510105	10-Mar-15	
Modified Sobek	Total Sulfur	%	0.014	0.015	4.8	20	W510105	05-Mar-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Non-extractable Sulfur	%	<0.010	<0.010	UDL	20	W510105	10-Mar-15	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.010	<0.010	UDL	20	W510105	10-Mar-15	
Modified Sobek	Total Sulfur	%	0.014	0.015	4.8	20	W510105	05-Mar-15	

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Project Name: MLI: 3981
Work Order: **W5C0015**
Reported: 16-Mar-15 08:59

Quality Control - DUPLICATE Data (Continued)

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Classical Chemistry Parameters									
AMIRA P387A	NAG pH	pH Units	5.08	4.99	1.8	20	W510103	12-Mar-15	
AMIRA P387A	NAG@pH 4.5	kg H2SO4/T	0	0	UDL	20	W510103	12-Mar-15	
AMIRA P387A	NAG@pH 7	kg H2SO4/T	0	0	UDL	20	W510103	12-Mar-15	
EPA 600/2-78-054 mod	Paste pH	pH Units	7.67	7.67	0.0	20	W510210	11-Mar-15	
LECO	Total Inorganic Carbon	%	<0.100	<0.100	UDL	20	W510163	11-Mar-15	

Notes and Definitions

A5	5 g of sample used in ANP analysis
A7	Sample is hygroscopic. Additional water was added to sample to maintain saturation.
R2B	RPD exceeded the laboratory acceptance limit.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
3981 026-042 (230-350) COMP ABA	W5C0017-01	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-042 (330-350) COMP ABA	W5C0017-02	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-042 (450-470) COMP ABA	W5C0017-03	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-042 (535-555) COMP ABA	W5C0017-04	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-042 (700-720) COMP ABA	W5C0017-05	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-042 (855-875) COMP ABA	W5C0017-06	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-156 (170-190) COMP ABA	W5C0017-07	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-156 (315-335) COMP ABA	W5C0017-08	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-156 (340-360) COMP ABA	W5C0017-09	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-156 (625-645) COMP ABA	W5C0017-10	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-156 (700-720) COMP ABA	W5C0017-11	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-160 (555-580) COMP ABA	W5C0017-12	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-012 (345-360) COMP ABA	W5C0017-13	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-012 (700-715) COMP ABA	W5C0017-14	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-041 (205-225) COMP ABA	W5C0017-15	Soil	27-Feb-15 11:00	CM	03-Mar-2015	
3981 026-129 (30-50) COMP ABA	W5C0017-16	Soil	27-Feb-15 11:00	CM	03-Mar-2015	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

Case Narrative

Nevada does not accredit for NAG titration.

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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-042 (230-350) COMP ABA**
SVL Sample ID: **W5C0017-01 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	1.0	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/15 10:50	
Modified Sobek	**ANP**	1.0	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5,R2B
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	MCB	03/05/15 10:50	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W510106	MCB	03/05/15 10:50	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/15 10:50	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/15 10:50	
Modified Sobek	Total Sulfur	< 0.010	%	0.010	0.006		W510106	MCB	03/05/15 10:50	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	1.0	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/15 10:50	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	MCB	03/05/15 10:50	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W510106	MCB	03/05/15 10:50	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/15 10:50	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/15 10:50	
Modified Sobek	Total Sulfur	< 0.010	%	0.010	0.006		W510106	MCB	03/05/15 10:50	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.2°C**	5.63	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.8°C**	7.21	pH Units				W510209	MCB	03/11/15 13:05	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 13:29	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-042 (330-350) COMP ABA**
SVL Sample ID: **W5C0017-02 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	8.3	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP**	0.4	TCaCO3/kT	0.3			N/A		03/06/15 13:12	
Modified Sobek	**ANP**	8.6	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:12	
Modified Sobek	**Non-Sulfate Sulfur**	0.012	%	0.010	0.006		W510106	AGF	03/06/15 10:59	R2B
Modified Sobek	**Pyritic Sulfur**	0.01	%	0.01			N/A		03/06/15 13:12	
Modified Sobek	**Sulfate Sulfur**	0.04	%	0.01			N/A		03/06/15 10:59	
Modified Sobek	**Total Sulfur**	0.050	%	0.010	0.006		W510106	MCB	03/05/15 10:53	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	8.2	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP-HCl**	0.5	TCaCO3/kT	0.3			N/A		03/06/15 14:10	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:12	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.015	%	0.010	0.006		W510106	AGF	03/06/15 14:10	
Modified Sobek	**Pyritic Sulfur-HCl**	0.02	%	0.01			N/A		03/06/15 14:10	
Modified Sobek	**Sulfate Sulfur-HCl**	0.04	%	0.01			N/A		03/06/15 14:10	
Modified Sobek	**Total Sulfur**	0.050	%	0.010	0.006		W510106	MCB	03/05/15 10:53	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.3°C**	5.13	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.2°C**	7.64	pH Units				W510209	MCB	03/11/15 13:05	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 13:32	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-042 (450-470) COMP ABA**
SVL Sample ID: **W5C0017-03 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-1.9	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP**	1.9	TCaCO3/kT	0.3			N/A		03/06/15 13:15	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:15	
Modified Sobek	**Non-Sulfate Sulfur**	0.062	%	0.010	0.006		W510106	AGF	03/06/15 11:02	
Modified Sobek	**Pyritic Sulfur**	0.06	%	0.01			N/A		03/06/15 13:15	
Modified Sobek	**Sulfate Sulfur**	0.10	%	0.01			N/A		03/06/15 11:02	
Modified Sobek	**Total Sulfur**	0.164	%	0.010	0.006		W510106	MCB	03/05/15 10:56	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-1.6	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP-HCl**	1.6	TCaCO3/kT	0.3			N/A		03/06/15 14:13	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:15	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.050	%	0.010	0.006		W510106	AGF	03/06/15 14:13	
Modified Sobek	**Pyritic Sulfur-HCl**	0.05	%	0.01			N/A		03/06/15 14:13	
Modified Sobek	**Sulfate Sulfur-HCl**	0.11	%	0.01			N/A		03/06/15 14:13	
Modified Sobek	**Total Sulfur**	0.164	%	0.010	0.006		W510106	MCB	03/05/15 10:56	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.7°C**	4.11	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	**NAG@pH 4.5**	0.2	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	**NAG@pH 7**	18.8	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.6°C**	6.27	pH Units				W510209	MCB	03/11/15 13:05	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 13:35	

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Laboratory Director

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-042 (535-555) COMP ABA**
SVL Sample ID: **W5C0017-04 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	57.4	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/06/15 13:18	
Modified Sobek	**ANP**	57.4	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:18	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 11:05	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/06/15 13:18	
Modified Sobek	**Sulfate Sulfur**	0.03	%	0.01			N/A		03/06/15 11:05	
Modified Sobek	**Total Sulfur**	0.025	%	0.010	0.006		W510106	MCB	03/05/15 10:59	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	57.4	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/06/15 14:22	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:18	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 14:22	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/06/15 14:22	
Modified Sobek	**Sulfate Sulfur-HCl**	0.03	%	0.01			N/A		03/06/15 14:22	
Modified Sobek	**Total Sulfur**	0.025	%	0.010	0.006		W510106	MCB	03/05/15 10:59	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.4°C**	6.78	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.4°C**	8.42	pH Units				W510209	MCB	03/11/15 13:05	
LECO	**Total Inorganic Carbon**	0.605	%	0.100	0.007		W510164	AGF	03/10/15 13:39	

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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-042 (700-720) COMP ABA**
SVL Sample ID: **W5C0017-05 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-6.4	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP**	6.4	TCaCO3/kT	0.3			N/A		03/06/15 13:21	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:21	
Modified Sobek	**Non-Sulfate Sulfur**	0.206	%	0.010	0.006		W510106	AGF	03/06/15 11:08	
Modified Sobek	**Pyritic Sulfur**	0.21	%	0.01			N/A		03/06/15 13:21	
Modified Sobek	**Sulfate Sulfur**	0.26	%	0.01			N/A		03/06/15 11:08	
Modified Sobek	**Total Sulfur**	0.465	%	0.010	0.006		W510106	MCB	03/05/15 11:02	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-5.5	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP-HCl**	5.5	TCaCO3/kT	0.3			N/A		03/06/15 14:26	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:21	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.176	%	0.010	0.006		W510106	AGF	03/06/15 14:26	
Modified Sobek	**Pyritic Sulfur-HCl**	0.18	%	0.01			N/A		03/06/15 14:26	
Modified Sobek	**Sulfate Sulfur-HCl**	0.29	%	0.01			N/A		03/06/15 14:26	
Modified Sobek	**Total Sulfur**	0.465	%	0.010	0.006		W510106	MCB	03/05/15 11:02	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.9°C**	2.88	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	**NAG@pH 4.5**	2.5	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	**NAG@pH 7**	5.1	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.5°C**	7.77	pH Units				W510209	MCB	03/11/15 13:05	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 13:42	

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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-042 (855-875) COMP ABA**
SVL Sample ID: **W5C0017-06 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-2.8	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP**	3.3	TCaCO3/kT	0.3			N/A		03/06/15 13:24	
Modified Sobek	**ANP**	0.5	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:24	
Modified Sobek	**Non-Sulfate Sulfur**	0.106	%	0.010	0.006		W510106	AGF	03/06/15 11:12	
Modified Sobek	**Pyritic Sulfur**	0.11	%	0.01			N/A		03/06/15 13:24	
Modified Sobek	**Sulfate Sulfur**	0.06	%	0.01			N/A		03/06/15 11:12	
Modified Sobek	**Total Sulfur**	0.166	%	0.010	0.006		W510106	MCB	03/05/15 11:05	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-2.6	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP-HCl**	3.1	TCaCO3/kT	0.3			N/A		03/06/15 14:28	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:24	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.098	%	0.010	0.006		W510106	AGF	03/06/15 14:28	
Modified Sobek	**Pyritic Sulfur-HCl**	0.10	%	0.01			N/A		03/06/15 14:28	
Modified Sobek	**Sulfate Sulfur-HCl**	0.07	%	0.01			N/A		03/06/15 14:28	
Modified Sobek	**Total Sulfur**	0.166	%	0.010	0.006		W510106	MCB	03/05/15 11:05	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.9°C**	3.16	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	**NAG@pH 4.5**	1.2	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	**NAG@pH 7**	14.9	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.2°C**	7.81	pH Units				W510209	MCB	03/11/15 13:05	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 13:45	

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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-156 (170-190) COMP ABA**
SVL Sample ID: **W5C0017-07 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	ABA	< 0.3	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/15 11:09	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	MCB	03/05/15 11:09	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W510106	MCB	03/05/15 11:09	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/15 11:09	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/15 11:09	
Modified Sobek	Total Sulfur	< 0.010	%	0.010	0.006		W510106	MCB	03/05/15 11:09	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	ABA-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/15 11:09	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	MCB	03/05/15 11:09	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W510106	MCB	03/05/15 11:09	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/15 11:09	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/15 11:09	
Modified Sobek	Total Sulfur	< 0.010	%	0.010	0.006		W510106	MCB	03/05/15 11:09	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @22.4°C**	5.39	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.6°C**	7.48	pH Units				W510209	MCB	03/11/15 13:05	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 13:48	

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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-156 (315-335) COMP ABA**
SVL Sample ID: **W5C0017-08 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	4.7	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP**	0.3	TCaCO3/kT	0.3			N/A		03/06/15 13:27	
Modified Sobek	**ANP**	5.1	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:27	
Modified Sobek	**Non-Sulfate Sulfur**	0.010	%	0.010	0.006		W510106	AGF	03/06/15 11:14	
Modified Sobek	**Pyritic Sulfur**	0.01	%	0.01			N/A		03/06/15 13:27	
Modified Sobek	**Sulfate Sulfur**	0.02	%	0.01			N/A		03/06/15 11:14	
Modified Sobek	**Total Sulfur**	0.029	%	0.010	0.006		W510106	MCB	03/05/15 11:12	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	5.1	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/06/15 14:32	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:27	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 14:32	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/06/15 14:32	
Modified Sobek	**Sulfate Sulfur-HCl**	0.03	%	0.01			N/A		03/06/15 14:32	
Modified Sobek	**Total Sulfur**	0.029	%	0.010	0.006		W510106	MCB	03/05/15 11:12	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.5°C**	5.15	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.2°C**	6.75	pH Units				W510209	MCB	03/11/15 13:05	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 13:57	

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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-156 (340-360) COMP ABA**
SVL Sample ID: **W5C0017-09 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	2.0	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/06/15 13:30	
Modified Sobek	**ANP**	2.0	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:30	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 11:18	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/06/15 13:30	
Modified Sobek	**Sulfate Sulfur**	0.15	%	0.01			N/A		03/06/15 11:18	
Modified Sobek	**Total Sulfur**	0.147	%	0.010	0.006		W510106	MCB	03/05/15 11:15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	ABA-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP-HCl**	1.8	TCaCO3/kT	0.3			N/A		03/06/15 14:35	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:30	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.058	%	0.010	0.006		W510106	AGF	03/06/15 14:35	
Modified Sobek	**Pyritic Sulfur-HCl**	0.06	%	0.01			N/A		03/06/15 14:35	
Modified Sobek	**Sulfate Sulfur-HCl**	0.09	%	0.01			N/A		03/06/15 14:35	
Modified Sobek	**Total Sulfur**	0.147	%	0.010	0.006		W510106	MCB	03/05/15 11:15	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.8°C**	3.69	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	**NAG@pH 4.5**	0.6	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	**NAG@pH 7**	13.1	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.0°C**	5.91	pH Units				W510209	MCB	03/11/15 13:05	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 14:00	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-156 (625-645) COMP ABA**
SVL Sample ID: **W5C0017-10 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-4.8	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP**	4.8	TCaCO3/kT	0.3			N/A		03/06/15 13:33	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:33	
Modified Sobek	**Non-Sulfate Sulfur**	0.154	%	0.010	0.006		W510106	AGF	03/06/15 12:34	
Modified Sobek	**Pyritic Sulfur**	0.15	%	0.01			N/A		03/06/15 13:33	
Modified Sobek	**Sulfate Sulfur**	0.30	%	0.01			N/A		03/06/15 12:34	
Modified Sobek	**Total Sulfur**	0.450	%	0.010	0.006		W510106	MCB	03/05/15 11:24	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-4.5	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP-HCl**	4.5	TCaCO3/kT	0.3			N/A		03/06/15 14:38	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:33	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.144	%	0.010	0.006		W510106	AGF	03/06/15 14:38	
Modified Sobek	**Pyritic Sulfur-HCl**	0.14	%	0.01			N/A		03/06/15 14:38	
Modified Sobek	**Sulfate Sulfur-HCl**	0.31	%	0.01			N/A		03/06/15 14:38	
Modified Sobek	**Total Sulfur**	0.450	%	0.010	0.006		W510106	MCB	03/05/15 11:24	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.6°C**	3.08	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	**NAG@pH 4.5**	3.7	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	**NAG@pH 7**	5.7	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.0°C**	5.35	pH Units				W510209	MCB	03/11/15 13:05	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 14:03	

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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-156 (700-720) COMP ABA**
SVL Sample ID: **W5C0017-11 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-1.7	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP**	1.7	TCaCO3/kT	0.3			N/A		03/06/15 13:37	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:37	
Modified Sobek	**Non-Sulfate Sulfur**	0.055	%	0.010	0.006		W510106	AGF	03/06/15 12:37	
Modified Sobek	**Pyritic Sulfur**	0.06	%	0.01			N/A		03/06/15 13:37	
Modified Sobek	**Sulfate Sulfur**	0.24	%	0.01			N/A		03/06/15 12:37	
Modified Sobek	**Total Sulfur**	0.291	%	0.010	0.006		W510106	MCB	03/05/15 11:27	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-0.5	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP-HCl**	0.5	TCaCO3/kT	0.3			N/A		03/06/15 14:41	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:37	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.016	%	0.010	0.006		W510106	AGF	03/06/15 14:41	
Modified Sobek	**Pyritic Sulfur-HCl**	0.02	%	0.01			N/A		03/06/15 14:41	
Modified Sobek	**Sulfate Sulfur-HCl**	0.28	%	0.01			N/A		03/06/15 14:41	
Modified Sobek	**Total Sulfur**	0.291	%	0.010	0.006		W510106	MCB	03/05/15 11:27	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.7°C**	5.48	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.2°C**	6.09	pH Units				W510209	MCB	03/11/15 13:05	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 14:06	

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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-160 (555-580) COMP ABA**
SVL Sample ID: **W5C0017-12 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	< 0.3	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP**	0.8	TCaCO3/kT	0.3			N/A		03/06/15 13:46	
Modified Sobek	**ANP**	0.5	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:46	
Modified Sobek	**Non-Sulfate Sulfur**	0.024	%	0.010	0.006		W510106	AGF	03/06/15 12:40	
Modified Sobek	**Pyritic Sulfur**	0.02	%	0.01			N/A		03/06/15 13:46	
Modified Sobek	**Sulfate Sulfur**	0.07	%	0.01			N/A		03/06/15 12:40	
Modified Sobek	**Total Sulfur**	0.092	%	0.010	0.006		W510106	MCB	03/05/15 11:30	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-0.3	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP-HCl**	0.8	TCaCO3/kT	0.3			N/A		03/06/15 14:44	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:46	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.026	%	0.010	0.006		W510106	AGF	03/06/15 14:44	
Modified Sobek	**Pyritic Sulfur-HCl**	0.03	%	0.01			N/A		03/06/15 14:44	
Modified Sobek	**Sulfate Sulfur-HCl**	0.07	%	0.01			N/A		03/06/15 14:44	
Modified Sobek	**Total Sulfur**	0.092	%	0.010	0.006		W510106	MCB	03/05/15 11:30	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.4°C**	4.50	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.4°C**	5.31	pH Units				W510209	MCB	03/11/15 13:05	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 14:09	

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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-012 (345-360) COMP ABA**
SVL Sample ID: **W5C0017-13 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	2.0	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP**	2.0	TCaCO3/kT	0.3			N/A		03/06/15 13:49	
Modified Sobek	**ANP**	4.1	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:49	
Modified Sobek	**Non-Sulfate Sulfur**	0.065	%	0.010	0.006		W510106	AGF	03/06/15 12:43	
Modified Sobek	**Pyritic Sulfur**	0.07	%	0.01			N/A		03/06/15 13:49	
Modified Sobek	**Sulfate Sulfur**	0.20	%	0.01			N/A		03/06/15 12:43	
Modified Sobek	**Total Sulfur**	0.263	%	0.010	0.006		W510106	MCB	03/05/15 11:33	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	4.1	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/06/15 14:47	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:49	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 14:47	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/06/15 14:47	
Modified Sobek	**Sulfate Sulfur-HCl**	0.26	%	0.01			N/A		03/06/15 14:47	
Modified Sobek	**Total Sulfur**	0.263	%	0.010	0.006		W510106	MCB	03/05/15 11:33	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @21.0°C**	6.23	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.4°C**	7.13	pH Units				W510209	MCB	03/11/15 13:05	A7
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 14:12	

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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-012 (700-715) COMP ABA**
SVL Sample ID: **W5C0017-14 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-1.0	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP**	2.0	TCaCO3/kT	0.3			N/A		03/06/15 13:52	
Modified Sobek	**ANP**	1.0	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:52	
Modified Sobek	**Non-Sulfate Sulfur**	0.066	%	0.010	0.006		W510106	AGF	03/06/15 12:46	
Modified Sobek	**Pyritic Sulfur**	0.07	%	0.01			N/A		03/06/15 13:52	
Modified Sobek	**Sulfate Sulfur**	0.14	%	0.01			N/A		03/06/15 12:46	
Modified Sobek	**Total Sulfur**	0.204	%	0.010	0.006		W510106	MCB	03/05/15 11:36	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-1.0	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP-HCl**	2.0	TCaCO3/kT	0.3			N/A		03/06/15 14:50	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:52	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.064	%	0.010	0.006		W510106	AGF	03/06/15 14:50	
Modified Sobek	**Pyritic Sulfur-HCl**	0.06	%	0.01			N/A		03/06/15 14:50	
Modified Sobek	**Sulfate Sulfur-HCl**	0.14	%	0.01			N/A		03/06/15 14:50	
Modified Sobek	**Total Sulfur**	0.204	%	0.010	0.006		W510106	MCB	03/05/15 11:36	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.8°C**	4.22	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	**NAG@pH 4.5**	0.2	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	**NAG@pH 7**	11.8	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.2°C**	7.14	pH Units				W510209	MCB	03/11/15 13:05	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 14:15	

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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-041 (205-225) COMP ABA**
SVL Sample ID: **W5C0017-15 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	0.3	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP**	0.7	TCaCO3/kT	0.3			N/A		03/06/15 13:55	
Modified Sobek	**ANP**	1.0	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:55	
Modified Sobek	**Non-Sulfate Sulfur**	0.022	%	0.010	0.006		W510106	AGF	03/06/15 12:49	
Modified Sobek	**Pyritic Sulfur**	0.02	%	0.01			N/A		03/06/15 13:55	
Modified Sobek	**Sulfate Sulfur**	0.05	%	0.01			N/A		03/06/15 12:49	
Modified Sobek	**Total Sulfur**	0.076	%	0.010	0.006		W510106	MCB	03/05/15 11:39	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	ABA-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	**AGP-HCl**	1.0	TCaCO3/kT	0.3			N/A		03/06/15 14:59	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:55	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.031	%	0.010	0.006		W510106	AGF	03/06/15 14:59	
Modified Sobek	**Pyritic Sulfur-HCl**	0.03	%	0.01			N/A		03/06/15 14:59	
Modified Sobek	**Sulfate Sulfur-HCl**	0.05	%	0.01			N/A		03/06/15 14:59	
Modified Sobek	**Total Sulfur**	0.076	%	0.010	0.006		W510106	MCB	03/05/15 11:39	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @19.8°C**	5.94	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.4°C**	8.00	pH Units				W510209	MCB	03/11/15 13:05	A7
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 14:18	

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Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Client Sample ID: **3981 026-129 (30-50) COMP ABA**
SVL Sample ID: **W5C0017-16 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Feb-15 11:00
Received: 03-Mar-15
Sampled By: CM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	0.5	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/06/15 13:58	
Modified Sobek	**ANP**	0.5	TCaCO3/kT	0.3	0.0		W510106	MCB	03/09/15 13:55	A5
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:58	
Modified Sobek	Non-Sulfate Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 12:52	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/06/15 13:58	
Modified Sobek	**Sulfate Sulfur**	0.01	%	0.01			N/A		03/06/15 12:52	
Modified Sobek	**Total Sulfur**	0.014	%	0.010	0.006		W510106	MCB	03/05/15 11:42	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	0.5	TCaCO3/kT	0.3			N/A		03/09/15 13:55	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/06/15 15:02	
Modified Sobek	Non-extractable Sulfur	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 13:58	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.010	%	0.010	0.006		W510106	AGF	03/06/15 15:02	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/06/15 15:02	
Modified Sobek	**Sulfate Sulfur-HCl**	0.01	%	0.01			N/A		03/06/15 15:02	
Modified Sobek	**Total Sulfur**	0.014	%	0.010	0.006		W510106	MCB	03/05/15 11:42	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @20.1°C**	5.91	pH Units				W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 4.5	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
AMIRA P387A	NAG@pH 7	0	kg H2SO4/T	0.1			W510162	MCB	03/10/15 13:11	
EPA 600/2-78-054 mod	**Paste pH @18.7°C**	7.88	pH Units				W510209	MCB	03/11/15 13:05	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.007		W510164	AGF	03/10/15 14:21	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

SVL holds the following certifications:
AZ:0538, **CA**:2080, **FL**(**NELAC**):E87993, **ID**:ID00019 & ID00965 (Microbiology), **NV**:ID000192007A, **WA**:C573

www.svl.net One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms								
Modified Sobek	ANP	TCaCO3/kT	<0.3	0.0	0.3	W510106	09-Mar-15	
Modified Sobek	Non-extractable Sulfur	%	<0.010	0.006	0.010	W510106	06-Mar-15	
Modified Sobek	Non-Sulfate Sulfur	%	<0.010	0.006	0.010	W510106	06-Mar-15	
Modified Sobek	Total Sulfur	%	<0.010	0.006	0.010	W510106	05-Mar-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)								
Modified Sobek	Non-extractable Sulfur	%	<0.010	0.006	0.010	W510106	06-Mar-15	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.010	0.006	0.010	W510106	06-Mar-15	
Modified Sobek	Total Sulfur	%	<0.010	0.006	0.010	W510106	05-Mar-15	
Classical Chemistry Parameters								
LECO	Total Inorganic Carbon	%	<0.100	0.007	0.100	W510164	10-Mar-15	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	201	216	92.9	80 - 120	W510106	09-Mar-15	
Modified Sobek	Total Sulfur	%	1.99	2.00	99.5	80 - 120	W510106	05-Mar-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Total Sulfur	%	1.99	2.00	99.5	80 - 120	W510106	05-Mar-15	
Classical Chemistry Parameters									
AMIRA P387A	NAG pH	pH Units	7.14	7.93	90.0	90 - 110	W510162	10-Mar-15	
EPA 600/2-78-054 mod	Paste pH	pH Units	7.44	7.40	101	93.7 - 106.3	W510209	11-Mar-15	
LECO	Total Inorganic Carbon	%	0.929	1.00	92.9	80 - 120	W510164	10-Mar-15	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	0.5	1.0	67.5	20	W510106	09-Mar-15	R2B
Modified Sobek	Non-extractable Sulfur	%	<0.010	<0.010	UDL	20	W510106	06-Mar-15	
Modified Sobek	Non-Sulfate Sulfur	%	0.015	0.012	24.1	20	W510106	06-Mar-15	R2B
Modified Sobek	Total Sulfur	%	<0.010	0.050	UDL	20	W510106	06-Mar-15	
Modified Sobek	Total Sulfur	%	<0.010	<0.010	UDL	20	W510106	05-Mar-15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Non-extractable Sulfur	%	<0.010	<0.010	UDL	20	W510106	06-Mar-15	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	0.015	0.015	1.3	20	W510106	06-Mar-15	
Modified Sobek	Total Sulfur	%	<0.010	0.050	UDL	20	W510106	06-Mar-15	

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McClelland Laboratories Inc
1016 Greg Street
Sparks, NV 89431

Project Name: MLI: 3981
Work Order: **W5C0017**
Reported: 13-Mar-15 09:12

Quality Control - DUPLICATE Data (Continued)

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms (HCl Wash) (Continued)									
Modified Sobek	Total Sulfur	%	<0.010	<0.010	UDL	20	W510106	05-Mar-15	
Classical Chemistry Parameters									
AMIRA P387A	NAG pH	pH Units	5.73	5.63	1.8	20	W510162	10-Mar-15	
AMIRA P387A	NAG@pH 4.5	kg H2SO4/T	0	0	UDL	20	W510162	10-Mar-15	
AMIRA P387A	NAG@pH 7	kg H2SO4/T	0	0	UDL	20	W510162	10-Mar-15	
EPA 600/2-78-054 mod	Paste pH	pH Units	7.18	7.21	0.4	20	W510209	11-Mar-15	
LECO	Total Inorganic Carbon	%	<0.100	<0.100	UDL	20	W510164	10-Mar-15	

Notes and Definitions

A5	5 g of sample used in ANP analysis
A6	Titration of the sample required a greater amount of titrant than did the preparation blank.
A7	Sample is hygroscopic. Additional water was added to sample to maintain saturation.
R2B	RPD exceeded the laboratory acceptance limit.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

SVL holds the following certifications:
AZ:0538, **CA**:2080, **FL**(**NELAC**):E87993, **ID**:ID00019 & ID00965 (Microbiology), **NV**:ID000192007A, **WA**:C573

Attachment B4

ACZ Laboratories Reports

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

March 10, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L29154

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 26, 2016. This project has been assigned to ACZ's project number, L29154. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L29154. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 09, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

McClelland Laboratories, Inc. March 10, 2016

Project ID: 3981
ACZ Project ID: L29154

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 13 miscellaneous samples from McClelland Laboratories, Inc. on February 26, 2016. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L29154. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

1. (N1) Associated Duplicate over dilluted. Reassigned associated samples to a more relevant one.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400) MWMP

ACZ Sample ID: ***L29154-01***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/01/16 12:23	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.15	B		mg/L	0.03	0.2	03/01/16 12:47	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0152			mg/L	0.0004	0.002	03/07/16 13:01	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.1821			mg/L	0.0002	0.001	03/07/16 13:01	mfm
Barium, dissolved	M200.7 ICP	1	0.026			mg/L	0.003	0.02	03/01/16 12:47	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	03/07/16 13:01	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/01/16 12:47	gss
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/01/16 12:47	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:01	mfm
Calcium, dissolved	M200.7 ICP	1	32.3		*	mg/L	0.1	0.5	03/01/16 12:47	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 12:47	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 12:47	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 12:47	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 12:47	gss
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	03/01/16 12:47	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	03/07/16 13:01	mfm
Lithium, dissolved	M200.7 ICP	1	0.024	B		mg/L	0.008	0.04	03/01/16 12:47	gss
Magnesium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	03/01/16 12:47	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 12:47	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	03/03/16 15:30	pta
Mercury, total	M1631, Atomic Fluorescence	10	170		*	ng/L	2	5	03/09/16 10:44	mfm
Molybdenum, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.02	0.1	03/01/16 12:47	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/01/16 12:47	gss
Potassium, dissolved	M200.7 ICP	1	1.1			mg/L	0.2	1	03/01/16 12:47	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 12:47	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0105			mg/L	0.0001	0.0003	03/07/16 13:01	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/01/16 12:47	gss
Sodium, dissolved	M200.7 ICP	1	1.7			mg/L	0.2	1	03/01/16 12:47	gss
Strontium, dissolved	M200.7 ICP	1	0.185		*	mg/L	0.005	0.03	03/01/16 12:47	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	03/07/16 13:01	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/01/16 12:47	gss
Titanium, dissolved	M200.7 ICP	1	0.005	B	*	mg/L	0.005	0.03	03/01/16 12:47	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	03/07/16 13:01	mfm
Vanadium, dissolved	M200.7 ICP	1	0.034			mg/L	0.005	0.03	03/01/16 12:47	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 12:47	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400) MWMP

ACZ Sample ID: ***L29154-01***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	31.0			mg/L	2	20	03/01/16 0:00	sck
Carbonate as CaCO3		1	26.9			mg/L	2	20	03/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Total Alkalinity		1	57.9		*	mg/L	2	20	03/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.7			%			03/10/16 0:00	calc
Sum of Anions			1.9			meq/L			03/10/16 0:00	calc
Sum of Cations			1.8			meq/L			03/10/16 0:00	calc
Chloride	SM4500Cl-E	1	0.8	B	*	mg/L	0.5	2	03/04/16 8:18	spl
Conductivity @25C	SM2510B	1	183		*	umhos/cm	1	10	03/01/16 19:23	sck
Fluoride	SM4500F-C	1	0.33		*	mg/L	0.05	0.3	03/02/16 12:49	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		84			mg/L	0.2	5	03/10/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.07	B		mg/L	0.02	0.1	03/05/16 1:02	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.21			mg/L	0.05	0.2	03/02/16 11:28	spl
pH (lab)	SM4500H+ B									
pH		1	9.4	H	*	units	0.1	0.1	03/01/16 0:00	sck
pH measured at		1	21.1			C	0.1	0.1	03/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.09			mg/L	0.02	0.05	03/03/16 11:12	krh
Residue, Filterable (TDS) @180C	SM2540C	1	150		*	mg/L	10	20	03/02/16 16:05	sck
Sulfate	D516-02/-07 - Turbidimetric	1	35.1		*	mg/L	1	5	03/02/16 17:06	mss2
TDS (calculated)	Calculation		108			mg/L			03/10/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.39						03/10/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95) MWMP

ACZ Sample ID: ***L29154-02***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/01/16 12:31	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.11	B		mg/L	0.03	0.2	03/01/16 12:50	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0187			mg/L	0.0004	0.002	03/07/16 13:04	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0407			mg/L	0.0002	0.001	03/07/16 13:04	mfm
Barium, dissolved	M200.7 ICP	1	0.064			mg/L	0.003	0.02	03/01/16 12:50	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00011	B		mg/L	0.00005	0.0003	03/07/16 13:04	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/01/16 12:50	gss
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/01/16 12:50	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	03/07/16 13:04	mfm
Calcium, dissolved	M200.7 ICP	1	32.5		*	mg/L	0.1	0.5	03/01/16 12:50	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 12:50	gss
Cobalt, dissolved	M200.7 ICP	1	0.24			mg/L	0.01	0.05	03/01/16 12:50	gss
Copper, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/01/16 12:50	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 12:50	gss
Iron, dissolved	M200.7 ICP	1	11.10			mg/L	0.02	0.05	03/01/16 12:50	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	03/07/16 13:04	mfm
Lithium, dissolved	M200.7 ICP	1	0.036	B		mg/L	0.008	0.04	03/01/16 12:50	gss
Magnesium, dissolved	M200.7 ICP	1	4.6			mg/L	0.2	1	03/01/16 12:50	gss
Manganese, dissolved	M200.7 ICP	1	0.286			mg/L	0.005	0.03	03/01/16 12:50	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	03/03/16 15:32	pta
Mercury, total	M1631, Atomic Fluorescence	10	151		*	ng/L	2	5	03/09/16 10:49	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/01/16 12:50	gss
Nickel, dissolved	M200.7 ICP	1	0.403			mg/L	0.008	0.04	03/01/16 12:50	gss
Potassium, dissolved	M200.7 ICP	1	14.7			mg/L	0.2	1	03/01/16 12:50	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 12:50	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0094			mg/L	0.0001	0.0003	03/07/16 13:04	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/01/16 12:50	gss
Sodium, dissolved	M200.7 ICP	1	3.7			mg/L	0.2	1	03/01/16 12:50	gss
Strontium, dissolved	M200.7 ICP	1	0.215		*	mg/L	0.005	0.03	03/01/16 12:50	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0179			mg/L	0.0001	0.0005	03/07/16 13:04	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/01/16 12:50	gss
Titanium, dissolved	M200.7 ICP	1	0.005	B	*	mg/L	0.005	0.03	03/01/16 12:50	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	03/07/16 13:04	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 12:50	gss
Zinc, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	03/01/16 12:50	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95) MWMP

ACZ Sample ID: ***L29154-02***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	03/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			1.6			%			03/10/16 0:00	calc
Sum of Anions			3.1			meq/L			03/10/16 0:00	calc
Sum of Cations			3.2			meq/L			03/10/16 0:00	calc
Chloride	SM4500Cl-E	1	5.2		*	mg/L	0.5	2	03/04/16 8:19	spl
Conductivity @25C	SM2510B	1	347		*	umhos/cm	1	10	03/01/16 19:37	sck
Fluoride	SM4500F-C	1	0.21	B	*	mg/L	0.05	0.3	03/02/16 12:56	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		100			mg/L	0.2	5	03/10/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B		mg/L	0.02	0.1	03/05/16 1:40	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.25			mg/L	0.05	0.2	03/02/16 11:30	spl
pH (lab)	SM4500H+ B									
pH		1	5.6	H	*	units	0.1	0.1	03/01/16 0:00	sck
pH measured at		1	21.5			C	0.1	0.1	03/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B		mg/L	0.02	0.05	03/03/16 11:13	krh
Residue, Filterable (TDS) @180C	SM2540C	1	242		*	mg/L	10	20	03/02/16 16:08	sck
Sulfate	D516-02/-07 - Turbidimetric	5	139		*	mg/L	5	25	03/02/16 17:11	mss2
TDS (calculated)	Calculation		212			mg/L			03/10/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.14						03/10/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187) MWMP

ACZ Sample ID: ***L29154-03***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/01/16 12:38	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	03/01/16 12:53	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0115			mg/L	0.0004	0.002	03/07/16 13:12	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0084			mg/L	0.0002	0.001	03/07/16 13:12	mfm
Barium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.003	0.02	03/01/16 12:53	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	03/07/16 13:12	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/01/16 12:53	gss
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	03/01/16 12:53	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:12	mfm
Calcium, dissolved	M200.7 ICP	1	6.8		*	mg/L	0.1	0.5	03/01/16 12:53	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 12:53	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 12:53	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 12:53	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 12:53	gss
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	03/01/16 12:53	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	03/07/16 13:12	mfm
Lithium, dissolved	M200.7 ICP	1	0.018	B		mg/L	0.008	0.04	03/01/16 12:53	gss
Magnesium, dissolved	M200.7 ICP	1	1.4			mg/L	0.2	1	03/01/16 12:53	gss
Manganese, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	03/01/16 12:53	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	03/03/16 15:35	pta
Mercury, total	M1631, Atomic Fluorescence	10	115		*	ng/L	2	5	03/09/16 10:54	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/01/16 12:53	gss
Nickel, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.008	0.04	03/01/16 12:53	gss
Potassium, dissolved	M200.7 ICP	1	3.3			mg/L	0.2	1	03/01/16 12:53	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 12:53	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0091			mg/L	0.0001	0.0003	03/07/16 13:12	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/01/16 12:53	gss
Sodium, dissolved	M200.7 ICP	1	3.4			mg/L	0.2	1	03/01/16 12:53	gss
Strontium, dissolved	M200.7 ICP	1	0.044		*	mg/L	0.005	0.03	03/01/16 12:53	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0001	0.0005	03/07/16 13:12	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/01/16 12:53	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/01/16 12:53	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:12	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 12:53	gss
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	03/01/16 12:53	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187) MWMP

ACZ Sample ID: ***L29154-03***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	6.7	B		mg/L	2	20	03/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Total Alkalinity		1	6.7	B	*	mg/L	2	20	03/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.2			%			03/10/16 0:00	calc
Sum of Anions			0.748			meq/L			03/10/16 0:00	calc
Sum of Cations			0.702			meq/L			03/10/16 0:00	calc
Chloride	SM4500Cl-E	1	1.4	B	*	mg/L	0.5	2	03/04/16 8:19	spl
Conductivity @25C	SM2510B	1	89.5		*	umhos/cm	1	10	03/01/16 19:46	sck
Fluoride	SM4500F-C	1	0.23	B	*	mg/L	0.05	0.3	03/02/16 13:00	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		23			mg/L	0.2	5	03/10/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B		mg/L	0.02	0.1	03/05/16 1:41	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.14	B		mg/L	0.05	0.2	03/02/16 11:31	spl
pH (lab)	SM4500H+ B									
pH		1	7.2	H	*	units	0.1	0.1	03/01/16 0:00	sck
pH measured at		1	21.5			C	0.1	0.1	03/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B		mg/L	0.02	0.05	03/03/16 11:14	krh
Residue, Filterable (TDS) @180C	SM2540C	1	52		*	mg/L	10	20	03/02/16 16:10	sck
Sulfate	D516-02/-07 - Turbidimetric	1	26.8		*	mg/L	1	5	03/02/16 17:06	mss2
TDS (calculated)	Calculation		47.6			mg/L			03/10/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.09						03/10/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315) MWMP

ACZ Sample ID: ***L29154-04***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/01/16 12:46	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.73			mg/L	0.03	0.2	03/01/16 13:02	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0065			mg/L	0.0004	0.002	03/07/16 13:15	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0507			mg/L	0.0002	0.001	03/07/16 13:15	mfm
Barium, dissolved	M200.7 ICP	1	0.030			mg/L	0.003	0.02	03/01/16 13:02	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00112			mg/L	0.00005	0.0003	03/07/16 13:15	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/01/16 13:02	gss
Boron, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	03/01/16 13:02	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	03/07/16 13:15	mfm
Calcium, dissolved	M200.7 ICP	1	55.6		*	mg/L	0.1	0.5	03/01/16 13:02	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:02	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/01/16 13:02	gss
Copper, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	03/01/16 13:02	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:02	gss
Iron, dissolved	M200.7 ICP	1	0.73			mg/L	0.02	0.05	03/01/16 13:02	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	03/07/16 13:15	mfm
Lithium, dissolved	M200.7 ICP	1	0.045			mg/L	0.008	0.04	03/01/16 13:02	gss
Magnesium, dissolved	M200.7 ICP	1	11.8			mg/L	0.2	1	03/01/16 13:02	gss
Manganese, dissolved	M200.7 ICP	1	0.498			mg/L	0.005	0.03	03/01/16 13:02	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	03/03/16 15:37	pta
Mercury, total	M1631, Atomic Fluorescence	1	15.4		*	ng/L	0.2	0.5	03/04/16 11:42	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/01/16 13:02	gss
Nickel, dissolved	M200.7 ICP	1	0.035	B		mg/L	0.008	0.04	03/01/16 13:02	gss
Potassium, dissolved	M200.7 ICP	1	22.3			mg/L	0.2	1	03/01/16 13:02	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:02	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0356			mg/L	0.0001	0.0003	03/07/16 13:15	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/01/16 13:02	gss
Sodium, dissolved	M200.7 ICP	1	59.3			mg/L	0.2	1	03/01/16 13:02	gss
Strontium, dissolved	M200.7 ICP	1	0.161		*	mg/L	0.005	0.03	03/01/16 13:02	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	03/07/16 13:15	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/01/16 13:02	gss
Titanium, dissolved	M200.7 ICP	1	0.008	B	*	mg/L	0.005	0.03	03/01/16 13:02	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	03/07/16 13:15	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:02	gss
Zinc, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	03/01/16 13:02	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315) MWMP

ACZ Sample ID: ***L29154-04***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	03/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.1			%			03/10/16 0:00	calc
Sum of Anions			7.4			meq/L			03/10/16 0:00	calc
Sum of Cations			7.1			meq/L			03/10/16 0:00	calc
Chloride	SM4500Cl-E	1	15.4		*	mg/L	0.5	2	03/04/16 8:19	spl
Conductivity @25C	SM2510B	1	757		*	umhos/cm	1	10	03/01/16 19:51	sck
Fluoride	SM4500F-C	1	0.56			mg/L	0.05	0.3	03/08/16 10:26	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		187			mg/L	0.2	5	03/10/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.46			mg/L	0.02	0.1	03/05/16 1:43	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.47			mg/L	0.05	0.2	03/02/16 11:33	spl
pH (lab)	SM4500H+ B									
pH		1	4.9	H	*	units	0.1	0.1	03/01/16 0:00	sck
pH measured at		1	21.4			C	0.1	0.1	03/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.02	0.05	03/03/16 11:15	krh
Residue, Filterable (TDS) @180C	SM2540C	1	556		*	mg/L	10	20	03/02/16 16:13	sck
Sulfate	D516-02/-07 - Turbidimetric	10	329		*	mg/L	10	50	03/02/16 17:36	mss2
TDS (calculated)	Calculation		497			mg/L			03/10/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.12						03/10/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184) MWMP

ACZ Sample ID: ***L29154-05***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/01/16 13:01	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	5	593		*	mg/L	0.2	0.8	03/01/16 15:51	gss
Antimony, dissolved	M200.8 ICP-MS	5	0.030			mg/L	0.002	0.01	03/07/16 13:18	mfm
Arsenic, dissolved	M200.8 ICP-MS	100	16.70			mg/L	0.02	0.1	03/08/16 19:39	mfm
Barium, dissolved	M200.7 ICP	5		U	*	mg/L	0.02	0.08	03/01/16 15:51	gss
Beryllium, dissolved	M200.8 ICP-MS	5	0.1468			mg/L	0.0003	0.001	03/07/16 13:18	mfm
Bismuth, dissolved	M200.7 ICP	5		U	*	mg/L	0.2	1	03/01/16 15:51	gss
Boron, dissolved	M200.7 ICP	5		U	*	mg/L	0.05	0.3	03/01/16 15:51	gss
Cadmium, dissolved	M200.8 ICP-MS	5	0.0526			mg/L	0.0005	0.003	03/07/16 13:18	mfm
Calcium, dissolved	M200.7 ICP	5	201			mg/L	0.5	3	03/01/16 15:51	gss
Chromium, dissolved	M200.7 ICP	5	0.14	B	*	mg/L	0.05	0.3	03/01/16 15:51	gss
Cobalt, dissolved	M200.7 ICP	5	3.58			mg/L	0.05	0.3	03/01/16 15:51	gss
Copper, dissolved	M200.7 ICP	5	6.73			mg/L	0.05	0.3	03/01/16 15:51	gss
Gallium, dissolved	M200.7 ICP	5		U	*	mg/L	0.5	3	03/01/16 15:51	gss
Iron, dissolved	M200.7 ICP	5	479		*	mg/L	0.1	0.3	03/01/16 15:51	gss
Lead, dissolved	M200.8 ICP-MS	5	0.0096			mg/L	0.0005	0.003	03/07/16 13:18	mfm
Lithium, dissolved	M200.7 ICP	5	0.23			mg/L	0.04	0.2	03/01/16 15:51	gss
Magnesium, dissolved	M200.7 ICP	5	73			mg/L	1	5	03/01/16 15:51	gss
Manganese, dissolved	M200.7 ICP	5	6.43		*	mg/L	0.03	0.1	03/01/16 15:51	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	03/03/16 15:39	pta
Mercury, total	M1631, Atomic Fluorescence	1	9.1		*	ng/L	0.2	0.5	03/04/16 11:47	mfm
Molybdenum, dissolved	M200.7 ICP	5		U		mg/L	0.1	0.5	03/01/16 15:51	gss
Nickel, dissolved	M200.7 ICP	5	3.62			mg/L	0.04	0.2	03/01/16 15:51	gss
Potassium, dissolved	M200.7 ICP	5	26			mg/L	1	5	03/01/16 15:51	gss
Scandium, dissolved	M200.7 ICP	5		U	*	mg/L	0.5	3	03/01/16 15:51	gss
Selenium, dissolved	M200.8 ICP-MS	5	0.0437			mg/L	0.0005	0.001	03/07/16 13:18	mfm
Silver, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.1	03/01/16 15:51	gss
Sodium, dissolved	M200.7 ICP	5	18		*	mg/L	1	5	03/01/16 15:51	gss
Strontium, dissolved	M200.7 ICP	5	0.06	B	*	mg/L	0.03	0.1	03/01/16 15:51	gss
Thallium, dissolved	M200.8 ICP-MS	5	0.0181			mg/L	0.0005	0.003	03/07/16 13:18	mfm
Tin, dissolved	M200.7 ICP	5		U	*	mg/L	0.2	1	03/02/16 17:37	aeb
Titanium, dissolved	M200.7 ICP	5	0.03	B	*	mg/L	0.03	0.1	03/01/16 15:51	gss
Uranium, dissolved	M200.8 ICP-MS	5	0.1216			mg/L	0.0005	0.003	03/07/16 13:18	mfm
Vanadium, dissolved	M200.7 ICP	5	0.11			mg/L	0.03	0.1	03/01/16 15:51	gss
Zinc, dissolved	M200.7 ICP	5	12.50			mg/L	0.05	0.3	03/01/16 15:51	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184) MWMP

ACZ Sample ID: ***L29154-05***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	03/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-1.3			%			03/10/16 0:00	calc
Sum of Anions			113			meq/L			03/10/16 0:00	calc
Sum of Cations			110			meq/L			03/10/16 0:00	calc
Chloride	SM4500Cl-E	1	3.9		*	mg/L	0.5	2	03/04/16 9:26	spl
Conductivity @25C	SM2510B	1	5840		*	umhos/cm	1	10	03/01/16 19:55	sck
Fluoride	SM4500F-C	100	11	B	*	mg/L	5	30	03/08/16 10:50	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		803			mg/L	1	30	03/10/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.10			mg/L	0.02	0.1	03/05/16 1:44	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.99			mg/L	0.05	0.2	03/02/16 11:34	spl
pH (lab)	SM4500H+ B									
pH		1	2.3	H	*	units	0.1	0.1	03/01/16 0:00	sck
pH measured at		1	21.1			C	0.1	0.1	03/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	100	14		*	mg/L	2	5	03/03/16 11:40	krh
Residue, Filterable (TDS) @180C	SM2540C	10	8680		*	mg/L	100	200	02/29/16 10:40	emk
Sulfate	D516-02/-07 - Turbidimetric	200	5360		*	mg/L	200	1000	03/02/16 17:17	mss2
TDS (calculated)	Calculation		6790			mg/L			03/10/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.28						03/10/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762) MWMP

ACZ Sample ID: ***L29154-06***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/01/16 13:16	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.16	B		mg/L	0.03	0.2	03/01/16 13:08	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	03/07/16 13:27	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0002	0.001	03/07/16 13:27	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	03/01/16 13:08	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	03/07/16 13:27	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/01/16 13:08	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:08	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:27	mfm
Calcium, dissolved	M200.7 ICP	1	0.5		*	mg/L	0.1	0.5	03/01/16 13:08	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:08	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:08	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:08	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:08	gss
Iron, dissolved	M200.7 ICP	1	0.13			mg/L	0.02	0.05	03/01/16 13:08	gss
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:27	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/01/16 13:08	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/01/16 13:08	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:08	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	03/03/16 15:41	pta
Mercury, total	M1631, Atomic Fluorescence	5	77		*	ng/L	1	3	03/09/16 10:59	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/01/16 13:08	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/01/16 13:08	gss
Potassium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	03/01/16 13:08	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:08	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	03/07/16 13:27	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/01/16 13:08	gss
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	03/01/16 13:08	gss
Strontium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/01/16 13:08	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	03/07/16 13:27	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/01/16 13:08	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/01/16 13:08	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:27	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:08	gss
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	03/01/16 13:08	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762) MWMP

ACZ Sample ID: ***L29154-06***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	03/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			03/10/16 0:00	calc
Sum of Anions			0.135	B		meq/L			03/10/16 0:00	calc
Sum of Cations				U		meq/L			03/10/16 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	03/04/16 8:43	spl
Conductivity @25C	SM2510B	1	15.0		*	umhos/cm	1	10	03/01/16 20:02	sck
Fluoride	SM4500F-C	1	0.06	B		mg/L	0.05	0.3	03/08/16 10:58	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.3	B		mg/L	0.2	5	03/10/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B		mg/L	0.02	0.1	03/05/16 1:45	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.11	B	*	mg/L	0.05	0.2	03/02/16 11:37	spl
pH (lab)	SM4500H+ B									
pH		1	5.3	H	*	units	0.1	0.1	03/01/16 0:00	sck
pH measured at		1	20.9			C	0.1	0.1	03/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.02	0.05	03/03/16 11:42	krh
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	03/02/16 16:16	sck
Sulfate	D516-02/-07 - Turbidimetric	1	5.5		*	mg/L	1	5	03/02/16 17:06	mss2
TDS (calculated)	Calculation		8.27			mg/L			03/10/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						03/10/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (697-706) MWMP

ACZ Sample ID: ***L29154-07***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/01/16 13:24	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	03/01/16 13:11	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	03/07/16 13:30	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0002	0.001	03/07/16 13:30	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	03/01/16 13:11	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	03/07/16 13:30	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/01/16 13:11	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:11	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:30	mfm
Calcium, dissolved	M200.7 ICP	1	0.6			mg/L	0.1	0.5	03/01/16 13:11	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:11	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:11	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:11	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:11	gss
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	03/01/16 13:11	gss
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:30	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/01/16 13:11	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/01/16 13:11	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:11	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	03/03/16 15:43	pta
Mercury, total	M1631, Atomic Fluorescence	5	77		*	ng/L	1	3	03/09/16 11:04	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/01/16 13:11	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/01/16 13:11	gss
Potassium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	03/01/16 13:11	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:11	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0003	03/07/16 13:30	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/01/16 13:11	gss
Sodium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	03/01/16 13:11	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:11	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:30	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/01/16 13:11	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/01/16 13:11	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:30	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:11	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:11	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (697-706) MWMP

ACZ Sample ID: ***L29154-07***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	03/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			03/10/16 0:00	calc
Sum of Anions				U		meq/L			03/10/16 0:00	calc
Sum of Cations				U		meq/L			03/10/16 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	03/04/16 8:43	spl
Conductivity @25C	SM2510B	1	8.2	B	*	umhos/cm	1	10	03/01/16 20:10	sck
Fluoride	SM4500F-C	1	0.06	B		mg/L	0.05	0.3	03/08/16 11:06	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	03/10/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.08	B	*	mg/L	0.02	0.1	03/05/16 1:48	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	03/02/16 11:40	spl
pH (lab)	SM4500H+ B									
pH		1	6.5	H	*	units	0.1	0.1	03/01/16 0:00	sck
pH measured at		1	20.9			C	0.1	0.1	03/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/03/16 11:43	krh
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	03/02/16 16:19	sck
Sulfate	D516-02/-07 - Turbidimetric	1	1.1	B	*	mg/L	1	5	03/02/16 17:06	mss2
TDS (calculated)	Calculation		2.96			mg/L			03/10/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						03/10/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (445-455) MWMP

ACZ Sample ID: ***L29154-08***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/01/16 13:32	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.03	0.2	03/01/16 13:14	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0004	0.002	03/07/16 13:33	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0039			mg/L	0.0002	0.001	03/07/16 13:33	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	03/01/16 13:14	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	03/07/16 13:33	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/01/16 13:14	gss
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	03/01/16 13:14	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:33	mfm
Calcium, dissolved	M200.7 ICP	1	1.5			mg/L	0.1	0.5	03/01/16 13:14	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:14	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:14	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:14	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:14	gss
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	03/01/16 13:14	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	03/07/16 13:33	mfm
Lithium, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.008	0.04	03/01/16 13:14	gss
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	03/01/16 13:14	gss
Manganese, dissolved	M200.7 ICP	1	0.032			mg/L	0.005	0.03	03/01/16 13:14	gss
Mercury, dissolved	M245.1 CVAA	1	0.0003	B	*	mg/L	0.0002	0.001	03/03/16 15:49	pta
Mercury, total	M1631, Atomic Fluorescence	50	500		*	ng/L	10	30	03/09/16 11:10	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/01/16 13:14	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/01/16 13:14	gss
Potassium, dissolved	M200.7 ICP	1	10.4			mg/L	0.2	1	03/01/16 13:14	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:14	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0156			mg/L	0.0001	0.0003	03/07/16 13:33	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/01/16 13:14	gss
Sodium, dissolved	M200.7 ICP	1	23.5			mg/L	0.2	1	03/01/16 13:14	gss
Strontium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.005	0.03	03/01/16 13:14	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	03/07/16 13:33	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/01/16 13:14	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/01/16 13:14	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:33	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:14	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:14	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (445-455) MWMP

ACZ Sample ID: ***L29154-08***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	5.8	B		mg/L	2	20	03/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Total Alkalinity		1	5.8	B	*	mg/L	2	20	03/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			3.7			%			03/10/16 0:00	calc
Sum of Anions			1.3			meq/L			03/10/16 0:00	calc
Sum of Cations			1.4			meq/L			03/10/16 0:00	calc
Chloride	SM4500Cl-E	1	4.5		*	mg/L	0.5	2	03/04/16 8:43	spl
Conductivity @25C	SM2510B	1	181		*	umhos/cm	1	10	03/01/16 20:17	sck
Fluoride	SM4500F-C	1	0.12	B		mg/L	0.05	0.3	03/08/16 11:14	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		5			mg/L	0.2	5	03/10/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.13		*	mg/L	0.02	0.1	03/05/16 1:50	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.26		*	mg/L	0.05	0.2	03/02/16 12:14	spl
pH (lab)	SM4500H+ B									
pH		1	6.4	H	*	units	0.1	0.1	03/01/16 0:00	sck
pH measured at		1	20.9			C	0.1	0.1	03/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.02	0.05	03/03/16 11:24	krh
Residue, Filterable (TDS) @180C	SM2540C	1	130		*	mg/L	10	20	03/02/16 16:21	sck
Sulfate	D516-02/-07 - Turbidimetric	5	48.7		*	mg/L	5	25	03/02/16 17:12	mss2
TDS (calculated)	Calculation		92.9			mg/L			03/10/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.40						03/10/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875) MWMP

ACZ Sample ID: ***L29154-09***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/01/16 13:39	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.98			mg/L	0.03	0.2	03/01/16 13:23	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0029			mg/L	0.0004	0.002	03/07/16 13:36	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0279			mg/L	0.0002	0.001	03/07/16 13:36	mfm
Barium, dissolved	M200.7 ICP	1	0.104			mg/L	0.003	0.02	03/01/16 13:23	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	03/07/16 13:36	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/01/16 13:23	gss
Boron, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	03/01/16 13:23	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:36	mfm
Calcium, dissolved	M200.7 ICP	1	0.5			mg/L	0.1	0.5	03/01/16 13:23	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:23	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:23	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:23	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:23	gss
Iron, dissolved	M200.7 ICP	1	0.22			mg/L	0.02	0.05	03/01/16 13:23	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	03/07/16 13:36	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/01/16 13:23	gss
Magnesium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	03/01/16 13:23	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:23	gss
Mercury, dissolved	M245.1 CVAA	1	0.0005	B	*	mg/L	0.0002	0.001	03/03/16 15:51	pta
Mercury, total	M1631, Atomic Fluorescence	50	510		*	ng/L	10	30	03/09/16 11:15	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/01/16 13:23	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/01/16 13:23	gss
Potassium, dissolved	M200.7 ICP	1	1			mg/L	0.2	1	03/01/16 13:23	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:23	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0037			mg/L	0.0001	0.0003	03/07/16 13:36	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/01/16 13:23	gss
Sodium, dissolved	M200.7 ICP	1	11.4			mg/L	0.2	1	03/01/16 13:23	gss
Strontium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	03/01/16 13:23	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	03/07/16 13:36	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/01/16 13:23	gss
Titanium, dissolved	M200.7 ICP	1	0.006	B	*	mg/L	0.005	0.03	03/01/16 13:23	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	03/07/16 13:36	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:23	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:23	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875) MWMP

ACZ Sample ID: ***L29154-09***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	17.3	B		mg/L	2	20	03/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Total Alkalinity		1	17.3	B	*	mg/L	2	20	03/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			5.6			%			03/10/16 0:00	calc
Sum of Anions			0.626			meq/L			03/10/16 0:00	calc
Sum of Cations			0.7			meq/L			03/10/16 0:00	calc
Chloride	SM4500Cl-E	1	1	B	*	mg/L	0.5	2	03/04/16 8:43	spl
Conductivity @25C	SM2510B	1	60.8		*	umhos/cm	1	10	03/01/16 20:26	sck
Fluoride	SM4500F-C	1	0.48			mg/L	0.05	0.3	03/08/16 11:22	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.1	B		mg/L	0.2	5	03/10/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.14		*	mg/L	0.02	0.1	03/05/16 1:57	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	03/02/16 12:16	spl
pH (lab)	SM4500H+ B									
pH		1	7.9	H	*	units	0.1	0.1	03/01/16 0:00	sck
pH measured at		1	20.9			C	0.1	0.1	03/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.05		*	mg/L	0.02	0.05	03/03/16 11:25	krh
Residue, Filterable (TDS) @180C	SM2540C	1	42		*	mg/L	10	20	03/02/16 16:24	sck
Sulfate	D516-02/-07 - Turbidimetric	1	10.8		*	mg/L	1	5	03/08/16 9:10	spl
TDS (calculated)	Calculation		37.1			mg/L			03/10/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.13						03/10/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (780-800) MWMP

ACZ Sample ID: ***L29154-10***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/01/16 13:47	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	03/01/16 13:26	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	03/07/16 13:39	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0002	0.001	03/07/16 13:39	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	03/01/16 13:26	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	03/07/16 13:39	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/01/16 13:26	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:26	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:39	mfm
Calcium, dissolved	M200.7 ICP	1	0.6			mg/L	0.1	0.5	03/01/16 13:26	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:26	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:26	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:26	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:26	gss
Iron, dissolved	M200.7 ICP	1	0.09			mg/L	0.02	0.05	03/01/16 13:26	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	03/07/16 13:39	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/01/16 13:26	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/01/16 13:26	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:26	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	03/03/16 15:57	pta
Mercury, total	M1631, Atomic Fluorescence	1	12.2		*	ng/L	0.2	0.5	03/04/16 14:05	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/01/16 13:26	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/01/16 13:26	gss
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	03/01/16 13:26	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:26	gss
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	03/07/16 13:39	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/01/16 13:26	gss
Sodium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	03/01/16 13:26	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:26	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	03/07/16 13:39	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/01/16 13:26	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/01/16 13:26	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:39	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:26	gss
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/01/16 13:26	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (780-800) MWMP

ACZ Sample ID: ***L29154-10***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	03/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			03/10/16 0:00	calc
Sum of Anions				U		meq/L			03/10/16 0:00	calc
Sum of Cations				U		meq/L			03/10/16 0:00	calc
Chloride	SM4500Cl-E	1	0.7	B	*	mg/L	0.5	2	03/04/16 8:43	spl
Conductivity @25C	SM2510B	1	8.6	B	*	umhos/cm	1	10	03/01/16 20:33	sck
Fluoride	SM4500F-C	1		U		mg/L	0.05	0.3	03/08/16 11:30	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	03/10/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	03/05/16 1:58	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	03/02/16 12:33	spl
pH (lab)	SM4500H+ B									
pH		1	6.0	H	*	units	0.1	0.1	03/01/16 0:00	sck
pH measured at		1	21.2			C	0.1	0.1	03/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/03/16 11:26	krh
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	03/02/16 16:27	sck
Sulfate	D516-02/-07 - Turbidimetric	1	2.4	B	*	mg/L	1	5	03/08/16 9:10	spl
TDS (calculated)	Calculation		4.31			mg/L			03/10/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						03/10/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (919-946) MWMP

ACZ Sample ID: ***L29154-11***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/01/16 13:54	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	5	484		*	mg/L	0.2	0.8	03/01/16 15:59	gss
Antimony, dissolved	M200.8 ICP-MS	5	0.007	B		mg/L	0.002	0.01	03/07/16 13:42	mfm
Arsenic, dissolved	M200.8 ICP-MS	200	18.50			mg/L	0.04	0.2	03/09/16 18:12	msh
Barium, dissolved	M200.7 ICP	5		U	*	mg/L	0.02	0.08	03/01/16 15:59	gss
Beryllium, dissolved	M200.8 ICP-MS	5	0.0637			mg/L	0.0003	0.001	03/07/16 13:42	mfm
Bismuth, dissolved	M200.7 ICP	5		U	*	mg/L	0.2	1	03/01/16 15:59	gss
Boron, dissolved	M200.7 ICP	5		U	*	mg/L	0.05	0.3	03/01/16 15:59	gss
Cadmium, dissolved	M200.8 ICP-MS	5	0.1381			mg/L	0.0005	0.003	03/07/16 13:42	mfm
Calcium, dissolved	M200.7 ICP	5	350			mg/L	0.5	3	03/01/16 15:59	gss
Chromium, dissolved	M200.7 ICP	5	0.15	B	*	mg/L	0.05	0.3	03/01/16 15:59	gss
Cobalt, dissolved	M200.7 ICP	5	5.16			mg/L	0.05	0.3	03/01/16 15:59	gss
Copper, dissolved	M200.7 ICP	5	3.07			mg/L	0.05	0.3	03/01/16 15:59	gss
Gallium, dissolved	M200.7 ICP	5		U	*	mg/L	0.5	3	03/01/16 15:59	gss
Iron, dissolved	M200.7 ICP	5	773		*	mg/L	0.1	0.3	03/01/16 15:59	gss
Lead, dissolved	M200.8 ICP-MS	5	0.0098			mg/L	0.0005	0.003	03/07/16 13:42	mfm
Lithium, dissolved	M200.7 ICP	5	0.14	B	*	mg/L	0.04	0.2	03/01/16 15:59	gss
Magnesium, dissolved	M200.7 ICP	5	47			mg/L	1	5	03/01/16 15:59	gss
Manganese, dissolved	M200.7 ICP	5	1.02			mg/L	0.03	0.1	03/01/16 15:59	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	03/03/16 15:59	pta
Mercury, total	M1631, Atomic Fluorescence	1	9.8		*	ng/L	0.2	0.5	03/04/16 14:31	mfm
Molybdenum, dissolved	M200.7 ICP	5		U	*	mg/L	0.1	0.5	03/01/16 15:59	gss
Nickel, dissolved	M200.7 ICP	5	4.19			mg/L	0.04	0.2	03/01/16 15:59	gss
Potassium, dissolved	M200.7 ICP	5	5			mg/L	1	5	03/01/16 15:59	gss
Scandium, dissolved	M200.7 ICP	5		U	*	mg/L	0.5	3	03/01/16 15:59	gss
Selenium, dissolved	M200.8 ICP-MS	5	0.0335			mg/L	0.0005	0.001	03/07/16 13:42	mfm
Silver, dissolved	M200.7 ICP	5	0.05	B	*	mg/L	0.05	0.1	03/01/16 15:59	gss
Sodium, dissolved	M200.7 ICP	5	12		*	mg/L	1	5	03/01/16 15:59	gss
Strontium, dissolved	M200.7 ICP	5	0.05	B	*	mg/L	0.03	0.1	03/01/16 15:59	gss
Thallium, dissolved	M200.8 ICP-MS	5	0.0090			mg/L	0.0005	0.003	03/07/16 13:42	mfm
Tin, dissolved	M200.7 ICP	5		U	*	mg/L	0.2	1	03/02/16 17:40	aeb
Titanium, dissolved	M200.7 ICP	5	0.04	B	*	mg/L	0.03	0.1	03/01/16 15:59	gss
Uranium, dissolved	M200.8 ICP-MS	5	0.3851			mg/L	0.0005	0.003	03/07/16 13:42	mfm
Vanadium, dissolved	M200.7 ICP	5	0.10			mg/L	0.03	0.1	03/01/16 15:59	gss
Zinc, dissolved	M200.7 ICP	5	24.50			mg/L	0.05	0.3	03/01/16 15:59	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (919-946) MWMP

ACZ Sample ID: ***L29154-11***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	03/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			5.4			%			03/10/16 0:00	calc
Sum of Anions			106			meq/L			03/10/16 0:00	calc
Sum of Cations			118			meq/L			03/10/16 0:00	calc
Chloride	SM4500Cl-E	1	2.1		*	mg/L	0.5	2	03/04/16 9:26	spl
Conductivity @25C	SM2510B	1	8220		*	umhos/cm	1	10	03/01/16 20:37	sck
Fluoride	SM4500F-C	100		U	*	mg/L	5	30	03/08/16 11:53	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1070			mg/L	1	30	03/10/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.08	B	*	mg/L	0.02	0.1	03/05/16 2:00	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.69		*	mg/L	0.05	0.2	03/02/16 12:19	spl
pH (lab)	SM4500H+ B									
pH		1	2.0	H	*	units	0.1	0.1	03/01/16 0:00	sck
pH measured at		1	21.5			C	0.1	0.1	03/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	100	19		*	mg/L	2	5	03/03/16 11:44	krh
Residue, Filterable (TDS) @180C	SM2540C	10	9100		*	mg/L	100	200	02/29/16 10:59	emk
Sulfate	D516-02/-07 - Turbidimetric	500	5060		*	mg/L	500	2500	03/08/16 9:23	spl
TDS (calculated)	Calculation		6760			mg/L			03/10/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.35						03/10/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (44-59) MWMP

ACZ Sample ID: ***L29154-12***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/01/16 14:02	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.15	B		mg/L	0.03	0.2	03/01/16 13:38	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0042			mg/L	0.0004	0.002	03/07/16 13:45	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0295			mg/L	0.0002	0.001	03/07/16 13:45	mfm
Barium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.003	0.02	03/01/16 13:38	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00102			mg/L	0.00005	0.0003	03/07/16 13:45	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/01/16 13:38	gss
Boron, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	03/01/16 13:38	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	03/07/16 13:45	mfm
Calcium, dissolved	M200.7 ICP	1	114			mg/L	0.1	0.5	03/01/16 13:38	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:38	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/01/16 13:38	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:38	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:38	gss
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	03/01/16 13:38	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0005	03/07/16 13:45	mfm
Lithium, dissolved	M200.7 ICP	1	0.117			mg/L	0.008	0.04	03/01/16 13:38	gss
Magnesium, dissolved	M200.7 ICP	1	24.5			mg/L	0.2	1	03/01/16 13:38	gss
Manganese, dissolved	M200.7 ICP	1	0.496			mg/L	0.005	0.03	03/01/16 13:38	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	03/03/16 16:23	pta
Mercury, total	M1631, Atomic Fluorescence	5	24		*	ng/L	1	3	03/04/16 14:36	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/01/16 13:38	gss
Nickel, dissolved	M200.7 ICP	1	0.019	B		mg/L	0.008	0.04	03/01/16 13:38	gss
Potassium, dissolved	M200.7 ICP	1	13.7			mg/L	0.2	1	03/01/16 13:38	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:38	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0089			mg/L	0.0001	0.0003	03/07/16 13:45	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/01/16 13:38	gss
Sodium, dissolved	M200.7 ICP	1	265			mg/L	0.2	1	03/01/16 13:38	gss
Strontium, dissolved	M200.7 ICP	1	0.232			mg/L	0.005	0.03	03/01/16 13:38	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	03/07/16 13:45	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/01/16 13:38	gss
Titanium, dissolved	M200.7 ICP	1	0.012	B	*	mg/L	0.005	0.03	03/01/16 13:38	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	03/07/16 13:45	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:38	gss
Zinc, dissolved	M200.7 ICP	1	0.19			mg/L	0.01	0.05	03/01/16 13:38	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (44-59) MWMP

ACZ Sample ID: ***L29154-12***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	4.6	B		mg/L	2	20	03/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Total Alkalinity		1	4.6	B	*	mg/L	2	20	03/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			03/10/16 0:00	calc
Sum of Anions			20			meq/L			03/10/16 0:00	calc
Sum of Cations			20			meq/L			03/10/16 0:00	calc
Chloride	SM4500Cl-E	10	144		*	mg/L	5	20	03/04/16 8:52	spl
Conductivity @25C	SM2510B	1	1960		*	umhos/cm	1	10	03/01/16 21:12	sck
Fluoride	SM4500F-C	1	0.36			mg/L	0.05	0.3	03/08/16 12:01	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		386			mg/L	0.2	5	03/10/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	2.56		*	mg/L	0.02	0.1	03/05/16 2:01	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.73		*	mg/L	0.05	0.2	03/02/16 12:20	spl
pH (lab)	SM4500H+ B									
pH		1	5.1	H	*	units	0.1	0.1	03/01/16 0:00	sck
pH measured at		1	21.2			C	0.1	0.1	03/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.37		*	mg/L	0.02	0.05	03/03/16 11:45	krh
Residue, Filterable (TDS) @180C	SM2540C	10	1440		*	mg/L	100	200	02/29/16 11:01	emk
Sulfate	D516-02/-07 - Turbidimetric	50	732		*	mg/L	50	250	03/08/16 9:23	spl
TDS (calculated)	Calculation		1300			mg/L			03/10/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.11						03/10/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (208-215) MWMP

ACZ Sample ID: ***L29154-13***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/01/16 14:10	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	03/01/16 13:41	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	03/07/16 13:48	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0002	0.001	03/07/16 13:48	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	03/01/16 13:41	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	03/07/16 13:48	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/01/16 13:41	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:41	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:48	mfm
Calcium, dissolved	M200.7 ICP	1	1.1			mg/L	0.1	0.5	03/01/16 13:41	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:41	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/01/16 13:41	gss
Copper, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/01/16 13:41	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:41	gss
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	03/01/16 13:41	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	03/07/16 13:48	mfm
Lithium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.008	0.04	03/01/16 13:41	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/01/16 13:41	gss
Manganese, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	03/01/16 13:41	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	03/03/16 16:26	pta
Mercury, total	M1631, Atomic Fluorescence	5	106		*	ng/L	1	3	03/04/16 14:41	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/01/16 13:41	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/01/16 13:41	gss
Potassium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	03/01/16 13:41	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/01/16 13:41	gss
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	03/07/16 13:48	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/01/16 13:41	gss
Sodium, dissolved	M200.7 ICP	1	1.1			mg/L	0.2	1	03/01/16 13:41	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:41	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	03/07/16 13:48	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/01/16 13:41	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/01/16 13:41	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/07/16 13:48	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/01/16 13:41	gss
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/01/16 13:41	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (208-215) MWMP

ACZ Sample ID: ***L29154-13***
Date Sampled: *02/25/16 09:00*
Date Received: *02/26/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	03/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	03/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			03/10/16 0:00	calc
Sum of Anions			0.179	B		meq/L			03/10/16 0:00	calc
Sum of Cations			0.1	B		meq/L			03/10/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/04/16 8:43	spl
Conductivity @25C	SM2510B	1	17.4		*	umhos/cm	1	10	03/01/16 21:20	sck
Fluoride	SM4500F-C	1	0.05	B		mg/L	0.05	0.3	03/08/16 12:09	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.8	B		mg/L	0.2	5	03/10/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	03/05/16 2:02	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.06	B	*	mg/L	0.05	0.2	03/02/16 12:22	spl
pH (lab)	SM4500H+ B									
pH		1	6.4	H	*	units	0.1	0.1	03/01/16 0:00	sck
pH measured at		1	21.1			C	0.1	0.1	03/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.02	0.05	03/03/16 11:46	krh
Residue, Filterable (TDS) @180C	SM2540C	1	24		*	mg/L	10	20	03/03/16 13:25	emk
Sulfate	D516-02/-07 - Turbidimetric	1	8.4		*	mg/L	1	5	03/08/16 9:11	spl
TDS (calculated)	Calculation		11.2			mg/L			03/10/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.14						03/10/16 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L29154***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399378													
WG399378PBW1	PBW	03/01/16 15:16				U	mg/L		-20	20			
WG399378LCSW3	LCSW	03/01/16 15:35	WC160224-7	820.0001		826	mg/L	101	90	110			
WG399378LCSW6	LCSW	03/01/16 17:41	WC160224-7	820.0001		831	mg/L	101	90	110			
WG399378PBW2	PBW	03/01/16 17:49				U	mg/L		-20	20			
L29154-01DUP	DUP	03/01/16 19:32			57.9	58.7	mg/L				1	20	
L29154-11DUP	DUP	03/01/16 20:41			U	U	mg/L				0	20	RA
WG399378LCSW9	LCSW	03/01/16 20:59	WC160224-7	820.0001		832	mg/L	101	90	110			
WG399378PBW3	PBW	03/01/16 21:07				U	mg/L		-20	20			
L29168-01DUP	DUP	03/01/16 22:15			57	57.1	mg/L				0	20	
WG399378LCSW12	LCSW	03/01/16 23:52	WC160224-7	820.0001		839	mg/L	102	90	110			
WG399378PBW4	PBW	03/02/16 0:00				U	mg/L		-20	20			
WG399378LCSW15	LCSW	03/02/16 1:13	WC160224-7	820.0001		838	mg/L	102	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		2.084	mg/L	104	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.09	0.09			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	1.0013		1.001	mg/L	100	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	1.0013	.04	1.025	mg/L	98	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	1.0013	.04	1.028	mg/L	99	85	115	0	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	1.0013	.03	1.017	mg/L	99	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	1.0013	.03	1.019	mg/L	99	85	115	0	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		2.063	mg/L	103	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.09	0.09			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	1.0013		.992	mg/L	99	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	5.0065	593	599.5	mg/L	130	85	115			M3
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	5.0065	593	603	mg/L	200	85	115	1	20	M3

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399603													
WG399603ICV	ICV	03/07/16 12:46	MS160302-3	.02		.01966	mg/L	98	90	110			
WG399603ICB	ICB	03/07/16 12:49				U	mg/L		-0.0012	0.0012			
WG399603LFB	LFB	03/07/16 12:52	MS160303-3	.01001		.01067	mg/L	107	85	115			
L29154-02AS	AS	03/07/16 13:06	MS160303-3	.01001	.0187	.02857	mg/L	99	70	130			
L29154-02ASD	ASD	03/07/16 13:09	MS160303-3	.01001	.0187	.02832	mg/L	96	70	130	1	20	
L29201-03AS	AS	03/07/16 14:06	MS160303-3	.01001	U	.01	mg/L	100	70	130			
L29201-03ASD	ASD	03/07/16 14:09	MS160303-3	.01001	U	.01	mg/L	100	70	130	0	20	

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ACZ Project ID: ***L29154***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399603													
WG399603ICV	ICV	03/07/16 12:46	MS160302-3	.05		.05079	mg/L	102	90	110			
WG399603ICB	ICB	03/07/16 12:49				U	mg/L		-0.0006	0.0006			
WG399603LFB	LFB	03/07/16 12:52	MS160303-3	.0501		.05236	mg/L	105	85	115			
L29154-02AS	AS	03/07/16 13:06	MS160303-3	.0501	.0407	.09758	mg/L	114	70	130			
L29154-02ASD	ASD	03/07/16 13:09	MS160303-3	.0501	.0407	.09863	mg/L	116	70	130	1	20	
L29201-03AS	AS	03/07/16 14:06	MS160303-3	.0501	.0003	.05588	mg/L	111	70	130			
L29201-03ASD	ASD	03/07/16 14:09	MS160303-3	.0501	.0003	.05774	mg/L	115	70	130	3	20	
WG399690													
WG399690ICV	ICV	03/08/16 18:34	MS160302-3	.05		.05273	mg/L	105	90	110			
WG399690ICB	ICB	03/08/16 18:37				U	mg/L		-0.0006	0.0006			
WG399690LFB	LFB	03/08/16 18:40	MS160303-3	.0501		.0525	mg/L	105	85	115			
L29214-01AS	AS	03/08/16 19:57	MS160303-3	.0501	.0004	.05639	mg/L	112	70	130			
L29214-01ASD	ASD	03/08/16 20:00	MS160303-3	.0501	.0004	.0537	mg/L	106	70	130	5	20	
WG399757													
WG399757ICV	ICV	03/09/16 18:02	MS160302-3	.05		.05298	mg/L	106	90	110			
WG399757ICB	ICB	03/09/16 18:05				U	mg/L		-0.0006	0.0006			
WG399757LFB	LFB	03/09/16 18:09	MS160303-3	.0501		.0495	mg/L	99	85	115			
L29188-01AS	AS	03/09/16 18:18	MS160303-3	1.002	.726	1.716	mg/L	99	70	130			
L29188-01ASD	ASD	03/09/16 18:21	MS160303-3	1.002	.726	1.9058	mg/L	118	70	130	10	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		1.9822	mg/L	99	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.009	0.009			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	.5		.4945	mg/L	99	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	.5	.012	.5013	mg/L	98	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	.5	.012	.5026	mg/L	98	85	115	0	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	.5	U	.4999	mg/L	100	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	.5	U	.4937	mg/L	99	85	115	1	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		1.9808	mg/L	99	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.009	0.009			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	.5		.4928	mg/L	99	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	2.5	U	2.306	mg/L	92	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	2.5	U	2.309	mg/L	92	85	115	0	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399603													
WG399603ICV	ICV	03/07/16 12:46	MS160302-3	.05		.04907	mg/L	98	90	110			
WG399603ICB	ICB	03/07/16 12:49				U	mg/L		-0.00015	0.00015			
WG399603LFB	LFB	03/07/16 12:52	MS160303-3	.0501		.04984	mg/L	99	85	115			
L29154-02AS	AS	03/07/16 13:06	MS160303-3	.0501	.00011	.05346	mg/L	106	70	130			
L29154-02ASD	ASD	03/07/16 13:09	MS160303-3	.0501	.00011	.05316	mg/L	106	70	130	1	20	
L29201-03AS	AS	03/07/16 14:06	MS160303-3	.0501	U	.04907	mg/L	98	70	130			
L29201-03ASD	ASD	03/07/16 14:09	MS160303-3	.0501	U	.04855	mg/L	97	70	130	1	20	

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ACZ Project ID: ***L29154***

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		2.012	mg/L	101	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.12	0.12			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	1		.964	mg/L	96	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	1	U	.985	mg/L	99	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	1	U	.974	mg/L	97	85	115	1	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	1	U	.967	mg/L	97	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	1	U	.969	mg/L	97	85	115	0	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		1.983	mg/L	99	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.12	0.12			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	1		.925	mg/L	93	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	5	U	4.5	mg/L	90	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	5	U	4.52	mg/L	90	85	115	0	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		2.047	mg/L	102	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.03	0.03			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	.5005		.522	mg/L	104	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	.5005	.18	.682	mg/L	100	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	.5005	.18	.681	mg/L	100	85	115	0	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	.5005	.01	.527	mg/L	103	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	.5005	.01	.517	mg/L	101	85	115	2	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		2.029	mg/L	101	95	105			
WG399387ICB	ICB	03/01/16 15:36				.013	mg/L		-0.03	0.03			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	.5005		.518	mg/L	103	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	2.5025	U	2.39	mg/L	96	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	2.5025	U	2.466	mg/L	99	85	115	3	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399603													
WG399603ICV	ICV	03/07/16 12:46	MS160302-3	.05		.05176	mg/L	104	90	110			
WG399603ICB	ICB	03/07/16 12:49				U	mg/L		-0.0003	0.0003			
WG399603LFB	LFB	03/07/16 12:52	MS160303-3	.05005		.05167	mg/L	103	85	115			
L29154-02AS	AS	03/07/16 13:06	MS160303-3	.05005	.0005	.05552	mg/L	110	70	130			
L29154-02ASD	ASD	03/07/16 13:09	MS160303-3	.05005	.0005	.05497	mg/L	109	70	130	1	20	
L29201-03AS	AS	03/07/16 14:06	MS160303-3	.05005	U	.04997	mg/L	100	70	130			
L29201-03ASD	ASD	03/07/16 14:09	MS160303-3	.05005	U	.04884	mg/L	98	70	130	2	20	

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ACZ Project ID: ***L29154***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	100		101.2	mg/L	101	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.3	0.3			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	67.97118		66.97	mg/L	99	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	67.97118	224	278.8	mg/L	81	85	115			M3
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	67.97118	224	278.7	mg/L	80	85	115	0	20	M3
L29154-08AS	AS	03/01/16 13:17	II160220-2	67.97118	1.5	66.53	mg/L	96	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	67.97118	1.5	65.92	mg/L	95	85	115	1	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	100		101.38	mg/L	101	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.3	0.3			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	67.97118		66.7	mg/L	98	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	339.8559	201	509.5	mg/L	91	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	339.8559	201	510.5	mg/L	91	85	115	0	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399528													
WG399528ICB	ICB	03/04/16 7:16				U	mg/L		-1.5	1.5			
WG399528ICV	ICV	03/04/16 7:16	WI150701-4	55.055		57.1	mg/L	104	90	110			
WG399528LFB1	LFB	03/04/16 8:18	WI150826-7	29.97		30.81	mg/L	103	90	110			
L29058-02DUP	DUP	03/04/16 8:18			.5	.5	mg/L				0	20	RA
L29058-01AS	AS	03/04/16 8:27	10XCL	30	521	540.2	mg/L	64	90	110			M3
L29154-06AS	AS	03/04/16 8:43	WI150826-7	29.97	.6	32.91	mg/L	108	90	110			
L29154-07DUP	DUP	03/04/16 8:43			.6	.6	mg/L				0	20	RA
WG399528LFB2	LFB	03/04/16 8:44	WI150826-7	29.97		31.07	mg/L	104	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		2.005	mg/L	100	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.03	0.03			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	.5005		.503	mg/L	100	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	.5005	U	.483	mg/L	97	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	.5005	U	.487	mg/L	97	85	115	1	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	.5005	U	.492	mg/L	98	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	.5005	U	.489	mg/L	98	85	115	1	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		1.982	mg/L	99	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.03	0.03			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	.5005		.482	mg/L	96	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	2.5025	.14	2.432	mg/L	92	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	2.5025	.14	2.433	mg/L	92	85	115	0	20	

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ACZ Project ID: ***L29154***

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2.002		1.916	mg/L	96	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.03	0.03			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	.5005		.492	mg/L	98	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	.5005	U	.48	mg/L	96	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	.5005	U	.479	mg/L	96	85	115	0	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	.5005	U	.492	mg/L	98	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	.5005	U	.485	mg/L	97	85	115	1	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2.002		1.932	mg/L	97	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.03	0.03			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	.5005		.492	mg/L	98	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	2.5025	3.58	5.92	mg/L	94	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	2.5025	3.58	5.9	mg/L	93	85	115	0	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399378													
WG399378LCSW2	LCSW	03/01/16 15:22	PCN48848	1408		1490	umhos/cm	106	90	110			
WG399378LCSW5	LCSW	03/01/16 17:28	PCN48848	1408		1440	umhos/cm	102	90	110			
L29154-01DUP	DUP	03/01/16 19:32			183	179	umhos/cm				2	20	
L29154-11DUP	DUP	03/01/16 20:41			8220	8220	umhos/cm				0	20	
WG399378LCSW8	LCSW	03/01/16 20:46	PCN48848	1408		1430	umhos/cm	102	90	110			
L29168-01DUP	DUP	03/01/16 22:15			360	354	umhos/cm				2	20	
WG399378LCSW11	LCSW	03/01/16 23:40	PCN48848	1408		1380	umhos/cm	98	90	110			
WG399378LCSW14	LCSW	03/02/16 1:00	PCN48848	1408		1340	umhos/cm	95	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		1.963	mg/L	98	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.03	0.03			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	.499		.498	mg/L	100	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	.499	U	.497	mg/L	100	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	.499	U	.497	mg/L	100	85	115	0	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	.499	U	.507	mg/L	102	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	.499	U	.499	mg/L	100	85	115	2	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		1.963	mg/L	98	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.03	0.03			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	.499		.494	mg/L	99	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	2.495	6.73	8.945	mg/L	89	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	2.495	6.73	8.97	mg/L	90	85	115	0	20	

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ACZ Project ID: ***L29154***

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399420													
WG399420ICV	ICV	03/02/16 10:24	WC160226-7	2		1.947	mg/L	97	95	105			
WG399420ICB	ICB	03/02/16 10:27				.091	mg/L		-0.15	0.15			
WG399420LFB1	LFB	03/02/16 10:37	WC151103-7	5		5.048	mg/L	101	90	110			
L29039-20AS	AS	03/02/16 12:02	WC151103-7	200	U	191.1	mg/L	96	90	110			
L29039-20DUP	DUP	03/02/16 12:07			U	4	mg/L				200	20	RA
WG399420LFB2	LFB	03/02/16 13:05	WC151103-7	5		4.956	mg/L	99	90	110			
L29154-04AS	AS	03/02/16 13:16	WC151103-7	5	.5	5	mg/L	90	90	110			
WG399647													
WG399647ICV	ICV	03/08/16 10:06	WC160226-7	2		2.019	mg/L	101	95	105			
WG399647ICB	ICB	03/08/16 10:10				.089	mg/L		-0.15	0.15			
WG399647LFB	LFB	03/08/16 10:18	WC151103-7	5		5.094	mg/L	102	90	110			
L29154-04AS	AS	03/08/16 10:34	WC151103-7	5	.56	5.094	mg/L	91	90	110			
L29154-04DUP	DUP	03/08/16 10:42			.56	.635	mg/L				13	20	

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		2.02	mg/L	101	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.3	0.3			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	1		.96	mg/L	96	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	1	U	.97	mg/L	97	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	1	U	.96	mg/L	96	85	115	1	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	1	U	.95	mg/L	95	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	1	U	.95	mg/L	95	85	115	0	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		2.04	mg/L	102	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.3	0.3			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	1		.94	mg/L	94	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	5	U	4.53	mg/L	91	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	5	U	4.54	mg/L	91	85	115	0	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		1.937	mg/L	97	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.06	0.06			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	1.0001		.979	mg/L	98	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	1.0001	.7	1.608	mg/L	91	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	1.0001	.7	1.609	mg/L	91	85	115	0	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	1.0001	U	.981	mg/L	98	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	1.0001	U	.981	mg/L	98	85	115	0	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		1.929	mg/L	96	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.06	0.06			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	1.0001		.978	mg/L	98	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	5.0005	479	476.5	mg/L	-50	85	115			M3
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	5.0005	479	478.1	mg/L	-18	85	115	0	20	M3

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ACZ Project ID: ***L29154***

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399603													
WG399603ICV	ICV	03/07/16 12:46	MS160302-3	.05		.05252	mg/L	105	90	110			
WG399603ICB	ICB	03/07/16 12:49				U	mg/L		-0.0003	0.0003			
WG399603LFB	LFB	03/07/16 12:52	MS160303-3	.05005		.05115	mg/L	102	85	115			
L29154-02AS	AS	03/07/16 13:06	MS160303-3	.05005	.0004	.05427	mg/L	108	70	130			
L29154-02ASD	ASD	03/07/16 13:09	MS160303-3	.05005	.0004	.05381	mg/L	107	70	130	1	20	
L29201-03AS	AS	03/07/16 14:06	MS160303-3	.05005	U	.05223	mg/L	104	70	130			
L29201-03ASD	ASD	03/07/16 14:09	MS160303-3	.05005	U	.05136	mg/L	103	70	130	2	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		2.0322	mg/L	102	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.024	0.024			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	1.002		.9482	mg/L	95	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	1.002	.14	1.114	mg/L	97	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	1.002	.14	1.114	mg/L	97	85	115	0	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	1.002	.014	.9779	mg/L	96	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	1.002	.014	.9677	mg/L	95	85	115	1	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		2.0162	mg/L	101	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.024	0.024			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	1.002		.9434	mg/L	94	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	5.01	.23	4.687	mg/L	89	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	5.01	.23	4.721	mg/L	90	85	115	1	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	100		100.45	mg/L	100	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.6	0.6			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	50.00605		47.01	mg/L	94	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	50.00605	88.9	133	mg/L	88	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	50.00605	88.9	133.2	mg/L	89	85	115	0	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	50.00605	.3	46.61	mg/L	93	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	50.00605	.3	46.26	mg/L	92	85	115	1	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	100		100.75	mg/L	101	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.6	0.6			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	50.00605		47.26	mg/L	95	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	250.03025	73	292.3	mg/L	88	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	250.03025	73	293.4	mg/L	88	85	115	0	20	

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ACZ Project ID: ***L29154***

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		1.9375	mg/L	97	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.015	0.015			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	.499		.4853	mg/L	97	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	.499	.126	.5936	mg/L	94	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	.499	.126	.5932	mg/L	94	85	115	0	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	.499	.032	.5155	mg/L	97	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	.499	.032	.5101	mg/L	96	85	115	1	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		1.9298	mg/L	96	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.015	0.015			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	.499		.4801	mg/L	96	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	2.495	6.43	8.59	mg/L	87	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	2.495	6.43	8.61	mg/L	87	85	115	0	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399482													
WG399482ICV	ICV	03/03/16 13:47	II151130-3	.005		.00484	mg/L	97	95	105			
WG399482ICB	ICB	03/03/16 13:48				U	mg/L		-0.0002	0.0002			
WG399483													
WG399483LRB	LRB	03/03/16 15:01				U	mg/L		-0.00044	0.00044			
WG399483LFB	LFB	03/03/16 15:03	HG160224-2	.002004		.00174	mg/L	87	85	115			
L29039-07LFM	LFM	03/03/16 15:12	HG160224-2	.002004	U	.00168	mg/L	84	85	115			M2
L29039-07LFMD	LFMD	03/03/16 15:14	HG160224-2	.002004	U	.00153	mg/L	76	85	115	9	20	M2
L29154-09LFM	LFM	03/03/16 15:53	HG160224-2	.002004	.0005	.00212	mg/L	81	85	115			M2
L29154-09LFMD	LFMD	03/03/16 15:55	HG160224-2	.002004	.0005	.00214	mg/L	82	85	115	1	20	M2
WG399492													
WG399492LRB	LRB	03/03/16 16:12				U	mg/L		-0.00044	0.00044			
WG399492LFB	LFB	03/03/16 16:21	HG160224-2	.002004		.00179	mg/L	89	85	115			
L29170-03LFM	LFM	03/03/16 16:34	HG160224-2	.002004	U	.00173	mg/L	86	85	115			
L29170-03LFMD	LFMD	03/03/16 16:35	HG160224-2	.002004	U	.00169	mg/L	84	85	115	2	20	MA

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ACZ Project ID: ***L29154***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386175													
WG386175ICV	ICV	07/01/15 13:07	HG150504-4	10		9.91	ng/L	99	79	121			
WG386175ICB	ICB	07/01/15 13:12				U	ng/L		-0.5	0.5			
WG399534													
WG399534CCV1	CCV	03/04/16 10:31	HG160223-4	10		9.13	ng/L	91	76.5	123.4			
WG399534CCB1	CCB	03/04/16 10:36				U	ng/L		-0.5	0.5			
WG399534PQV	PQV	03/04/16 10:41	HG160223-5	.5		.44	ng/L	88	70	130			
WG399534LFB	LFB	03/04/16 10:46	HG160223-6	2		1.8	ng/L	90	71	125			
L29141-01MS	MS	03/04/16 11:01	HG160223-6	2	4.6	6.48	ng/L	94	71	125			
L29141-01MSD	MSD	03/04/16 11:06	HG160223-6	2	4.6	6.49	ng/L	95	71	125	0	24	
WG399534CCV2	CCV	03/04/16 11:31	HG160223-4	10		9.41	ng/L	94	76.5	123.4			
WG399534CCB2	CCB	03/04/16 11:37				U	ng/L		-0.5	0.5			
L29154-10MS	MS	03/04/16 14:10	HG160223-6	2	12.2	13.9	ng/L	85	71	125			
L29154-10MSD	MSD	03/04/16 14:15	HG160223-6	2	12.2	14.1	ng/L	95	71	125	1	24	
WG399534CCV3	CCV	03/04/16 14:20	HG160223-4	10		8.99	ng/L	90	76.5	123.4			
WG399534CCB3	CCB	03/04/16 14:26				U	ng/L		-0.5	0.5			
WG399534CCV4	CCV	03/04/16 14:46	HG160223-4	10		9.53	ng/L	95	76.5	123.4			
WG399534CCB4	CCB	03/04/16 14:51				U	ng/L		-0.5	0.5			
WG399708													
WG399708CCV1	CCV	03/09/16 10:24	HG160223-4	10		8.59	ng/L	86	76.5	123.4			
WG399708CCB1	CCB	03/09/16 10:29				U	ng/L		-0.5	0.5			
WG399708PQV	PQV	03/09/16 10:34	HG160223-5	.5		.41	ng/L	82	70	130			
WG399708LFB	LFB	03/09/16 10:39	HG160223-6	2		1.82	ng/L	91	71	125			
WG399708CCV2	CCV	03/09/16 11:20	HG160223-4	10		8.45	ng/L	85	76.5	123.4			
WG399708CCB2	CCB	03/09/16 11:25				U	ng/L		-0.5	0.5			
L29199-01MS	MS	03/09/16 11:35	HG160223-6	2	.5	2.6	ng/L	105	71	125			
L29199-01MSD	MSD	03/09/16 11:40	HG160223-6	2	.5	2.6	ng/L	105	71	125	0	24	
WG399708CCV3	CCV	03/09/16 11:45	HG160223-4	10		8.53	ng/L	85	76.5	123.4			
WG399708CCB3	CCB	03/09/16 11:50				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		2.007	mg/L	100	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.06	0.06			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	.4995		.472	mg/L	94	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	.4995	.04	.514	mg/L	95	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	.4995	.04	.508	mg/L	94	85	115	1	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	.4995	U	.487	mg/L	97	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	.4995	U	.462	mg/L	92	85	115	5	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		1.993	mg/L	100	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.06	0.06			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	.4995		.472	mg/L	94	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	2.4975	U	2.23	mg/L	89	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	2.4975	U	2.24	mg/L	90	85	115	0	20	

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ACZ Project ID: ***L29154***

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		1.9718	mg/L	99	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.024	0.024			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	.501		.5014	mg/L	100	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	.501	U	.4879	mg/L	97	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	.501	U	.4867	mg/L	97	85	115	0	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	.501	U	.4945	mg/L	99	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	.501	U	.4958	mg/L	99	85	115	0	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		1.9702	mg/L	99	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.024	0.024			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	.501		.4941	mg/L	99	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	2.505	3.62	5.94	mg/L	93	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	2.505	3.62	5.995	mg/L	95	85	115	1	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399576													
WG399576ICV	ICV	03/05/16 0:31	WI160304-5	2.416		2.263	mg/L	94	90	110			
WG399576ICB	ICB	03/05/16 0:33				U	mg/L		-0.02	0.02			
WG399576LFB1	LFB	03/05/16 0:34	WI151215-9	2		1.978	mg/L	99	90	110			
L29127-04AS	AS	03/05/16 0:56	WI151215-9	2	.21	2.23	mg/L	101	90	110			
WG399576LFB2	LFB	03/05/16 1:46	WI151215-9	2		2.019	mg/L	101	90	110			
L29154-07AS	AS	03/05/16 1:49	WI151215-9	2	.08	2.2	mg/L	106	90	110			
L29154-08DUP	DUP	03/05/16 1:51			.13	.137	mg/L				5	20	RA
L29149-01DUP	DUP	03/05/16 2:09			14	13.93	mg/L				1	20	

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399418													
WG399418ICV	ICV	03/02/16 9:37	WI160202-6	11.988		12.261	mg/L	102	90	110			
WG399418ICB	ICB	03/02/16 9:38				U	mg/L		-0.05	0.05			
WG399418LFB1	LFB	03/02/16 9:40	WI150204-10	10		10.349	mg/L	103	90	110			
L29126-01AS	AS	03/02/16 11:17	WI150204-10	10	U	10.403	mg/L	104	90	110			
L29127-01DUP	DUP	03/02/16 11:20			28.1	28.16	mg/L				0	20	
WG399418LFB2	LFB	03/02/16 11:36	WI150204-10	10		10.263	mg/L	103	90	110			
L29154-06AS	AS	03/02/16 11:39	WI150204-10	10	.11	10.653	mg/L	105	90	110			
L29154-07DUP	DUP	03/02/16 11:41			U	U	mg/L				0	20	RA

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ACZ Project ID: ***L29154***

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399378													
WG399378LCSW1	LCSW	03/01/16 15:20	PCN48559	6.01		6	units	100	5.9	6.1			
WG399378LCSW4	LCSW	03/01/16 17:27	PCN48559	6.01		6	units	100	5.9	6.1			
L29154-01DUP	DUP	03/01/16 19:32			9.4	9.4	units				0	20	
L29154-11DUP	DUP	03/01/16 20:41			2	2	units				0	20	
WG399378LCSW7	LCSW	03/01/16 20:45	PCN48559	6.01		6.1	units	101	5.9	6.1			
L29168-01DUP	DUP	03/01/16 22:15			8.1	8.1	units				0	20	
WG399378LCSW10	LCSW	03/01/16 23:38	PCN48559	6.01		6	units	100	5.9	6.1			
WG399378LCSW13	LCSW	03/02/16 0:59	PCN48559	6.01		6	units	100	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399489													
WG399489ICV	ICV	03/03/16 10:54	WI160106-3	.65228		.662	mg/L	101	90	110			
WG399489ICB	ICB	03/03/16 10:57				U	mg/L		-0.02	0.02			
WG399344LRB	LRB	03/03/16 10:58				U	mg/L		-0.02	0.02			
WG399344LFB	LFB	03/03/16 10:59	WI160216-2	.5		.455	mg/L	91	90	110			
L29133-03DUP	DUP	03/03/16 11:03			2.5	2.41	mg/L				4	20	
L29154-04LFM	LFM	03/03/16 11:17	WI160216-2	.5	.03	.493	mg/L	93	90	110			
WG399344LFB	LFB	03/03/16 11:31	WI160216-2	.5		.448	mg/L	90	90	110			
L29133-02LFM	LFM	03/03/16 11:33	WI160216-2	.5	.53	1.025	mg/L	99	90	110			
L29154-05DUP	DUP	03/03/16 11:41			14	14.3	mg/L				2	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	20		20.06	mg/L	100	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.6	0.6			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	100.0377		94.5	mg/L	94	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	100.0377	14.1	107.7	mg/L	94	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	100.0377	14.1	108.7	mg/L	95	85	115	1	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	100.0377	10.4	103.7	mg/L	93	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	100.0377	10.4	102.7	mg/L	92	85	115	1	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	20		20.12	mg/L	101	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.6	0.6			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	100.0377		94.63	mg/L	95	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	500.1885	26	462.2	mg/L	87	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	500.1885	26	466.1	mg/L	88	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L29154***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399305													
WG399305PBW	PBW	02/29/16 10:20				U	mg/L		-20	20			
WG399305LCSW	LCSW	02/29/16 10:22	PCN50241	260		252	mg/L	97	80	120			
L29166-06DUP	DUP	02/29/16 11:20			458	448	mg/L				2	10	
WG399471													
WG399471PBW	PBW	03/02/16 16:00				U	mg/L		-20	20			
WG399471LCSW	LCSW	03/02/16 16:02	PCN50241	260		254	mg/L	98	80	120			
L29184-01DUP	DUP	03/02/16 16:32			8340	8250	mg/L				1	10	
WG399508													
WG399508PBW	PBW	03/03/16 13:15				U	mg/L		-20	20			
WG399508LCSW	LCSW	03/03/16 13:20	PCN50241	260		258	mg/L	99	80	120			
L29217-06DUP	DUP	03/03/16 14:15			U	U	mg/L				0	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		1.97	mg/L	99	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.3	0.3			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	1.0009		.96	mg/L	96	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	1.0009	U	.96	mg/L	96	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	1.0009	U	.96	mg/L	96	85	115	0	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	1.0009	U	.97	mg/L	97	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	1.0009	U	.97	mg/L	97	85	115	0	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		1.97	mg/L	99	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.3	0.3			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	1.0009		.96	mg/L	96	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	5.0045	U	4.7	mg/L	94	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	5.0045	U	4.71	mg/L	94	85	115	0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399603													
WG399603ICV	ICV	03/07/16 12:46	MS160302-3	.05		.05147	mg/L	103	90	110			
WG399603ICB	ICB	03/07/16 12:49				U	mg/L		-0.0003	0.0003			
WG399603LFB	LFB	03/07/16 12:52	MS160303-3	.0501		.05061	mg/L	101	85	115			
L29154-02AS	AS	03/07/16 13:06	MS160303-3	.0501	.0094	.07071	mg/L	122	70	130			
L29154-02ASD	ASD	03/07/16 13:09	MS160303-3	.0501	.0094	.06973	mg/L	120	70	130	1	20	
L29201-03AS	AS	03/07/16 14:06	MS160303-3	.0501	.0002	.05713	mg/L	114	70	130			
L29201-03ASD	ASD	03/07/16 14:09	MS160303-3	.0501	.0002	.05592	mg/L	111	70	130	2	20	

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ACZ Project ID: ***L29154***

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	1.001		1.002	mg/L	100	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.03	0.03			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	.5015		.476	mg/L	95	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	.5015	U	.428	mg/L	85	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	.5015	U	.417	mg/L	83	85	115	3	20	MA ZA
L29154-08AS	AS	03/01/16 13:17	II160220-2	.5015	U	.412	mg/L	82	85	115			M2 ZA
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	.5015	U	.401	mg/L	80	85	115	3	20	M2 ZA
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	1.001		1.01	mg/L	101	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.03	0.03			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	.5015		.478	mg/L	95	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	2.5075	U	2.248	mg/L	90	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	2.5075	U	2.239	mg/L	89	85	115	0	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	100		97.43	mg/L	97	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.6	0.6			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	100.0235		90.81	mg/L	91	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	100.0235	59.2	150.2	mg/L	91	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	100.0235	59.2	151.1	mg/L	92	85	115	1	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	100.0235	23.5	113.4	mg/L	90	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	100.0235	23.5	112.9	mg/L	89	85	115	0	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	100		96.76	mg/L	97	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.6	0.6			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	100.0235		90.47	mg/L	90	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	500.1175	18	436.1	mg/L	84	85	115			MA
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	500.1175	18	440.6	mg/L	85	85	115	1	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		1.9545	mg/L	98	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.015	0.015			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	.5		.4752	mg/L	95	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	.5	14.3	14.03	mg/L	-54	85	115			M3
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	.5	14.3	14	mg/L	-60	85	115	0	20	M3
L29154-08AS	AS	03/01/16 13:17	II160220-2	.5	.005	.4748	mg/L	94	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	.5	.005	.4702	mg/L	93	85	115	1	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		1.9565	mg/L	98	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.015	0.015			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	.5		.4748	mg/L	95	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	2.5	.06	2.228	mg/L	87	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	2.5	.06	2.244	mg/L	87	85	115	1	20	

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ACZ Project ID: ***L29154***

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399472													
WG399472ICB	ICB	03/02/16 12:46				U	mg/L		-3	3			
WG399472ICV	ICV	03/02/16 12:46	WI160223-2	20		20.8	mg/L	104	90	110			
WG399472LFB	LFB	03/02/16 17:01	WI160201-3	10.01		9.8	mg/L	98	90	110			
L29138-07DUP	DUP	03/02/16 17:16			674	677	mg/L				0	20	
L29138-08AS	AS	03/02/16 17:17	SO4TURB20X	10	732	733	mg/L	10	90	110			M3
WG399643													
WG399643ICB	ICB	03/08/16 8:50				U	mg/L		-3	3			
WG399643ICV	ICV	03/08/16 8:51	WI160223-2	20		20	mg/L	100	90	110			
L29073-02AS	AS	03/08/16 9:17	SO4TURB5X	10	183	191	mg/L	80	90	110			M3
WG399643LFB	LFB	03/08/16 9:21	WI160201-3	10.01		9.6	mg/L	96	90	110			
L29073-01DUP	DUP	03/08/16 9:24			224	220	mg/L				2	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399603													
WG399603ICV	ICV	03/07/16 12:46	MS160302-3	.05		.05314	mg/L	106	90	110			
WG399603ICB	ICB	03/07/16 12:49				U	mg/L		-0.0003	0.0003			
WG399603LFB	LFB	03/07/16 12:52	MS160303-3	.0501		.0522	mg/L	104	85	115			
L29154-02AS	AS	03/07/16 13:06	MS160303-3	.0501	.0179	.07345	mg/L	111	70	130			
L29154-02ASD	ASD	03/07/16 13:09	MS160303-3	.0501	.0179	.07302	mg/L	110	70	130	1	20	
L29201-03AS	AS	03/07/16 14:06	MS160303-3	.0501	U	.05456	mg/L	109	70	130			
L29201-03ASD	ASD	03/07/16 14:09	MS160303-3	.0501	U	.05346	mg/L	107	70	130	2	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		2.014	mg/L	101	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.12	0.12			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	1.001		.895	mg/L	89	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	1.001	U	.893	mg/L	89	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	1.001	U	.905	mg/L	90	85	115	1	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	1.001	U	.939	mg/L	94	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	1.001	U	.923	mg/L	92	85	115	2	20	
WG399441													
WG399441ICV	ICV	03/02/16 16:03	II160209-1	2		2.012	mg/L	101	95	105			
WG399441ICB	ICB	03/02/16 16:09				U	mg/L		-0.12	0.12			
WG399441LFB	LFB	03/02/16 16:21	II160220-2	1.001		.996	mg/L	100	85	115			
L25368-29AS	AS	03/02/16 17:12	II160220-2	1.001	U	.975	mg/L	97	85	115			
L25368-29ASD	ASD	03/02/16 17:15	II160220-2	1.001	U	.952	mg/L	95	85	115	2	20	

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ACZ Project ID: ***L29154***

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		2.0157	mg/L	101	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.015	0.015			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	1.003		.9602	mg/L	96	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	1.003	.016	.9687	mg/L	95	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	1.003	.016	.9645	mg/L	95	85	115	0	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	1.003	U	.9636	mg/L	96	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	1.003	U	.9548	mg/L	95	85	115	1	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		2.0062	mg/L	100	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.015	0.015			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	1.003		.9571	mg/L	95	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	5.015	.03	4.452	mg/L	88	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	5.015	.03	4.47	mg/L	89	85	115	0	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399603													
WG399603ICV	ICV	03/07/16 12:46	MS160302-3	.05		.05423	mg/L	108	90	110			
WG399603ICB	ICB	03/07/16 12:49				U	mg/L		-0.0003	0.0003			
WG399603LFB	LFB	03/07/16 12:52	MS160303-3	.05		.05304	mg/L	106	85	115			
L29154-02AS	AS	03/07/16 13:06	MS160303-3	.05	.0002	.05723	mg/L	114	70	130			
L29154-02ASD	ASD	03/07/16 13:09	MS160303-3	.05	.0002	.0573	mg/L	114	70	130	0	20	
L29201-03AS	AS	03/07/16 14:06	MS160303-3	.05	U	.05784	mg/L	116	70	130			
L29201-03ASD	ASD	03/07/16 14:09	MS160303-3	.05	U	.05728	mg/L	115	70	130	1	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		1.9992	mg/L	100	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.015	0.015			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	.501		.4833	mg/L	96	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	.501	U	.4706	mg/L	94	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	.501	U	.4756	mg/L	95	85	115	1	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	.501	U	.477	mg/L	95	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	.501	U	.4753	mg/L	95	85	115	0	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		1.9882	mg/L	99	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.015	0.015			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	.501		.4807	mg/L	96	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	2.505	.11	2.298	mg/L	87	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	2.505	.11	2.321	mg/L	88	85	115	1	20	

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ACZ Project ID: ***L29154***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399367													
WG399367ICV	ICV	03/01/16 12:07	II160209-1	2		1.939	mg/L	97	95	105			
WG399367ICB	ICB	03/01/16 12:13				U	mg/L		-0.03	0.03			
WG399367LFB	LFB	03/01/16 12:25	II160220-2	.4995		.479	mg/L	96	85	115			
L29130-02AS	AS	03/01/16 12:34	II160220-2	.4995	U	.46	mg/L	92	85	115			
L29130-02ASD	ASD	03/01/16 12:37	II160220-2	.4995	U	.464	mg/L	93	85	115	1	20	
L29154-08AS	AS	03/01/16 13:17	II160220-2	.4995	U	.484	mg/L	97	85	115			
L29154-08ASD	ASD	03/01/16 13:20	II160220-2	.4995	U	.473	mg/L	95	85	115	2	20	
WG399387													
WG399387ICV	ICV	03/01/16 15:30	II160209-1	2		2.014	mg/L	101	95	105			
WG399387ICB	ICB	03/01/16 15:36				U	mg/L		-0.03	0.03			
WG399387LFB	LFB	03/01/16 15:48	II160220-2	.4995		.486	mg/L	97	85	115			
L29154-05AS	AS	03/01/16 15:54	II160220-2	2.4975	12.5	14.85	mg/L	94	85	115			
L29154-05ASD	ASD	03/01/16 15:57	II160220-2	2.4975	12.5	14.865	mg/L	95	85	115	0	20	

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29154-01	WG399367	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399483	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399708	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG399367	Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399528	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399420	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399471	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399472	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399378	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29154-02	WG399367	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399483	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399708	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG399367	Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399528	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399420	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399471	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399472	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399378	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L29154***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29154-03	WG399367	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399483	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399708	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG399367	Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399528	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399420	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399471	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399472	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399378	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29154-04	WG399367	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399483	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399534	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG399367	Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399528	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399489	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399471	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399472	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399378	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29154-05	WG399387	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Barium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Bismuth, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Boron, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Chromium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Gallium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
	WG399483	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399534	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG399387	Scandium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Sodium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
		Strontium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
	WG399441	Tin, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
	WG399387	Titanium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
	WG399528	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399647	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
	WG399378	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399489	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399305	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399472	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399378	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29154-06	WG399367	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399483	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399708	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG399367	Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399528	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399418	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399489	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399471	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399472	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399378	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29154-07	WG399483	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399708	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG399367	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG399528	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399576	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399418	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399489	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399471	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399472	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399378	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29154-08	WG399483	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399708	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG399367	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG399528	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399576	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399418	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399489	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399471	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399472	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399378	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29154-09	WG399483	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399708	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG399367	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG399528	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399576	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399418	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399489	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399471	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399643	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399378	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29154-10	WG399483	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399534	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG399367	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG399528	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399576	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399418	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399489	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399471	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399643	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399378	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L29154***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29154-11	WG399387	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Barium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Bismuth, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Boron, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Chromium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Gallium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Lithium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
	WG399483	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399534	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG399387	Molybdenum, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Scandium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Silver, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Sodium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
		Strontium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
	WG399441	Tin, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
	WG399387	Titanium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
	WG399528	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399647	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
	WG399576	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399418	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399489	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399305	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399643	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399378	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L29154***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29154-12	WG399492	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG399534	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG399367	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG399528	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399576	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399418	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399489	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399305	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399643	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399378	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L29154***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29154-13	WG399492	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG399534	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG399367	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG399528	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399576	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399418	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399378	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399489	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399508	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399643	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG399378	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.	
Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.	
Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L29154
Date Received:	02/26/2016 09:09
Received By:	ddp
Date Printed:	2/26/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?		X	

The date/time was not present on the sample containers or on the COC. The "Relinquished By" date was used to enter the samples.

	YES	NO	NA
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L29154-01 : A Green, Yellow, HG-1631 container not received and a new container created from the White .

L29154-02 : A Green, Yellow, HG-1631 container not received and a new container created from the White .

L29154-03 : A Green, Yellow, HG-1631 container not received and a new container created from the White .

L29154-04 : A Green, Yellow, HG-1631 container not received and a new container created from the White .

L29154-05 : A Green, Yellow, HG-1631 container not received and a new container created from the White .

L29154-06 : A Green, Yellow, HG-1631 container not received and a new container created from the White .

L29154-07 : A Green, Yellow, HG-1631 container not received and a new container created from the White .

L29154-08 : A Green, Yellow, HG-1631 container not received and a new container created from the White .

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L29154
Date Received:	02/26/2016 09:09
Received By:	ddp
Date Printed:	2/26/2016

```
L29154-09 : A Green, Yellow, HG-1631 container not received and
a new container created from the White .

L29154-10 : A Green, Yellow, HG-1631 container not received and
a new container created from the White .

L29154-11 : A Green, Yellow, HG-1631 container not received and
a new container created from the White .

L29154-12 : A Green, Yellow, HG-1631 container not received and
a new container created from the White .

L29154-13 : A Green, Yellow, HG-1631 container not received and
a new container created from the White .
```

16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA23446	4.4	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L29154

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike M	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Same as Report to	Address:	
Company:			
E-mail:		Telephone:	

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [x] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:

Project/PO #: 3981

Reporting state for compliance testing:

Sampler's Name: ROBERT

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SEE Table 1	Mercury by 1631E						
CAL-001 (380-400) MWMP		WW	1	X	X						
CAL-002 (86-95) MWMP		WW	1	X	X						
CAL-002 (177-187) MWMP		WW	1	X	X						
CAL-004 (295-315) MWMP		WW	1	X	X						
GMC-014 (176-184) MWMP		WW	1	X	X						
CAL-001 (750-762) MWMP		WW	1	X	X						
CAL-002 (697-706) MWMP		WW	1	X	X						
CAL-004 (445-455) MWMP		WW	1	X	X						
CAL-004 (860-875) MWMP		WW	1	X	X						
GMC-12 (780-800) MWMP		WW	1	X	X						

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

PAGE 1 of 2. Include list of analytes (Table 1) with COC and request mercury by method 1631E

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	2/25/16 9AM	[signature]	2/26/16 0900

L29154 Chain of Custody

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.

L29154

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike M	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Same as Report to	Address:	
Company:			
E-mail:		Telephone:	

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [x] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:

Project/PO #: 3981

Reporting state for compliance testing:

Sampler's Name: ROBERT

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SEE Table 1	Mercury by 1631E						
GMC-012 (919-946) MWMP		WW	1	X	X						
GMC-014 (44-59) MWMP		WW	1	X	X						
GMC-014 (208-215) MWMP		WW	1	X	X						

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

PAGE 2 of 2. Include list of analytes (Table 1) with COC and request mercury by method 1631E

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	2/25/16 9AM	NPC	2-26-16 0800

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

*****Gray out Analyses DOESN'T get done on all Samples, just 1 of the Sample SEE COC*****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 21, 2015

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L27988

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 03, 2015. This project has been assigned to ACZ's project number, L27988. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L27988. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 20, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-006 (593-613) MWMP

ACZ Sample ID: ***L27988-01***
Date Sampled: *12/02/15 09:00*
Date Received: *12/03/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/08/15 11:53	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/09/15 22:33	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0004	0.002	12/09/15 17:28	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0101			mg/L	0.0002	0.001	12/09/15 17:28	msh
Barium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.003	0.02	12/09/15 22:33	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/09/15 17:28	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/09/15 22:33	aeb
Boron, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	12/09/15 22:33	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:28	msh
Calcium, dissolved	M200.7 ICP	1	1.2			mg/L	0.1	0.5	12/09/15 22:33	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 22:33	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/10/15 14:09	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 22:33	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 22:33	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	12/09/15 22:33	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:28	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/09/15 22:33	aeb
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	12/09/15 22:33	aeb
Manganese, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	12/09/15 22:33	aeb
Mercury, dissolved	M1631, Atomic Fluorescence	10	109			ng/L	2	5	12/16/15 13:39	mfm
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/18/15 14:52	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/09/15 22:33	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/09/15 22:33	aeb
Potassium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	12/09/15 22:33	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 22:33	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	12/09/15 17:28	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/09/15 22:33	aeb
Sodium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	12/09/15 22:33	aeb
Strontium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	12/09/15 22:33	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/09/15 17:28	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/09/15 22:33	aeb
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:33	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:28	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:33	aeb
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/09/15 22:33	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-006 (593-613) MWMP

ACZ Sample ID: ***L27988-01***
Date Sampled: *12/02/15 09:00*
Date Received: *12/03/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	3.8	B		mg/L	2	20	12/03/15 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Total Alkalinity		1	3.8	B	*	mg/L	2	20	12/03/15 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			12/21/15 15:25	calc
Sum of Anions			0.147	B		meq/L			12/21/15 15:25	calc
Sum of Cations			0.166	B		meq/L			12/21/15 15:25	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	12/08/15 18:00	spl
Conductivity @25C	SM2510B	1	19.2		*	umhos/cm	1	10	12/03/15 15:45	abd
Fluoride	SM4500F-C	1	0.08	B	*	mg/L	0.05	0.3	12/07/15 15:27	enb
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4.23			mg/L			12/21/15 15:25	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.08	B	*	mg/L	0.02	0.1	12/11/15 22:49	pjb
Nitrogen, ammonia	M350.1	1	0.35		*	mg/L	0.05	0.2	12/14/15 9:39	krh
pH (lab)	SM4500H+ B									
pH		1	7.3	H	*	units	0.1	0.1	12/03/15 0:00	abd
pH measured at		1	21.6			C	0.1	0.1	12/03/15 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.01	B	*	mg/L	0.01	0.05	12/08/15 23:01	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	24		*	mg/L	10	20	12/03/15 15:48	sck
Sulfate	D516-02/-07 - Turbidimetric	1	2.4	B	*	mg/L	1	5	12/14/15 14:57	mss2
TDS (calculated)	Calculation		8.87			mg/L			12/21/15 15:25	calc
TDS (ratio - measured/calculated)	Calculation		2.71						12/21/15 15:25	calc

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (487-505.4) MWMP

ACZ Sample ID: ***L27988-02***
Date Sampled: *12/02/15 09:00*
Date Received: *12/03/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/08/15 12:01	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/09/15 22:42	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/09/15 17:30	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0002	0.001	12/09/15 17:30	msh
Barium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.003	0.02	12/09/15 22:42	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/09/15 17:30	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/09/15 22:42	aeb
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/09/15 22:42	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:30	msh
Calcium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.1	0.5	12/09/15 22:42	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 22:42	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/10/15 14:18	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 22:42	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 22:42	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	12/09/15 22:42	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/09/15 17:30	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/09/15 22:42	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/09/15 22:42	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:42	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/18/15 14:54	pta
Mercury, dissolved	M1631, Atomic Fluorescence	10	155			ng/L	2	5	12/16/15 13:44	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/09/15 22:42	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/09/15 22:42	aeb
Potassium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	12/09/15 22:42	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 22:42	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0003	12/09/15 17:30	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/09/15 22:42	aeb
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	12/09/15 22:42	aeb
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:42	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	12/09/15 17:30	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/09/15 22:42	aeb
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:42	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:30	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:42	aeb
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/09/15 22:42	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (487-505.4) MWMP

ACZ Sample ID: ***L27988-02***
Date Sampled: *12/02/15 09:00*
Date Received: *12/03/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	12/03/15 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			12/21/15 15:25	calc
Sum of Anions				U		meq/L			12/21/15 15:25	calc
Sum of Cations				U		meq/L			12/21/15 15:25	calc
Chloride	SM4500Cl-E	1	0.7	B	*	mg/L	0.5	2	12/08/15 18:00	spl
Conductivity @25C	SM2510B	1	6.5	B	*	umhos/cm	1	10	12/03/15 15:52	abd
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	12/07/15 15:40	enb
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.749			mg/L			12/21/15 15:25	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.14		*	mg/L	0.02	0.1	12/11/15 22:51	pjb
Nitrogen, ammonia	M350.1	1	0.20		*	mg/L	0.05	0.2	12/14/15 10:40	krh
pH (lab)	SM4500H+ B									
pH		1	6.6	H	*	units	0.1	0.1	12/03/15 0:00	abd
pH measured at		1	21.0			C	0.1	0.1	12/03/15 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.01	0.05	12/08/15 23:03	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	20		*	mg/L	10	20	12/03/15 15:50	sck
Sulfate	D516-02/-07 - Turbidimetric	1		U	*	mg/L	1	5	12/14/15 14:57	mss2
TDS (calculated)	Calculation		2.11			mg/L			12/21/15 15:25	calc
TDS (ratio - measured/calculated)	Calculation		9.48						12/21/15 15:25	calc

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (480-496) MWMP

ACZ Sample ID: ***L27988-03***
Date Sampled: *12/02/15 09:00*
Date Received: *12/03/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/08/15 12:10	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.03	0.2	12/09/15 22:45	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0004	0.002	12/09/15 17:32	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0213			mg/L	0.0002	0.001	12/09/15 17:32	msh
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	12/09/15 22:45	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/09/15 17:32	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/09/15 22:45	aeb
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/09/15 22:45	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:32	msh
Calcium, dissolved	M200.7 ICP	1	1.2			mg/L	0.1	0.5	12/09/15 22:45	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 22:45	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/10/15 14:21	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 22:45	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 22:45	aeb
Iron, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.02	0.05	12/09/15 22:45	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:32	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/09/15 22:45	aeb
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	12/09/15 22:45	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:45	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/18/15 14:56	pta
Mercury, dissolved	M1631, Atomic Fluorescence	20	147			ng/L	4	10	12/16/15 13:49	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/09/15 22:45	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/09/15 22:45	aeb
Potassium, dissolved	M200.7 ICP	1	1.2			mg/L	0.2	1	12/09/15 22:45	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 22:45	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0003	12/09/15 17:32	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/09/15 22:45	aeb
Sodium, dissolved	M200.7 ICP	1	3.4			mg/L	0.2	1	12/09/15 22:45	aeb
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:45	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/09/15 17:32	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/09/15 22:45	aeb
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:45	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:32	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:45	aeb
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/09/15 22:45	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (480-496) MWMP

ACZ Sample ID: ***L27988-03***
Date Sampled: *12/02/15 09:00*
Date Received: *12/03/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	4.6	B		mg/L	2	20	12/03/15 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Total Alkalinity		1	4.6	B	*	mg/L	2	20	12/03/15 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			10.4			%			12/21/15 15:25	calc
Sum of Anions			0.224	B		meq/L			12/21/15 15:25	calc
Sum of Cations			0.276	B		meq/L			12/21/15 15:25	calc
Chloride	SM4500Cl-E	1	0.9	B	*	mg/L	0.5	2	12/08/15 18:00	spl
Conductivity @25C	SM2510B	1	30.0		*	umhos/cm	1	10	12/03/15 16:00	abd
Fluoride	SM4500F-C	1	0.20	B	*	mg/L	0.05	0.3	12/07/15 15:44	enb
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4.23			mg/L			12/21/15 15:25	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B	*	mg/L	0.02	0.1	12/11/15 22:54	pjb
Nitrogen, ammonia	M350.1	1	0.07	B	*	mg/L	0.05	0.2	12/14/15 9:44	krh
pH (lab)	SM4500H+ B									
pH		1	7.0	H	*	units	0.1	0.1	12/03/15 0:00	abd
pH measured at		1	21.8			C	0.1	0.1	12/03/15 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.01	0.05	12/08/15 23:05	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	34		*	mg/L	10	20	12/03/15 15:53	sck
Sulfate	D516-02/-07 - Turbidimetric	1	4.6	B	*	mg/L	1	5	12/14/15 14:57	mss2
TDS (calculated)	Calculation		14.7			mg/L			12/21/15 15:25	calc
TDS (ratio - measured/calculated)	Calculation		2.31						12/21/15 15:25	calc

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (430-438) MWMP

ACZ Sample ID: ***L27988-04***
Date Sampled: *12/02/15 09:00*
Date Received: *12/03/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/08/15 12:14	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/09/15 22:49	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0015	B		mg/L	0.0004	0.002	12/09/15 17:34	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0048			mg/L	0.0002	0.001	12/09/15 17:34	msh
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	12/09/15 22:49	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/09/15 17:34	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/09/15 22:49	aeb
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/09/15 22:49	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:34	msh
Calcium, dissolved	M200.7 ICP	1	0.8			mg/L	0.1	0.5	12/09/15 22:49	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 22:49	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/10/15 14:24	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 22:49	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 22:49	aeb
Iron, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.02	0.05	12/09/15 22:49	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/09/15 17:34	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/09/15 22:49	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/09/15 22:49	aeb
Manganese, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	12/09/15 22:49	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/18/15 14:57	pta
Mercury, dissolved	M1631, Atomic Fluorescence	5	63			ng/L	1	3	12/16/15 14:04	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/09/15 22:49	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/09/15 22:49	aeb
Potassium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	12/09/15 22:49	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 22:49	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0003	12/09/15 17:34	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/09/15 22:49	aeb
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	12/09/15 22:49	aeb
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:49	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/09/15 17:34	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/09/15 22:49	aeb
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:49	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:34	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:49	aeb
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/09/15 22:49	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (430-438) MWMP

ACZ Sample ID: ***L27988-04***
Date Sampled: *12/02/15 09:00*
Date Received: *12/03/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	12/03/15 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			12/21/15 15:26	calc
Sum of Anions				U		meq/L			12/21/15 15:26	calc
Sum of Cations				U		meq/L			12/21/15 15:26	calc
Chloride	SM4500Cl-E	1	0.8	B	*	mg/L	0.5	2	12/08/15 18:00	spl
Conductivity @25C	SM2510B	1	11.5		*	umhos/cm	1	10	12/03/15 16:08	abd
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	12/07/15 15:49	enb
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2			mg/L			12/21/15 15:26	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	12/11/15 22:55	pjb
Nitrogen, ammonia	M350.1	1	0.13	B	*	mg/L	0.05	0.2	12/14/15 9:46	krh
pH (lab)	SM4500H+ B									
pH		1	6.5	H	*	units	0.1	0.1	12/03/15 0:00	abd
pH measured at		1	21.8			C	0.1	0.1	12/03/15 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.01	0.05	12/08/15 23:06	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	24		*	mg/L	10	20	12/03/15 15:56	sck
Sulfate	D516-02/-07 - Turbidimetric	1	2.2	B	*	mg/L	1	5	12/14/15 14:57	mss2
TDS (calculated)	Calculation		5			mg/L			12/21/15 15:26	calc
TDS (ratio - measured/calculated)	Calculation		4.80						12/21/15 15:26	calc

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (235-255) MWMP

ACZ Sample ID: ***L27988-05***
Date Sampled: *12/02/15 09:00*
Date Received: *12/03/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/08/15 12:18	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/09/15 22:58	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0014	B		mg/L	0.0004	0.002	12/09/15 17:36	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0066			mg/L	0.0002	0.001	12/09/15 17:36	msh
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	12/09/15 22:58	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/09/15 17:36	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/09/15 22:58	aeb
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/09/15 22:58	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:36	msh
Calcium, dissolved	M200.7 ICP	1	1.6			mg/L	0.1	0.5	12/09/15 22:58	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 22:58	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/10/15 14:28	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 22:58	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 22:58	aeb
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	12/09/15 22:58	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:36	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/09/15 22:58	aeb
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	12/09/15 22:58	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:58	aeb
Mercury, dissolved	M1631, Atomic Fluorescence	2	31			ng/L	0.4	1	12/16/15 14:09	mfm
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/18/15 14:59	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/09/15 22:58	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/09/15 22:58	aeb
Potassium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	12/09/15 22:58	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 22:58	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0003	12/09/15 17:36	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/09/15 22:58	aeb
Sodium, dissolved	M200.7 ICP	1	1			mg/L	0.2	1	12/09/15 22:58	aeb
Strontium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	12/09/15 22:58	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	12/09/15 17:36	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/09/15 22:58	aeb
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:58	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:36	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 22:58	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 22:58	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (235-255) MWMP

ACZ Sample ID: ***L27988-05***
Date Sampled: *12/02/15 09:00*
Date Received: *12/03/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	2.5	B		mg/L	2	20	12/03/15 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Total Alkalinity		1	2.5	B	*	mg/L	2	20	12/03/15 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			12/21/15 15:26	calc
Sum of Anions			0.152	B		meq/L			12/21/15 15:26	calc
Sum of Cations			0.176	B		meq/L			12/21/15 15:26	calc
Chloride	SM4500Cl-E	1	0.8	B	*	mg/L	0.5	2	12/08/15 18:00	spl
Conductivity @25C	SM2510B	1	19.5		*	umhos/cm	1	10	12/03/15 16:16	abd
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	12/07/15 15:54	enb
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		5.23			mg/L			12/21/15 15:26	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	12/11/15 22:56	pjb
Nitrogen, ammonia	M350.1	1	0.12	B	*	mg/L	0.05	0.2	12/14/15 9:47	krh
pH (lab)	SM4500H+ B									
pH		1	6.7	H	*	units	0.1	0.1	12/03/15 0:00	abd
pH measured at		1	22.0			C	0.1	0.1	12/03/15 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.01	B	*	mg/L	0.01	0.05	12/08/15 23:08	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	20		*	mg/L	10	20	12/03/15 15:58	sck
Sulfate	D516-02/-07 - Turbidimetric	1	3.8	B	*	mg/L	1	5	12/14/15 14:57	mss2
TDS (calculated)	Calculation		9.85			mg/L			12/21/15 15:26	calc
TDS (ratio - measured/calculated)	Calculation		2.03						12/21/15 15:26	calc

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-003 (485-495) MWMP

ACZ Sample ID: ***L27988-06***
Date Sampled: *12/02/15 09:00*
Date Received: *12/03/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/08/15 12:22	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/09/15 23:01	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0017	B		mg/L	0.0004	0.002	12/09/15 17:38	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0002	0.001	12/09/15 17:38	msh
Barium, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.003	0.02	12/09/15 23:01	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/09/15 17:38	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/09/15 23:01	aeb
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/09/15 23:01	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:38	msh
Calcium, dissolved	M200.7 ICP	1	1.6			mg/L	0.1	0.5	12/09/15 23:01	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 23:01	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/10/15 14:31	aeb
Copper, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/09/15 23:01	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 23:01	aeb
Iron, dissolved	M200.7 ICP	1	0.44			mg/L	0.02	0.05	12/09/15 23:01	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	12/09/15 17:38	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/09/15 23:01	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/09/15 23:01	aeb
Manganese, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	12/09/15 23:01	aeb
Mercury, dissolved	M1631, Atomic Fluorescence	10	121			ng/L	2	5	12/16/15 14:14	mfm
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/18/15 15:01	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/09/15 23:01	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/09/15 23:01	aeb
Potassium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	12/09/15 23:01	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 23:01	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0003	12/09/15 17:38	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/09/15 23:01	aeb
Sodium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	12/09/15 23:01	aeb
Strontium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	12/09/15 23:01	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	12/09/15 17:38	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/09/15 23:01	aeb
Titanium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 23:01	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 17:38	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 23:01	aeb
Zinc, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	12/09/15 23:01	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-003 (485-495) MWMP

ACZ Sample ID: ***L27988-06***
Date Sampled: *12/02/15 09:00*
Date Received: *12/03/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	12/03/15 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			12/21/15 15:26	calc
Sum of Anions			0.105	B		meq/L			12/21/15 15:26	calc
Sum of Cations			0.175	B		meq/L			12/21/15 15:26	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	12/08/15 18:00	spl
Conductivity @25C	SM2510B	1	19.6		*	umhos/cm	1	10	12/03/15 16:23	abd
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	12/07/15 16:00	enb
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4			mg/L			12/21/15 15:26	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.14		*	mg/L	0.02	0.1	12/11/15 22:57	pjb
Nitrogen, ammonia	M350.1	1	0.27		*	mg/L	0.05	0.2	12/14/15 9:49	krh
pH (lab)	SM4500H+ B									
pH		1	6.4	H	*	units	0.1	0.1	12/03/15 0:00	abd
pH measured at		1	22.2			C	0.1	0.1	12/03/15 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.01	0.05	12/08/15 23:11	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	28		*	mg/L	10	20	12/03/15 16:04	sck
Sulfate	D516-02/-07 - Turbidimetric	1	5.0	B	*	mg/L	1	5	12/14/15 14:57	mss2
TDS (calculated)	Calculation		8.81			mg/L			12/21/15 15:26	calc
TDS (ratio - measured/calculated)	Calculation		3.18						12/21/15 15:26	calc

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L27988-07***
Date Sampled: *12/02/15 09:00*
Date Received: *12/03/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/09/15 16:46	spl
Cyanide, WAD	SM4500-CN I- distillation								12/07/15 10:31	krh
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/08/15 12:27	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	2.05			mg/L	0.03	0.2	12/09/15 23:05	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0004	0.002	12/09/15 17:45	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0046			mg/L	0.0002	0.001	12/09/15 17:45	msh
Barium, dissolved	M200.7 ICP	1	0.045			mg/L	0.003	0.02	12/09/15 23:05	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00273			mg/L	0.00005	0.0003	12/09/15 17:45	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/09/15 23:05	aeb
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/09/15 23:05	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0030			mg/L	0.0001	0.0005	12/09/15 17:45	msh
Calcium, dissolved	M200.7 ICP	1	176			mg/L	0.1	0.5	12/09/15 23:05	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 23:05	aeb
Cobalt, dissolved	M200.7 ICP	1	0.22			mg/L	0.01	0.05	12/10/15 14:34	aeb
Copper, dissolved	M200.7 ICP	1	15.10			mg/L	0.01	0.05	12/09/15 23:05	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 23:05	aeb
Iron, dissolved	M200.7 ICP	1	1.24			mg/L	0.02	0.05	12/09/15 23:05	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0001	0.0005	12/09/15 17:45	msh
Lithium, dissolved	M200.7 ICP	1	0.071			mg/L	0.008	0.04	12/09/15 23:05	aeb
Magnesium, dissolved	M200.7 ICP	1	6.9			mg/L	0.2	1	12/09/15 23:05	aeb
Manganese, dissolved	M200.7 ICP	1	5.600			mg/L	0.005	0.03	12/09/15 23:05	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/18/15 15:03	pta
Mercury, dissolved	M1631, Atomic Fluorescence	25	508			ng/L	5	10	12/16/15 14:19	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/09/15 23:05	aeb
Nickel, dissolved	M200.7 ICP	1	0.752			mg/L	0.008	0.04	12/09/15 23:05	aeb
Potassium, dissolved	M200.7 ICP	1	16.1			mg/L	0.2	1	12/09/15 23:05	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 23:05	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0122			mg/L	0.0001	0.0003	12/09/15 17:45	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/09/15 23:05	aeb
Sodium, dissolved	M200.7 ICP	1	45.6			mg/L	0.2	1	12/09/15 23:05	aeb
Strontium, dissolved	M200.7 ICP	1	0.216			mg/L	0.005	0.03	12/09/15 23:05	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0076			mg/L	0.0001	0.0005	12/09/15 17:45	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/09/15 23:05	aeb
Titanium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.005	0.03	12/09/15 23:05	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0030			mg/L	0.0001	0.0005	12/09/15 17:45	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 23:05	aeb
Zinc, dissolved	M200.7 ICP	1	0.55			mg/L	0.01	0.05	12/09/15 23:05	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L27988-07***
Date Sampled: *12/02/15 09:00*
Date Received: *12/03/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	12/03/15 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	12/03/15 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			12/21/15 15:26	calc
Sum of Anions			13			meq/L			12/21/15 15:26	calc
Sum of Cations			13			meq/L			12/21/15 15:26	calc
Chloride	SM4500Cl-E	1	1.6	B	*	mg/L	0.5	2	12/08/15 18:00	spl
Conductivity @25C	SM2510B	1	1160		*	umhos/cm	1	10	12/03/15 16:28	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	1	0.148		*	mg/L	0.006	0.02	12/09/15 23:23	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5	0.009	B	*	mg/L	0.003	0.01	12/08/15 10:15	krh
Fluoride	SM4500F-C	10	0.9	B	*	mg/L	0.5	3	12/08/15 11:33	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		468			mg/L			12/21/15 15:26	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.17		*	mg/L	0.02	0.1	12/11/15 22:59	pjb
Nitrogen, ammonia	M350.1	1	5.51		*	mg/L	0.05	0.2	12/14/15 9:50	krh
pH (lab)	SM4500H+ B									
pH		1	4.5	H	*	units	0.1	0.1	12/03/15 0:00	abd
pH measured at		1	22.4			C	0.1	0.1	12/03/15 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.01	B	*	mg/L	0.01	0.05	12/08/15 23:12	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	948			mg/L	10	20	12/03/15 16:06	sck
Sulfate	D516-02/-07 - Turbidimetric	20	606		*	mg/L	20	100	12/14/15 15:08	mss2
TDS (calculated)	Calculation		883			mg/L			12/21/15 15:26	calc
TDS (ratio - measured/calculated)	Calculation		1.07						12/21/15 15:26	calc

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L27988***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395248													
WG395248PBW1	PBW	12/03/15 15:20				16.4	mg/L		-20	20			
WG395248LCSW3	LCSW	12/03/15 15:37	WC151123-8	820.0001		792	mg/L	97	90	110			
L27989-03DUP	DUP	12/03/15 17:05			160	169	mg/L				5	20	
WG395248LCSW6	LCSW	12/03/15 18:55	WC151123-8	820.0001		803	mg/L	98	90	110			
WG395248PBW2	PBW	12/03/15 19:03				U	mg/L		-20	20			
WG395248LCSW9	LCSW	12/03/15 20:49	WC151123-8	820.0001		804	mg/L	98	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		2.045	mg/L	102	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.09	0.09			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	1.0013		1.013	mg/L	101	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	1.0013	U	1.064	mg/L	106	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	1.0013	U	1.067	mg/L	107	85	115	0	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395547													
WG395547ICV	ICV	12/09/15 16:57	MS151201-3	.02		.01953	mg/L	98	90	110			
WG395547ICB	ICB	12/09/15 16:59				.00049	mg/L		-0.0012	0.0012			
WG395547LFB	LFB	12/09/15 17:02	MS151118-3	.01001		.01034	mg/L	103	85	115			
L27981-04AS	AS	12/09/15 17:12	MS151118-3	.01001	U	.00945	mg/L	94	70	130			
L27981-04ASD	ASD	12/09/15 17:15	MS151118-3	.01001	U	.00984	mg/L	98	70	130	4	20	
L27988-06AS	AS	12/09/15 17:40	MS151118-3	.01001	.0017	.0105	mg/L	88	70	130			
L27988-06ASD	ASD	12/09/15 17:43	MS151118-3	.01001	.0017	.01133	mg/L	96	70	130	8	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395547													
WG395547ICV	ICV	12/09/15 16:57	MS151201-3	.05		.05263	mg/L	105	90	110			
WG395547ICB	ICB	12/09/15 16:59				U	mg/L		-0.0006	0.0006			
WG395547LFB	LFB	12/09/15 17:02	MS151118-3	.0501		.0538	mg/L	107	85	115			
L27981-04AS	AS	12/09/15 17:12	MS151118-3	.0501	.0008	.05077	mg/L	100	70	130			
L27981-04ASD	ASD	12/09/15 17:15	MS151118-3	.0501	.0008	.05196	mg/L	102	70	130	2	20	
L27988-06AS	AS	12/09/15 17:40	MS151118-3	.0501	.0027	.0532	mg/L	101	70	130			
L27988-06ASD	ASD	12/09/15 17:43	MS151118-3	.0501	.0027	.05067	mg/L	96	70	130	5	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		1.9602	mg/L	98	95	105			
WG395579ICB	ICB	12/09/15 22:07				.0036	mg/L		-0.009	0.009			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	.5		.4811	mg/L	96	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	.5	.007	.5037	mg/L	99	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	.5	.007	.5096	mg/L	101	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L27988***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395547													
WG395547ICV	ICV	12/09/15 16:57	MS151201-3	.05		.050202	mg/L	100	90	110			
WG395547ICB	ICB	12/09/15 16:59				U	mg/L		-0.00015	0.00015			
WG395547LFB	LFB	12/09/15 17:02	MS151118-3	.0501		.048894	mg/L	98	85	115			
L27981-04AS	AS	12/09/15 17:12	MS151118-3	.0501	U	.048127	mg/L	96	70	130			
L27981-04ASD	ASD	12/09/15 17:15	MS151118-3	.0501	U	.049331	mg/L	98	70	130	2	20	
L27988-06AS	AS	12/09/15 17:40	MS151118-3	.0501	U	.050288	mg/L	100	70	130			
L27988-06ASD	ASD	12/09/15 17:43	MS151118-3	.0501	U	.051338	mg/L	102	70	130	2	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		1.992	mg/L	100	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.12	0.12			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	1		.994	mg/L	99	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	1	U	1.01	mg/L	101	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	1	U	1.035	mg/L	104	85	115	2	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		1.93	mg/L	97	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.03	0.03			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	.5005		.48	mg/L	96	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	.5005	.03	.528	mg/L	100	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	.5005	.03	.534	mg/L	101	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395547													
WG395547ICV	ICV	12/09/15 16:57	MS151201-3	.05		.05001	mg/L	100	90	110			
WG395547ICB	ICB	12/09/15 16:59				U	mg/L		-0.0003	0.0003			
WG395547LFB	LFB	12/09/15 17:02	MS151118-3	.05005		.04831	mg/L	97	85	115			
L27981-04AS	AS	12/09/15 17:12	MS151118-3	.05005	.0002	.0474	mg/L	94	70	130			
L27981-04ASD	ASD	12/09/15 17:15	MS151118-3	.05005	.0002	.04839	mg/L	96	70	130	2	20	
L27988-06AS	AS	12/09/15 17:40	MS151118-3	.05005	U	.04776	mg/L	95	70	130			
L27988-06ASD	ASD	12/09/15 17:43	MS151118-3	.05005	U	.04956	mg/L	99	70	130	4	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	100		100.27	mg/L	100	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.3	0.3			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	68.01261		68.74	mg/L	101	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	68.01261	1.2	72.17	mg/L	104	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	68.01261	1.2	72.92	mg/L	105	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L27988***

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395486													
WG395486ICB	ICB	12/08/15 12:42				U	mg/L		-1.5	1.5			
WG395486ICV	ICV	12/08/15 12:42	WI150701-4	55.055		57.16	mg/L	104	90	110			
WG395486LFB1	LFB	12/08/15 17:49	WI150826-7	29.97		31.64	mg/L	106	90	110			
L27983-02AS	AS	12/08/15 18:00	WI150826-7	29.97	U	34.55	mg/L	115	90	110			M1
L27984-01DUP	DUP	12/08/15 18:00			48.3	48.19	mg/L				0	20	
WG395486LFB2	LFB	12/08/15 18:00	WI150826-7	29.97		32.18	mg/L	107	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		1.934	mg/L	97	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.03	0.03			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	.5005		.482	mg/L	96	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	.5005	U	.495	mg/L	99	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	.5005	U	.498	mg/L	100	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395632													
WG395632ICV	ICV	12/10/15 13:48	II151113-4	2.002		1.895	mg/L	95	95	105			
WG395632ICB	ICB	12/10/15 13:54				U	mg/L		-0.03	0.03			
WG395632LFB	LFB	12/10/15 14:06	II151202-8	.5005		.498	mg/L	100	85	115			
L27988-01AS	AS	12/10/15 14:12	II151202-8	.5005	U	.504	mg/L	101	85	115			
L27988-01ASD	ASD	12/10/15 14:15	II151202-8	.5005	U	.504	mg/L	101	85	115	0	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395248													
WG395248LCSW2	LCSW	12/03/15 15:25	PCN48869	1408		1460	umhos/cm	104	90	110			
L27989-03DUP	DUP	12/03/15 17:05			2230	2260	umhos/cm				1	20	
WG395248LCSW5	LCSW	12/03/15 18:43	PCN48869	1408		1440	umhos/cm	102	90	110			
WG395248LCSW8	LCSW	12/03/15 20:36	PCN48869	1408		1420	umhos/cm	101	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		1.949	mg/L	97	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.03	0.03			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	.499		.487	mg/L	98	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	.499	U	.509	mg/L	102	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	.499	U	.515	mg/L	103	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L27988***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395597													
WG395597ICV	ICV	12/09/15 21:42	WI151130-7	.3003		.2892	mg/L	96	90	110			
WG395597ICB	ICB	12/09/15 21:43				U	mg/L		-0.003	0.003			
WG395600													
WG395588LRB	LRB	12/09/15 22:57				U	mg/L		-0.003	0.003			
WG395588LFB	LFB	12/09/15 22:58	WI151130-4	.2		.1905	mg/L	95	90	110			
L27947-01DUP	DUP	12/09/15 22:59			U	U	mg/L				0	20	RA
L27988-07LFM	LFM	12/09/15 23:24	WI151130-4	.2	.148	.2889	mg/L	70	90	110			M2

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395399													
WG395399ICV	ICV	12/07/15 14:33	WI151130-7	.3003		.295	mg/L	98	90	110			
WG395399ICB	ICB	12/07/15 14:34				U	mg/L		-0.003	0.003			
WG395355LRB	LRB	12/07/15 14:34				U	mg/L		-0.003	0.003			
WG395355LFB	LFB	12/07/15 14:35	WI151130-6	.2002		.1955	mg/L	98	90	110			
WG395399ICV2	ICV	12/07/15 16:52	WI151130-7	.3003		.2925	mg/L	97	90	110			
WG395399ICB2	ICB	12/07/15 16:53				U	mg/L		-0.003	0.003			
WG395399ICV3	ICV	12/08/15 10:10	WI151130-7	.3003		.2881	mg/L	96	90	110			
WG395399ICB3	ICB	12/08/15 10:11				U	mg/L		-0.003	0.003			
L27989-01DUP	DUP	12/08/15 10:17			.006	.0056	mg/L				7	20	M2 RA
L27989-02LFM	LFM	12/08/15 10:18	WI151130-6	.2002	.009	.1845	mg/L	88	90	110			M2

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395383													
WG395383ICV	ICV	12/07/15 15:10	WC151123-7	2		1.907	mg/L	95	95	105			
WG395383ICB	ICB	12/07/15 15:15				U	mg/L		-0.15	0.15			
WG395383LFB1	LFB	12/07/15 15:22	WC151103-7	5		5	mg/L	100	90	110			
L27988-01AS	AS	12/07/15 15:30	WC151103-7	5	.08	4.864	mg/L	96	90	110			
L27988-01DUP	DUP	12/07/15 15:34			.08	.08	mg/L				0	20	RA
WG395383LFB2	LFB	12/07/15 17:30	WC151103-7	5		5	mg/L	100	90	110			
WG395434													
WG395434ICV	ICV	12/08/15 11:15	WC151207-7	2		1.913	mg/L	96	95	105			
WG395434ICB	ICB	12/08/15 11:21				U	mg/L		-0.15	0.15			
WG395434LFB1	LFB	12/08/15 11:28	WC151103-7	5		4.818	mg/L	96	90	110			
L27988-07AS	AS	12/08/15 11:38	WC151103-7	50	.9	45.34	mg/L	89	90	110			M2
L27988-07DUP	DUP	12/08/15 11:43			.9	1.35	mg/L				40	20	RA

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		1.97	mg/L	99	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.3	0.3			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	1		.96	mg/L	96	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	1	U	1	mg/L	100	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	1	U	.97	mg/L	97	85	115	3	20	

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ACZ Project ID: ***L27988***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		1.953	mg/L	98	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.06	0.06			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	1.0001		.982	mg/L	98	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	1.0001	U	1.019	mg/L	102	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	1.0001	U	1.033	mg/L	103	85	115	1	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395547													
WG395547ICV	ICV	12/09/15 16:57	MS151201-3	.05		.05282	mg/L	106	90	110			
WG395547ICB	ICB	12/09/15 16:59				U	mg/L		-0.0003	0.0003			
WG395547LFB	LFB	12/09/15 17:02	MS151118-3	.05005		.05032	mg/L	101	85	115			
L27981-04AS	AS	12/09/15 17:12	MS151118-3	.05005	U	.04898	mg/L	98	70	130			
L27981-04ASD	ASD	12/09/15 17:15	MS151118-3	.05005	U	.05053	mg/L	101	70	130	3	20	
L27988-06AS	AS	12/09/15 17:40	MS151118-3	.05005	.0002	.04812	mg/L	96	70	130			
L27988-06ASD	ASD	12/09/15 17:43	MS151118-3	.05005	.0002	.05018	mg/L	100	70	130	4	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		2.0027	mg/L	100	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.024	0.024			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	1.001		.9773	mg/L	98	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	1.001	U	1.009	mg/L	101	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	1.001	U	1.015	mg/L	101	85	115	1	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	100		98.34	mg/L	98	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.6	0.6			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	50.00416		48.38	mg/L	97	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	50.00416	.3	50.28	mg/L	100	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	50.00416	.3	50.88	mg/L	101	85	115	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		1.9478	mg/L	97	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.015	0.015			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	.499		.4835	mg/L	97	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	.499	.006	.5017	mg/L	99	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	.499	.006	.5089	mg/L	101	85	115	1	20	

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ACZ Project ID: ***L27988***

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386175													
WG386175ICV	ICV	07/01/15 13:07	HG150504-4	10		9.91	ng/L	99	79	121			
WG386175ICB	ICB	07/01/15 13:12				U	ng/L		-0.5	0.5			
WG395928													
WG395928CCV1	CCV	12/16/15 10:46	HG151119-4	10		11.5	ng/L	115	76.5	123.4			
WG395928CCB1	CCB	12/16/15 10:51				U	ng/L		-0.5	0.5			
WG395928PQV	PQV	12/16/15 10:56	HG151119-6	.5		.63	ng/L	126	70	130			
WG395928LFB	LFB	12/16/15 11:01	HG151119-5	2		2.26	ng/L	113	71	125			
WG395928CCV2	CCV	12/16/15 11:47	HG151119-4	10		11.4	ng/L	114	76.5	123.4			
WG395928CCB2	CCB	12/16/15 11:52				U	ng/L		-0.5	0.5			
WG395928CCV3	CCV	12/16/15 12:58	HG151119-4	10		10.6	ng/L	106	76.5	123.4			
WG395928CCB3	CCB	12/16/15 13:03				U	ng/L		-0.5	0.5			
L27988-03MS	MS	12/16/15 13:54	HG20XPREP	800	147	189.4	ng/L	106	71	125			
L27988-03MSD	MSD	12/16/15 13:59	HG20XPREP	800	147	180.8	ng/L	85	71	125	5	24	
WG395928CCV4	CCV	12/16/15 14:25	HG151119-4	10		11.1	ng/L	111	76.5	123.4			
WG395928CCB4	CCB	12/16/15 14:30				U	ng/L		-0.5	0.5			

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396045													
WG396045ICV	ICV	12/18/15 10:27	II151130-3	.005		.0052	mg/L	104	95	105			
WG396045ICB	ICB	12/18/15 10:29				U	mg/L		-0.0002	0.0002			
WG395939													
WG395939LRB	LRB	12/18/15 14:26				U	mg/L		-0.00044	0.00044			
WG395939LFB	LFB	12/18/15 14:28	II151130-5	.002004		.00226	mg/L	113	85	115			
L27981-04LFM	LFM	12/18/15 14:38	II151130-5	.002004	U	.00208	mg/L	104	85	115			
L27981-04LFMD	LFMD	12/18/15 14:40	II151130-5	.002004	U	.00204	mg/L	102	85	115	2	20	
L28023-03LFM	LFM	12/18/15 15:15	II151130-5	.002004	U	.00207	mg/L	103	85	115			
L28023-03LFMD	LFMD	12/18/15 15:17	II151130-5	.002004	U	.00208	mg/L	104	85	115	0	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		2.008	mg/L	100	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.06	0.06			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	.4995		.498	mg/L	100	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	.4995	U	.516	mg/L	103	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	.4995	U	.522	mg/L	105	85	115	1	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		1.9168	mg/L	96	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.024	0.024			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	.501		.4936	mg/L	99	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	.501	U	.5	mg/L	100	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	.501	U	.5033	mg/L	100	85	115	1	20	

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ACZ Project ID: ***L27988***

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395746													
WG395746ICV	ICV	12/11/15 19:44	WI151024-1	2.416		2.44	mg/L	101	90	110			
WG395746ICB	ICB	12/11/15 19:45				U	mg/L		-0.02	0.02			
WG395748													
WG395748LFB	LFB	12/11/15 22:47	WI150613-3	2		2.026	mg/L	101	90	110			
L27988-01AS	AS	12/11/15 22:50	WI150613-3	2	.08	2.156	mg/L	104	90	110			
L27988-02DUP	DUP	12/11/15 22:52			.14	.138	mg/L				1	20	RA

Nitrogen, ammonia M350.1

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395754													
WG395754ICV	ICV	12/14/15 9:34	WI151212-6	11.988		12.226	mg/L	102	90	110			
WG395754ICB	ICB	12/14/15 9:36				U	mg/L		-0.05	0.05			
WG395754LFB1	LFB	12/14/15 9:37	WI150204-10	10		10.116	mg/L	101	90	110			
L27988-01DUP	DUP	12/14/15 9:40			.35	.435	mg/L				22	20	RA
WG395754LFB2	LFB	12/14/15 10:19	WI150204-10	10		9.768	mg/L	98	90	110			
L27988-02AS	AS	12/14/15 10:42	WI150204-10	10	.2	10.605	mg/L	104	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395248													
WG395248LCSW1	LCSW	12/03/15 15:23	PCN48559	6.01		6	units	100	5.9	6.1			
L27989-03DUP	DUP	12/03/15 17:05			7.6	7.6	units				0	20	
WG395248LCSW4	LCSW	12/03/15 18:41	PCN48559	6.01		6	units	100	5.9	6.1			
WG395248LCSW7	LCSW	12/03/15 20:35	PCN48559	6.01		6.1	units	101	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395496													
WG395496ICV	ICV	12/08/15 22:54	WI151110-1	.65228		.682	mg/L	105	90	110			
WG395496ICB	ICB	12/08/15 22:56				U	mg/L		-0.01	0.01			
WG395452LRB	LRB	12/08/15 22:59				U	mg/L		-0.01	0.01			
WG395452LFB	LFB	12/08/15 23:00	WI151124-4	.5		.471	mg/L	94	90	110			
L27988-01LFM	LFM	12/08/15 23:02	WI151124-4	.5	.01	.475	mg/L	93	90	110			
L27988-02DUP	DUP	12/08/15 23:04			.02	.016	mg/L				22	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	20		19.4	mg/L	97	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.6	0.6			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	100.0125		94.27	mg/L	94	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	100.0125	.8	98.77	mg/L	98	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	100.0125	.8	99.48	mg/L	99	85	115	1	20	

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ACZ Project ID: ***L27988***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395256													
WG395256PBW	PBW	12/03/15 15:30				U	mg/L		-20	20			
WG395256LCSW	LCSW	12/03/15 15:32	PCN49659	260		264	mg/L	102	80	120			
L27988-05DUP	DUP	12/03/15 16:01			20	22	mg/L				10	10	RA
L28000-02DUP	DUP	12/03/15 16:30			1370	1360	mg/L				1	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		1.98	mg/L	99	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.3	0.3			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	1.0009		.98	mg/L	98	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	1.0009	U	1.02	mg/L	102	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	1.0009	U	1.03	mg/L	103	85	115	1	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395547													
WG395547ICV	ICV	12/09/15 16:57	MS151201-3	.05		.04889	mg/L	98	90	110			
WG395547ICB	ICB	12/09/15 16:59				U	mg/L		-0.0003	0.0003			
WG395547LFB	LFB	12/09/15 17:02	MS151118-3	.0501		.04544	mg/L	91	85	115			
L27981-04AS	AS	12/09/15 17:12	MS151118-3	.0501	.0196	.06982	mg/L	100	70	130			
L27981-04ASD	ASD	12/09/15 17:15	MS151118-3	.0501	.0196	.06916	mg/L	99	70	130	1	20	
L27988-06AS	AS	12/09/15 17:40	MS151118-3	.0501	.0007	.05028	mg/L	99	70	130			
L27988-06ASD	ASD	12/09/15 17:43	MS151118-3	.0501	.0007	.04837	mg/L	95	70	130	4	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	1.001		.978	mg/L	98	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.03	0.03			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	.502		.489	mg/L	97	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	.502	U	.412	mg/L	82	85	115			M2 ZA
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	.502	U	.422	mg/L	84	85	115	2	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	100		97.02	mg/L	97	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.6	0.6			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	100.0581		94.36	mg/L	94	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	100.0581	.8	98.95	mg/L	98	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	100.0581	.8	99.83	mg/L	99	85	115	1	20	

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ACZ Project ID: ***L27988***

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		1.9662	mg/L	98	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.015	0.015			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	.5005		.4903	mg/L	98	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	.5005	.006	.5125	mg/L	101	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	.5005	.006	.5177	mg/L	102	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395811													
WG395811ICB	ICB	12/14/15 12:45				U	mg/L		-3	3			
WG395811ICV	ICV	12/14/15 12:45	WI151130-8	20		19.8	mg/L	99	90	110			
WG395811LFB	LFB	12/14/15 14:57	WI150904-1	10.01		9.6	mg/L	96	90	110			
L27988-01DUP	DUP	12/14/15 14:57			2.4	2.3	mg/L				4	20	RA
L27988-02AS	AS	12/14/15 14:57	WI150904-1	10.01	U	10.8	mg/L	108	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395547													
WG395547ICV	ICV	12/09/15 16:57	MS151201-3	.05		.05301	mg/L	106	90	110			
WG395547ICB	ICB	12/09/15 16:59				U	mg/L		-0.0003	0.0003			
WG395547LFB	LFB	12/09/15 17:02	MS151118-3	.0501		.05059	mg/L	101	85	115			
L27981-04AS	AS	12/09/15 17:12	MS151118-3	.0501	U	.04967	mg/L	99	70	130			
L27981-04ASD	ASD	12/09/15 17:15	MS151118-3	.0501	U	.05068	mg/L	101	70	130	2	20	
L27988-06AS	AS	12/09/15 17:40	MS151118-3	.0501	.0008	.04942	mg/L	97	70	130			
L27988-06ASD	ASD	12/09/15 17:43	MS151118-3	.0501	.0008	.05155	mg/L	101	70	130	4	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		2.011	mg/L	101	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.12	0.12			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	1.001		.969	mg/L	97	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	1.001	U	.994	mg/L	99	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	1.001	U	1.005	mg/L	100	85	115	1	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		2.0155	mg/L	101	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.015	0.015			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	1.003		.9967	mg/L	99	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	1.003	U	1.022	mg/L	102	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	1.003	U	1.034	mg/L	103	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L27988***

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395547													
WG395547ICV	ICV	12/09/15 16:57	MS151201-3	.05		.05239	mg/L	105	90	110			
WG395547ICB	ICB	12/09/15 16:59				U	mg/L		-0.0003	0.0003			
WG395547LFB	LFB	12/09/15 17:02	MS151118-3	.05		.04999	mg/L	100	85	115			
L27981-04AS	AS	12/09/15 17:12	MS151118-3	.05	.0278	.07916	mg/L	103	70	130			
L27981-04ASD	ASD	12/09/15 17:15	MS151118-3	.05	.0278	.08035	mg/L	105	70	130	1	20	
L27988-06AS	AS	12/09/15 17:40	MS151118-3	.05	U	.04773	mg/L	95	70	130			
L27988-06ASD	ASD	12/09/15 17:43	MS151118-3	.05	U	.04988	mg/L	100	70	130	4	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		1.9732	mg/L	99	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.015	0.015			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	.501		.4841	mg/L	97	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	.501	U	.5044	mg/L	101	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	.501	U	.508	mg/L	101	85	115	1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395579													
WG395579ICV	ICV	12/09/15 22:01	II151113-4	2		1.906	mg/L	95	95	105			
WG395579ICB	ICB	12/09/15 22:07				U	mg/L		-0.03	0.03			
WG395579LFB	LFB	12/09/15 22:20	II151202-8	.4995		.479	mg/L	96	85	115			
L27988-01AS	AS	12/09/15 22:36	II151202-8	.4995	.01	.504	mg/L	99	85	115			
L27988-01ASD	ASD	12/09/15 22:39	II151202-8	.4995	.01	.504	mg/L	99	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L27988***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27988-01	WG395579	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395486	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395248	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395383	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395748	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395248	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395496	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395256	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395811	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395248	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L27988***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27988-02	WG395579	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395486	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395248	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395383	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395748	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395248	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395496	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395256	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395811	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395248	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L27988***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27988-03	WG395579	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395486	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395248	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395383	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395748	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395248	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395496	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395256	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395811	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395248	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L27988***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27988-04	WG395579	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395486	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395248	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395383	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395748	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395248	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395496	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395256	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395811	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395248	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L27988***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27988-05	WG395579	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395486	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395248	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395383	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395748	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395248	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395496	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395256	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395811	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395248	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L27988***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27988-06	WG395579	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395486	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395248	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395383	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395748	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395248	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395496	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395256	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395811	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395248	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L27988***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27988-07	WG395579	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395486	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395248	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395600	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395399	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395434	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395748	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395248	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395496	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395811	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395248	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

Metals Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L27988
Date Received:	12/03/2015 09:26
Received By:	ddp
Date Printed:	12/3/2015

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?		X	

The date/time was entered on the COC per the information present on the sample containers for sample(s) one thru seven.

	YES	NO	NA
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L27988-01 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L27988-02 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L27988-03 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L27988-04 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L27988-05 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L27988-06 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L27988-07 : A Green, Yellow, Purple and HG-1631 container not received and a new container created from the White .

	YES	NO	NA
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L27988
Date Received:	12/03/2015 09:26
Received By:	ddp
Date Printed:	12/3/2015

18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA23032	3.8	<=6.0	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

27988

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:

Project/PO #: 3981

Reporting state for compliance testing:

Sampler's Name: Robert

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Tabel 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500	Mercury by 1631E				
GMC-006 (593-613) MWMP		WW	1	X			X				
CAL-001 (487-505.4) MWMP		WW	1	X			X				
CAL-002 (480-496) MWMP		WW	1	X			X				
CAL-002 (430-438) MWMP		WW	1	X			X				
CAL-002 (235-255) MWMP		WW	1	X			X				
GMC-003 (485-495) MWMP		WW	1	X			X				
Calico Leach Res. after CN Destruct		WW	1	X	X	X	X				

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 MWMP
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
	12/2/15 9Am		12315 9:20

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L27988 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

*****Gray out Analyses DOESN'T get done on all Samples' just 1 of the Sample SEE COC*****

Analyses

Appendix C
Erionite Summary Characterization Report

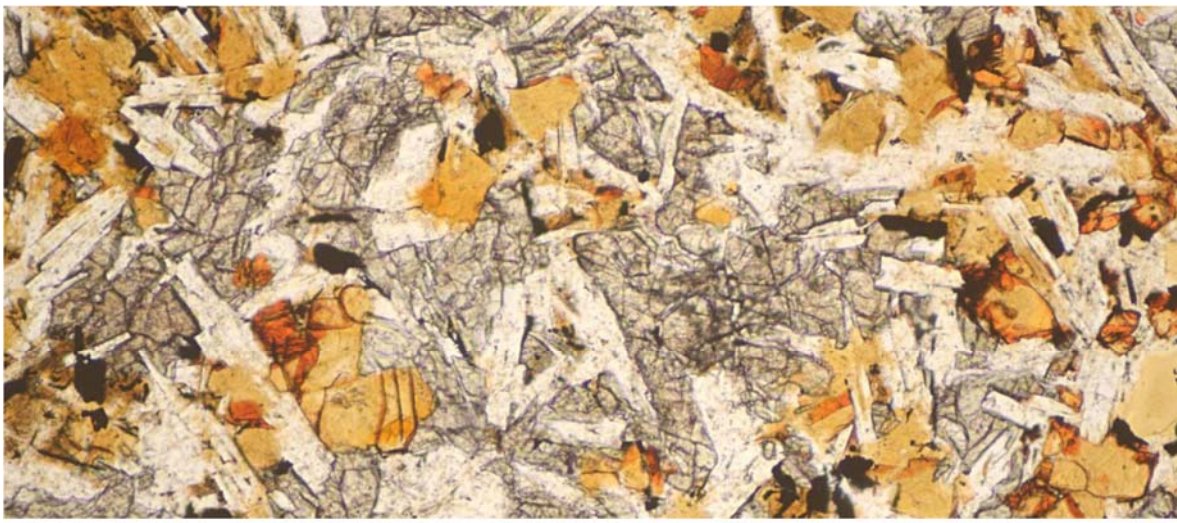
Erionite Summary Characterization Report

Grassy Mountain Project

Calico Resources USA Corporation

Report Prepared for

Calico Resources USA Corporation



Report Prepared by

srk consulting

SRK Consulting (U.S.), Inc.
SRK Project Number 506800.03
October 2019

Erionite Characterization Summary Report

Grassy Mountain Project

Calico Resources USA Corporation

665 Anderson St
Winnemucca, NV 89445

SRK Consulting (U.S.), Inc.

5250 Neil Road
Suite 300
Reno, NV 89502

SRK Project Number 506800.03

October 2019

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Appendix A: Mineralogical Analysis Reports

1 Introduction

In order to address comments received from the Oregon Department of Geology and Mineral Industries (DOGAMI) and Oregon Department of Agriculture (ODA) on January 26, 2015, mineralogical analysis has been completed to determine if erionite is present within the geologic materials that will be encountered during mining and construction of the Grassy Mountain Project. Erionite analysis has been conducted according to the February 2015 Erionite Sampling and Analysis Plan (SRK, 2015). This report has been prepared to provide a summary of the erionite analysis results for the Grassy Mountain Project.

2 Erionite Occurrence

Erionite is a fibrous zeolite-group mineral and known carcinogen occurring as microscopic acicular, prismatic crystals in altered volcanic tuffs of late Cenozoic age (Deffeyes, 1959; Sheppard and Gude, 1969). Erionite can also occur as bedded zeolites within a lacustrine environment containing sediments high in calcium and magnesium. Less commonly erionite occurs in vesicles or cavities within volcanic rocks such as basalt, andesite or rhyolite.

The type locality for erionite is located in Durkee, Oregon approximately 90 miles north of Grassy Mountain. In this location, erionite occurs as thin seams in tuff associated with Miocene lacustrine rocks (Staples and Gard, 1959). Erionite also occurs in Miocene tuff and tuffaceous sandstone near Rome, Oregon approximately 60 miles south of Grassy Mountain (Campion, 1979; Holmes, 1990, 1994; Sheppard and Gude, 1969, 1993; and Wolf and Ellison, 1971). Erionite has also been documented to occur in tuff and tuffaceous sandstone associated with Miocene lacustrine rocks near Harney Lake about 80 miles west of Grassy Mountain (Sheppard, 1993, 1994; Walker and Swanson, 1968).

The Grassy Mountain Project is the largest of twelve recognized epithermal hot spring precious metal deposits of the Lake Owyhee volcanic field. The volcanic field includes several caldera-sourced ash-flow sheets and rhyolite tuff cones that were deposited in the mid-Miocene. In the mid to late Miocene, volcanism was characterized by small volume rhyolite domes and flows and basalt flows and mafic vent complexes. The resulting regional stratigraphic section is a thick sequence of mid-Miocene volcanic rocks and coeval-to-Pliocene age lacustrine, volcaniclastic and fluvial sedimentary rocks.

The late Miocene Grassy Mountain Formation is the host rock for the mineral resource and consists of a series of fluvial, lacustrine, and tuffaceous sediments that are silicified and strongly indurated. Within the mine area, the Grassy Mountain Formation is mainly fluvial in origin and consists of interbedded arkosic sandstone, fine grained sandstone, siltstone, with rare siltstone/mudstone and conglomerate. These fluvial units are interbedded with siliceous sinter terrace deposits.

Underlying the Grassy Mountain Formation is the Kern Basin Tuff, a non-welded, pumiceous, crystal tuff. The Kern Basin Tuff occurs below the deposit and will not be encountered by the underground operations. Within the Project area, outcrops are typically composed of olivine-rich basalt and siltstones, sandstones, and conglomerates of the Grassy Mountain Formation. These rocks are locally covered with relatively thin, unconsolidated alluvial and colluvial deposits.

A geologic map is provided in the Baseline Geochemical Characterization Report Grassy Mountain Project (SRK, 2019) and shows the location of the project including the access road as well as the Permit area. Based on this map, the access road will encounter alluvium, the Grassy Mountain Formation and Rock Springs basalt.

As described in the Geology and Soils Baseline Report (Abrams, 2018), numerous exploration programs have been conducted over the years for the Grassy Mountain Project by Atlas, Newmont and Calico Resources. In addition, SRK completed a sampling program during which existing core material was examined and sampled in support of the geochemical characterization program for the Project. None of these programs identified erionite or any other zeolite minerals within the fluvial sediments of the Grassy Formation. Therefore, the potential for this mineral to occur in the Permit area is unlikely and if it does occur would be limited to low volume, microscopic occurrences.

3 Methodology

This sampling was Mineralogical analysis was conducted according to the February 2015 Erionite Sampling and Analysis Plan (Erionite SAP). As described in the Erionite SAP, a subset of samples from the baseline geochemical characterization study was selected for mineralogical analysis to determine if erionite is present within the samples. Samples selected for mineralogical analysis focused on those lithologies that have a potential to contain erionite including siltstones/mudstones of the Grassy Mountain Formation. Erionite is not likely to occur with the sinter units, arkosic sandstone and sandstone units of the Grassy Mountain Formation or soil/alluvium. In addition, samples of the basalt borrow source material and samples of the access road cut material were submitted for mineralogical analysis. Additional details on the sample locations are provided in the Baseline Geochemical Characterization Report Grassy Mountain Project (SRK, 2019).

Samples were shipped to McClelland Laboratories (MLI) for sample preparation. For each sample selected for testing, two splits were generated. One 100 gram split was generated and pulverized for XRD analysis and a separate 100 gram split of each sample was generated and set aside for SEM and optical mineralogy. The waste rock, ore and tailings samples selected for mineralogy were shipped to SRK (UK) where they underwent x-ray diffraction (XRD) testing at the School of Earth & Ocean Sciences Cardiff University for identification of erionite. The samples of borrow material and access road cut material were sent to Petrolab Ltd in Cardiff for analysis. Those samples submitted to Petrolab were also submitted for optical mineralogy and scanning electron microscope (SEM). The SEM analysis was consistent with U.S. Geological survey publication Denver Microbeam laboratory Administrative Report 14012007 (Lowers, H.A. and Meeker, G.P., 2007). Using SEM, each sample was examined for the distinctive needle-shaped crystals of erionite.

In order to ensure quality control, all elemental analysis was conducted after daily calibration of the spectrometers to pure metal standards, compounds and natural minerals for definitive elements. In addition, reference samples (i.e., standards) of erionite from Rome Oregon, were sent to the analytical lab for test sample comparisons.

4 Results

4.1 Waste Rock and Ore

A total of 12 samples of waste rock and ore were submitted for XRD to determine if erionite is present in the Grassy Valley deposit. The samples submitted for this analysis represent the range of material types associated with the Grassy Mountain deposit. Two standards from Rome, Oregon containing erionite were also submitted and include 924635 and 924636.

The results of the XRD analysis are provided in Appendix A and summarized in Table 4-1. The results of this analysis show that erionite was not detected in any of the waste rock/ore samples. The only samples that contained detectable levels of erionite were the two standards that contained erionite. Therefore, no optical or SEM analysis was completed for these samples.

Table 4-1: X-Ray Diffraction Results – Waste Rock and Ore

Mineral Phase	Sinter			Sandstone			Siltstone	
	CAL 001 (380 - 400)	CAL 002 (177 - 187)	CAL 001 (487 - 505)	CAL 002 (86 - 95)	CAL 004 (860 - 875)	CAL 001 (750 - 762)	GMC 003 (485 - 495)	GMC 014 (176 - 184)
Quartz	98	98	84	89	80	75	89	82
Orthoclase	1	2	8	11	12	14	7	
Calcite	1							
Illite			8		8	11	4	7
Albite								
Muscovite								
Kaolinite								
Pyrite								2
Magnetite								
Goethite								
Anorthoclase								
Rectorite								9
Erionite								

Mineral Phase	Mudstone		Breccia		924635 (standard)	924636 (standard)
	CAL 003 (675 - 685)	CAL 004 (295 - 315)	GMC 012 (832 - 851)	CAL 002 (430 - 438)		
Quartz	50	88	66	72	27	57
Orthoclase				9	18	
Calcite						
Illite	42	6				
Albite		2		10		33
Muscovite			32	9		
Kaolinite	6					
Pyrite	2					
Magnetite		2				
Goethite		2				
Anorthoclase			2			
Rectorite						
Erionite					55	10

Note: Results presented as percentages of total mineral phases present.

4.2 Borrow Material

A total of eight samples of borrow material were submitted for XRD and are summarized in Table 4-2. One standard from Rome, Oregon containing erionite was also analyzed. The full mineralogical report is provided in Appendix A.

Results of the XRD analysis indicated erionite was not detected in any of the borrow material with the exception of one sample of andesitic basalt (Basalt B3 48-53ft). Erionite was tentatively identified at trace amounts (i.e., TR) in this sample from the XRD analysis. Upon further investigation, the optical mineralogist was not able to confirm the presence of erionite using SEM or thin section techniques. Using core photos, this sample was compared to other andesitic basalt and no obvious differences were observed.

Table 4-2: X-Ray Diffraction Results – Borrow Material

Mineral Phase	Andesitic basalt	Vesicular basalt	Vesicular basalt	Vesicular basalt	Basalt	Clay	Sediments	Sediments	Reference
	1446354	1446342	1446350	1446356	1446344	1446351	1446346	1446358	
	Basalt B3 48-53	Basalt B1 59-63	Basalt B2 86-89	Basalt B3 101-107	Basalt B1 93.7-98	Basalt B2 101-103	Basalt B1 123-125	Basalt B3 151-156	
Smectite	21.4	7.2	14.7	20.7	24.3	33.2	18.9	62.4	
Illite+Mica							12		
Chlorite	2.7								
Serpentine									
Quartz	1.1	1.1	**1**	1.6		0.7	34.5	18.8	18.1
Plagioclase	39.3	45.5	48.9	50.6	44.8	27.9	29.7	15.8	43.4
Pyroxene	21.1	23.3	26.3	20	22.9	16	4.9	3	5.6
Olivine	5		1.8		5.4				
Calcite		7.8		TR		18.8			
Ilmenite	3	1.9							
Magnetite	6.3	TR							
Hematite		13.3	7.4		2.7	3.5			
Erionite	TR								32.9
Total	100	100	100	100	100	100	100	100	100

Note: Results presented as percentages of total mineral phases present.

4.3 Access Road Cut Material

All seven access road cut samples were submitted for XRD analysis. Results are summarized in Table 4-3 below. One standard containing erionite was also analyzed. The full mineralogical report is provided in Appendix A.

Results of the XRD analysis indicated erionite was not detected in any of the access road cut material with the exception of one sample (erionite 2). Erionite was tentatively identified at trace amounts (i.e., TR) in this sample from the XRD analysis. Upon further investigation, the optical mineralogist was not able to confirm the presence of erionite using SEM or thin section techniques. This sample was collected less than 100 ft from erionite 1, which did not contain erionite in the XRD.

Table 4-3: X-Ray Diffraction Results – Access Road Cut

Mineral Phase	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Reference
	1446360	1446361	1446362	1446363	1446364	1446365	1446366	
	Erionite 1	Erionite 2	Erionite 3	Erionite 4	Erionite 5	Erionite 6	Erionite 7	
Smectite	23.2	18.6	14.6		16.2			
Serpentine	5.3				TR			
Quartz	1.6	1.2	1.8	2	1.6	1.4	2.2	18.1
Plagioclase	36.9	55.1	50.7	56.9	50.7	62.7	58.7	43.4
Pyroxene	36	23.1	20.8	28.1	25.6	27.8	28.7	5.6
Olivine	2.5	2	7	8.3	3.5	5.8	8	
Ilmenite	4.6			4.7	2.4	2.3	3	
Magnetite				TR				
Hematite			5.1		TR	TR	TR	
Erionite		TR						32.9
Total	100	100	100	100	100	100	100	100

Note: Results presented as percentages of total mineral phases present.

4.4 Tailings

One sample of tailings considered representative of the final tailings product was submitted for XRD. This sample was analyzed along with the batch of samples containing two standards from Rome, Oregon (924635 and 924636). Full results are provided in Appendix A and summarized in Table 4-4. Results of the XRD analysis indicate erionite is not present in the tailings material. The only samples that contained detectable levels of erionite were the two standards that contained erionite. Therefore, no optical or SEM analysis was completed for this sample.

Table 4-4: X-Ray Diffraction Results – Tailings

Mineral Phase	Calico Leached Res Tailings After CN Destruction
Quartz	75
Orthoclase	14
Muscovite	11
Erionite	-
Total	100

Note: Results presented as percentages of total mineral phases present.

5 Conclusions

SRK Consulting (US) Inc. (SRK) has completed the mineralogical analysis as outlined in the 2015 SAP to assess if erionite is present within the geologic materials that will be encountered during mining and construction of the Grassy Mountain Project.

Erionite was not detected in any of the waste rock, ore or tailings samples. Erionite was tentatively identified by XRD in trace amounts in one sample each of the basalt borrow material and one sample of basalt from the access road area; however, the presence of erionite was not confirmed by optical mineralogy or SEM analysis.

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Appendices

Appendix A

Mineralogical Analysis Results

XRD Analysis of 21 Samples

Bulk XRD analyses were carried out on 13 samples and two standards containing erionite. Scans were run using the Philips PW1710 Automated Powder Diffractometer using Cu Kα radiation at 35kV and 40mA, between 2 and 70 °2θ at a scan speed of 0.04 °2θ/s. From the scans, phases were identified and from the peak areas, semi quantitative analysis was performed and a percentage of each phase present calculated. Weighting factors were applied where necessary. Results for the samples are provided in the following tables and charts.

CAL 001 (380 – 400)

Phase Found	Percentage
Quartz	98
Orthoclase	1
Calcite	1

CAL 001 (487 – 505.4)

Phase Found	Percentage
Quartz	84
Orthoclase	8
Illite	8

CAL 001 (750 - 762)

Phase Found	Percentage
Quartz	75
Orthoclase	14
Illite	11

CAL 002 (86 - 95)

Phase Found	Percentage
Quartz	89
Orthoclase	11

CAL 002 (177 - 187)

Phase Found	Percentage
Quartz	98
Orthoclase	2

CAL 002 (430 - 438)

Phase Found	Percentage
Quartz	72
Albite	10
Orthoclase	9
Muscovite	9

CAL 003 (675 - 685)

Phase Found	Percentage
Quartz	50
Illite	42
Kaolinite	6
Pyrite	2

CAL 004 (295 - 315)

Phase Found	Percentage
Quartz	88
Illite	6
Magnetite	2
Goethite	2
Albite	2

CAL 004 (860 - 875)

Phase Found	Percentage
Quartz	80
Orthoclase	12
Illite	8

Calico Leached Res After CN Destruction

Phase Found	Percentage
Quartz	75
Orthoclase	14
Muscovite	11

GMC 003 (485 – 495)

Phase Found	Percentage
Quartz	89
Orthoclase	7
Illite	4

GMC 012 (832 - 851)

Phase Found	Percentage
Quartz	66
Muscovite	32
Anorthoclase	2

GMC 014 (176 - 184)

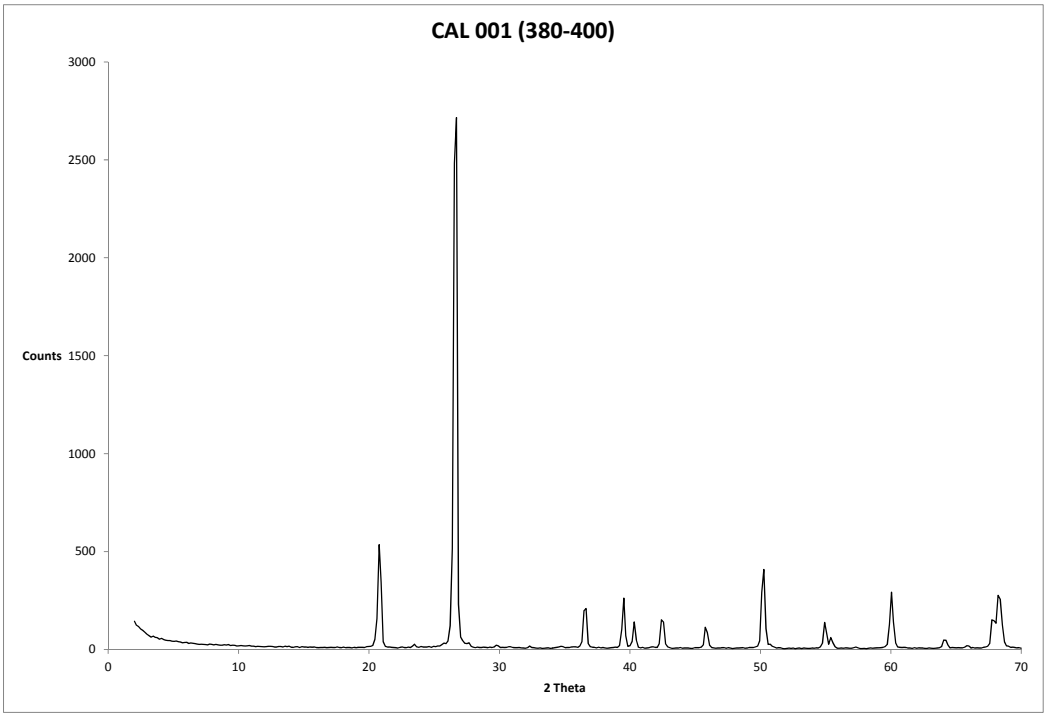
Phase Found	Percentage
Quartz	82
Rectorite	9
Illite	7
Pyrite	2

924635

Phase Found	Percentage
Erionite	55
Quartz	27
Orthoclase	18

924636

Phase Found	Percentage
Quartz	57
Albite	33
Erionite	10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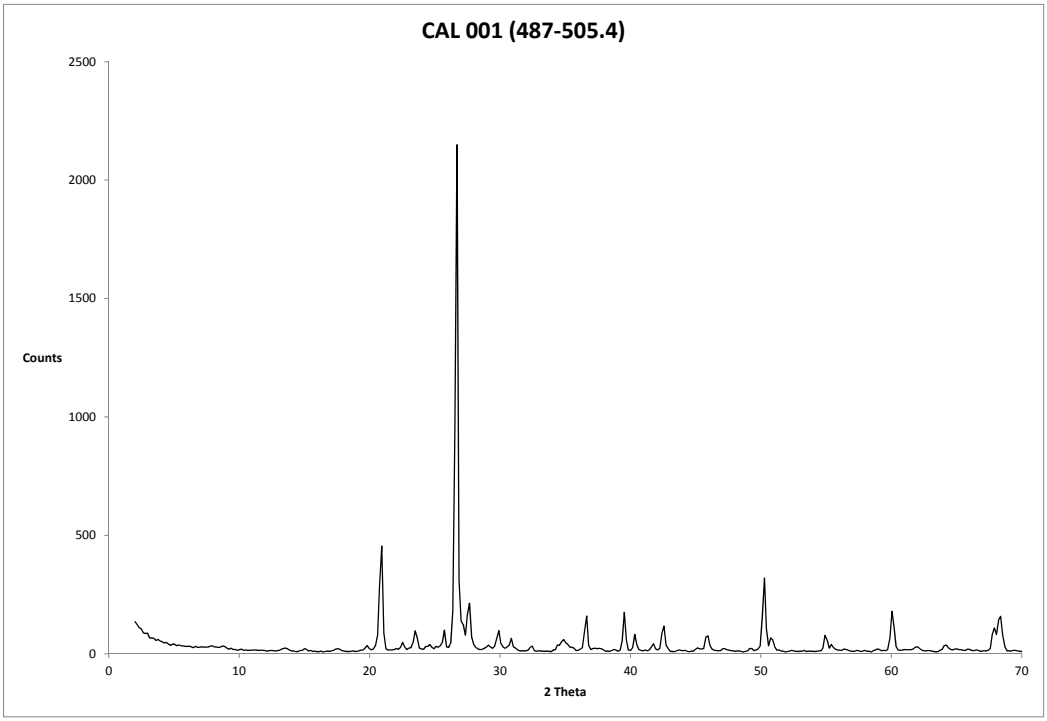
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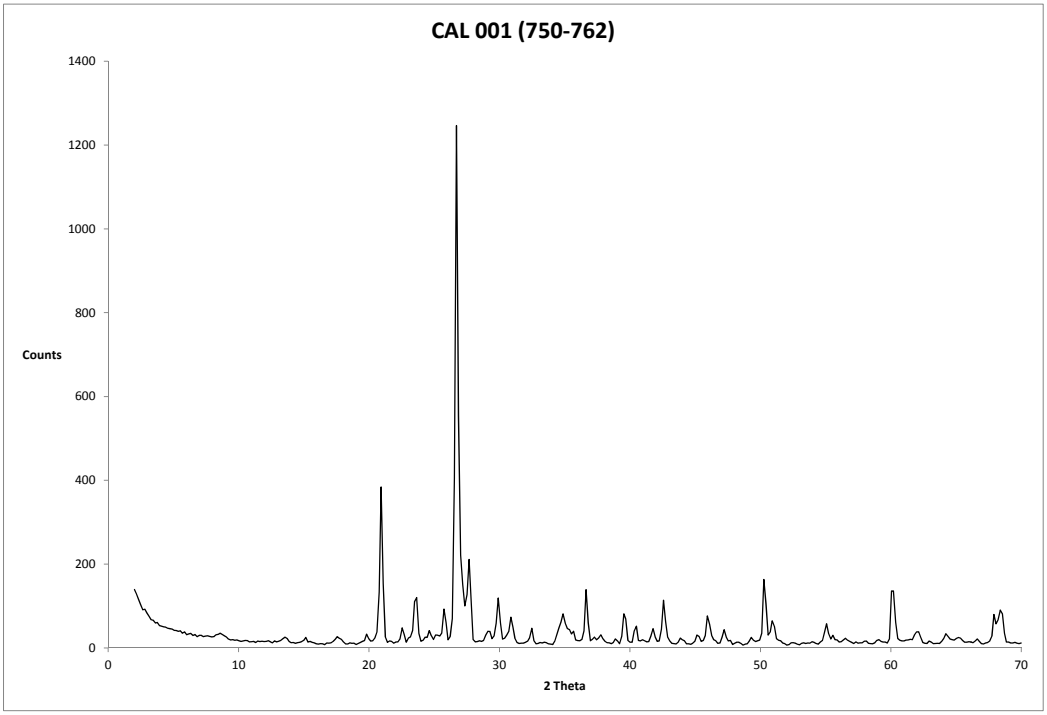
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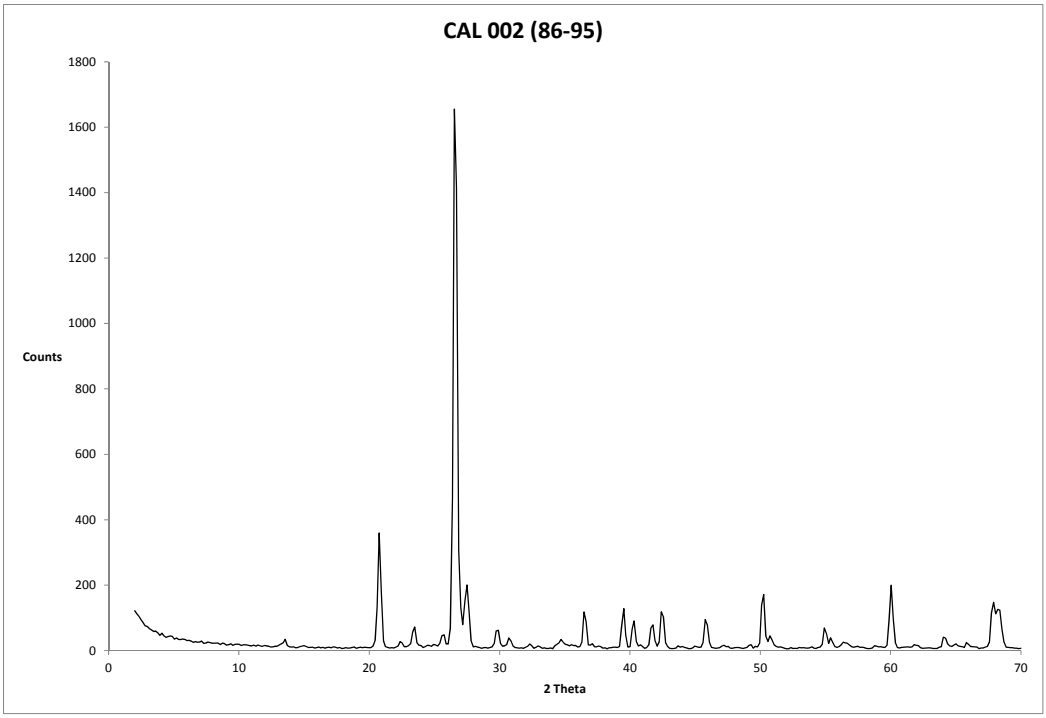
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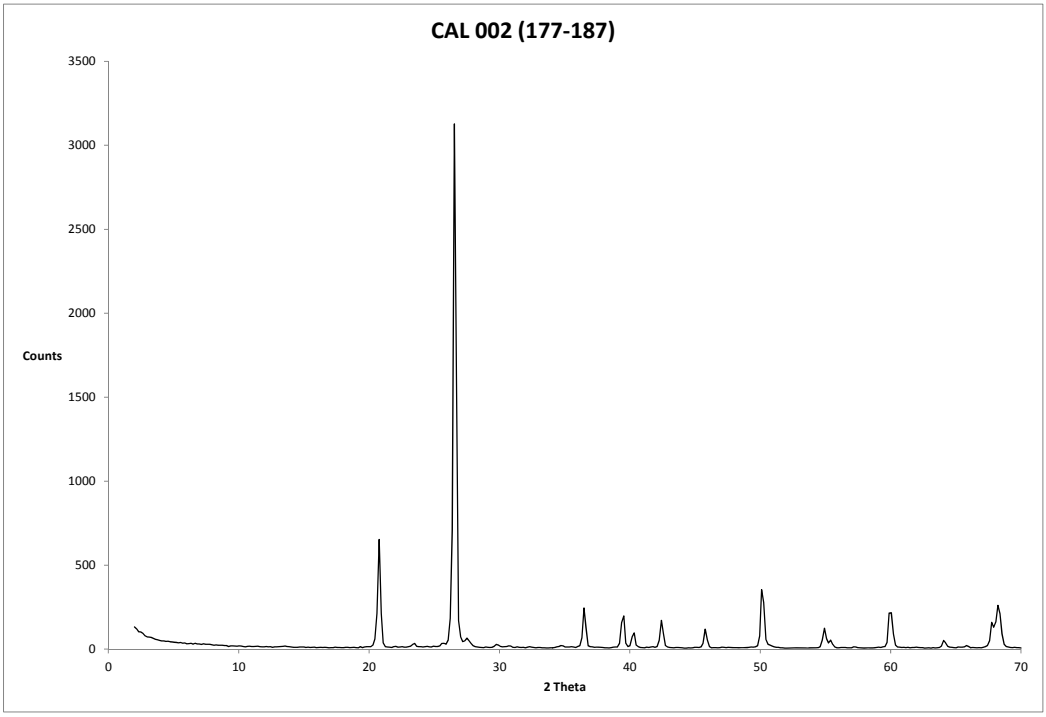
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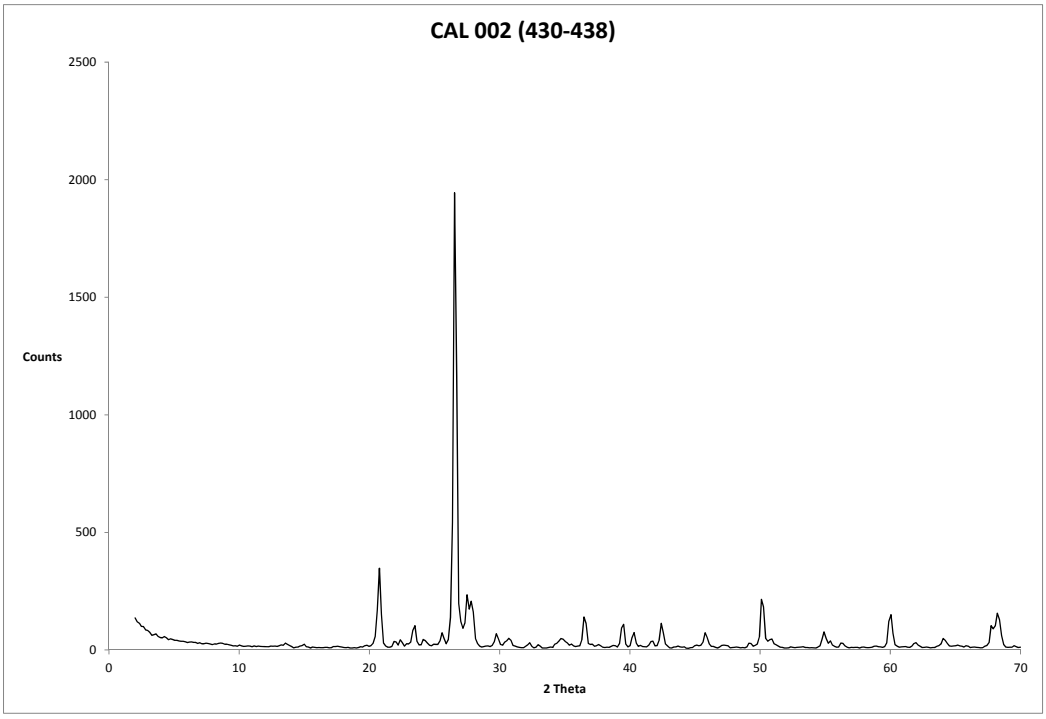
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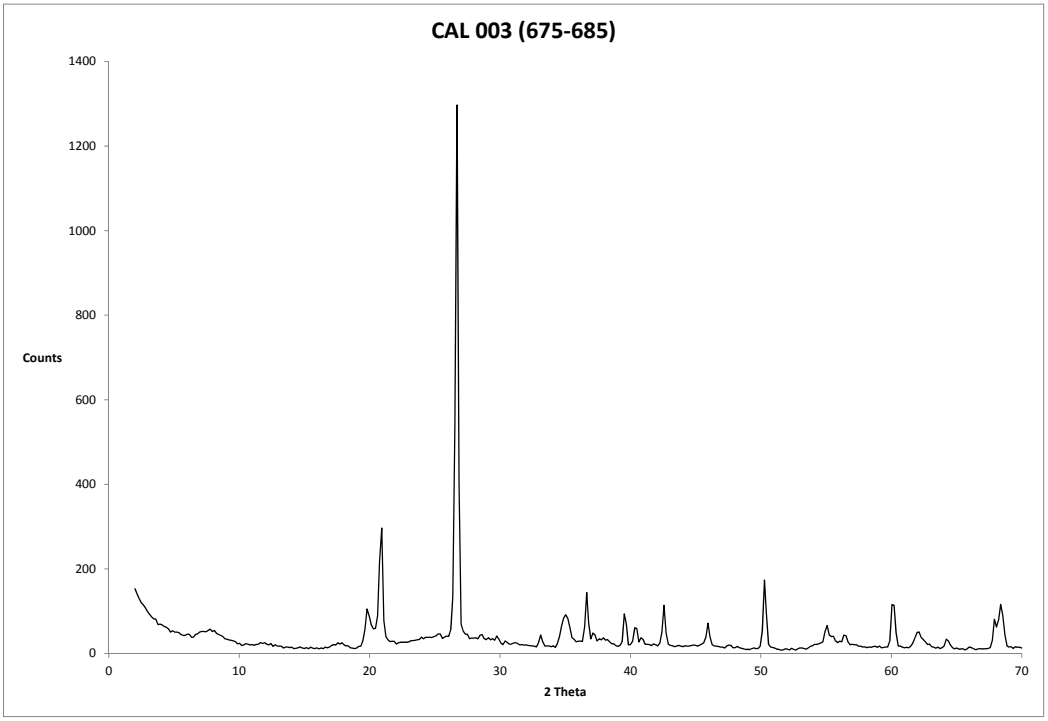
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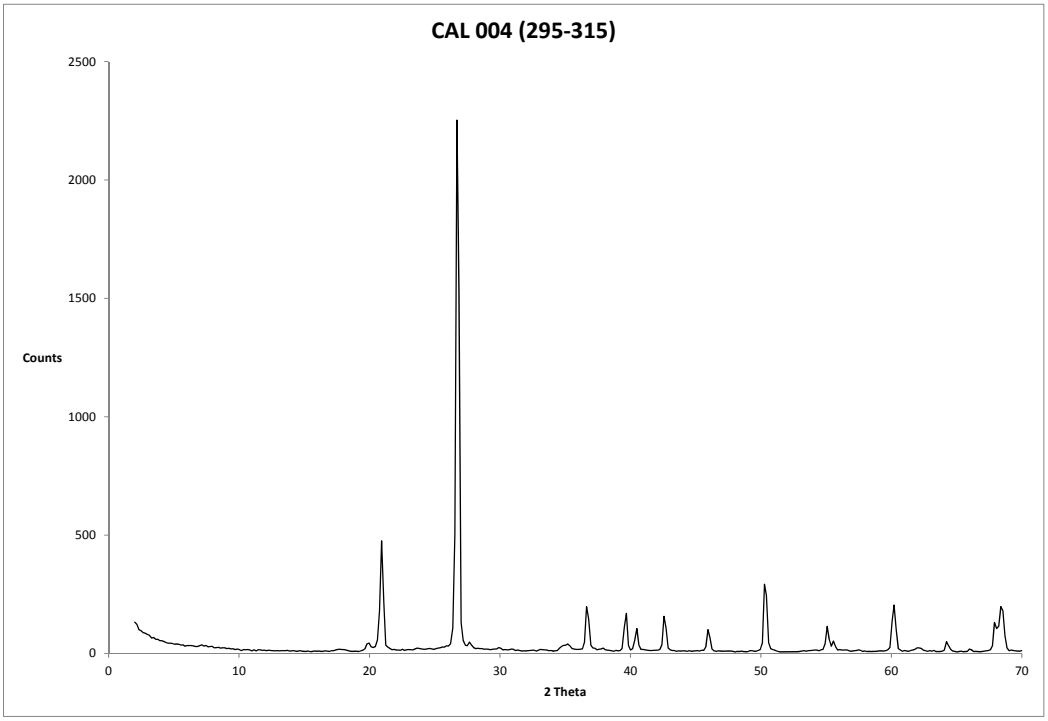
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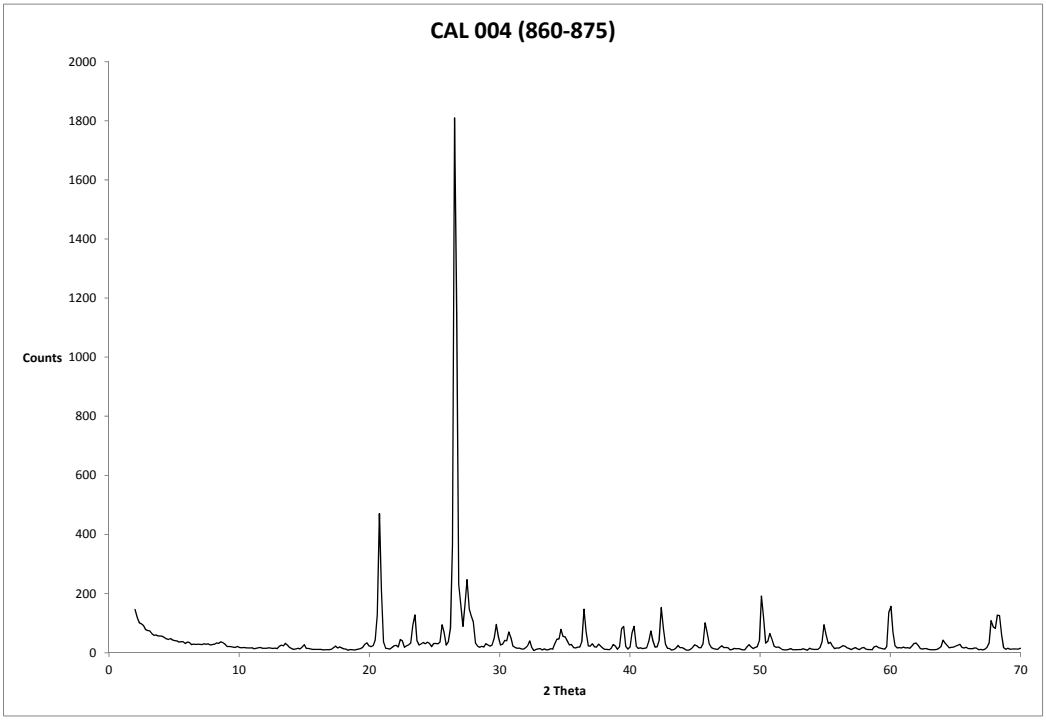
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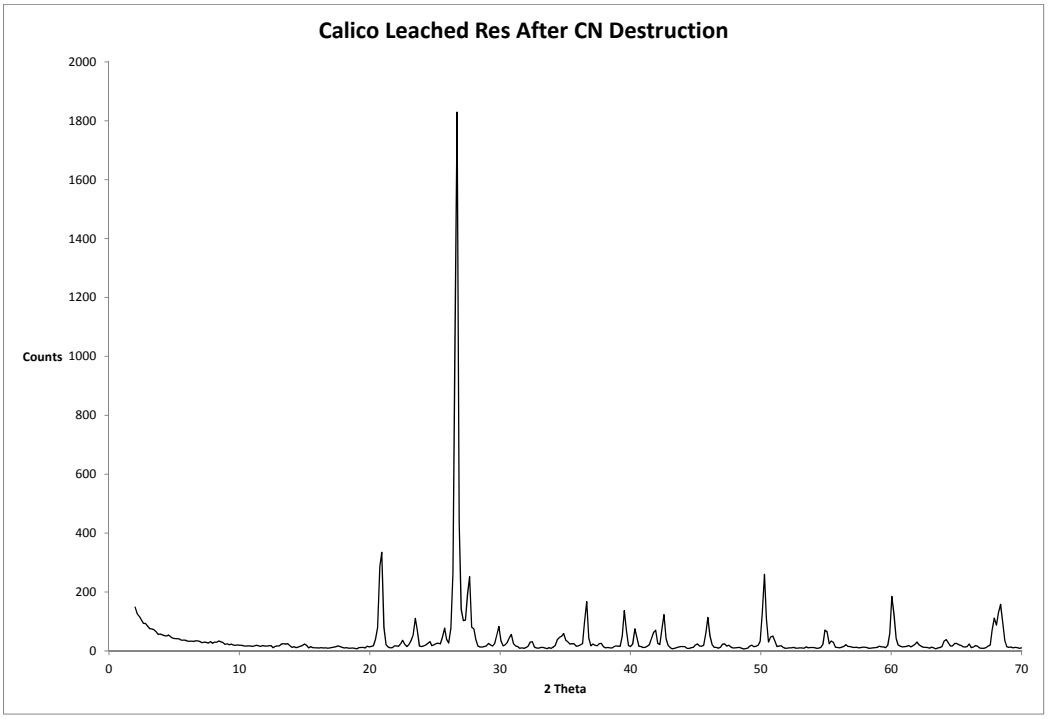
2 Theta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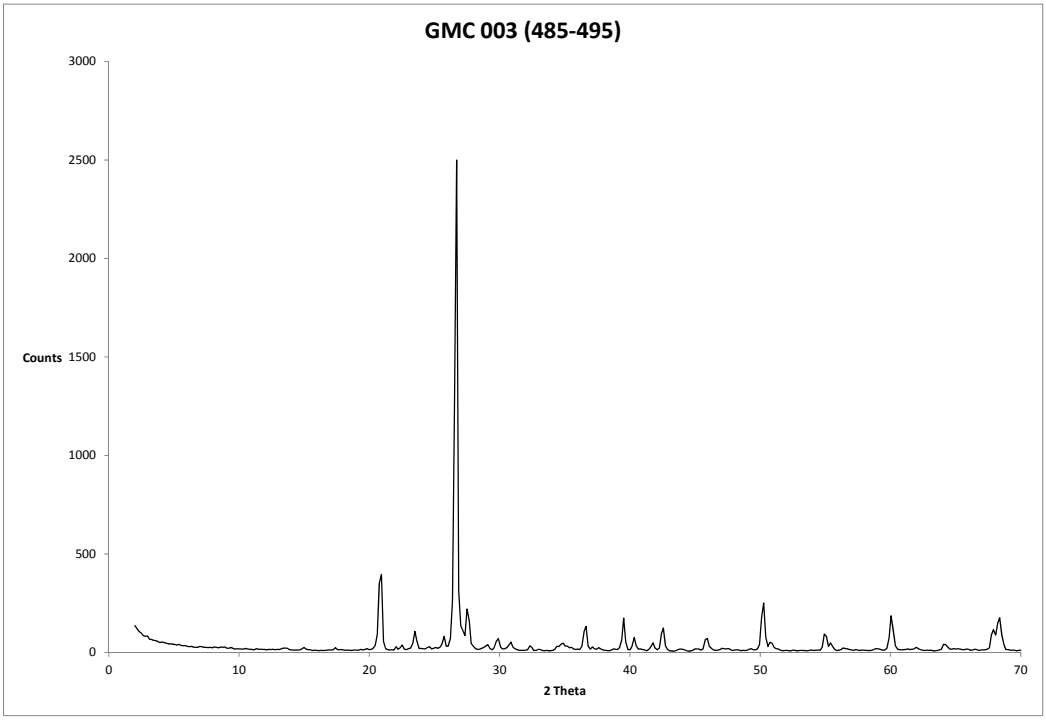
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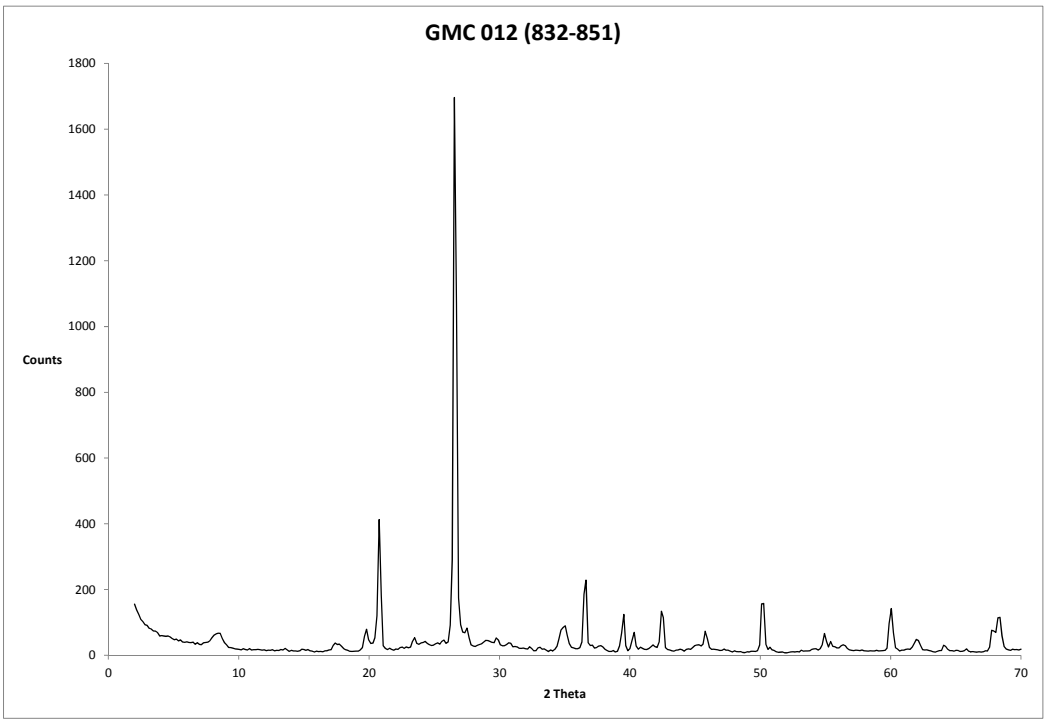
2 Theta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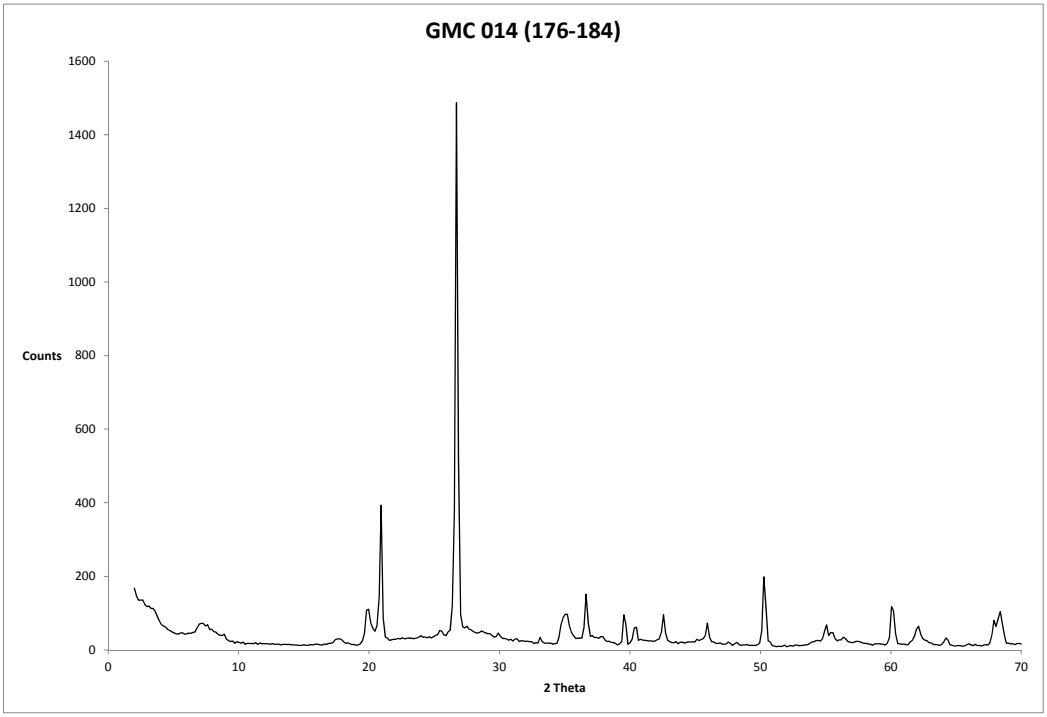
70
2 Theta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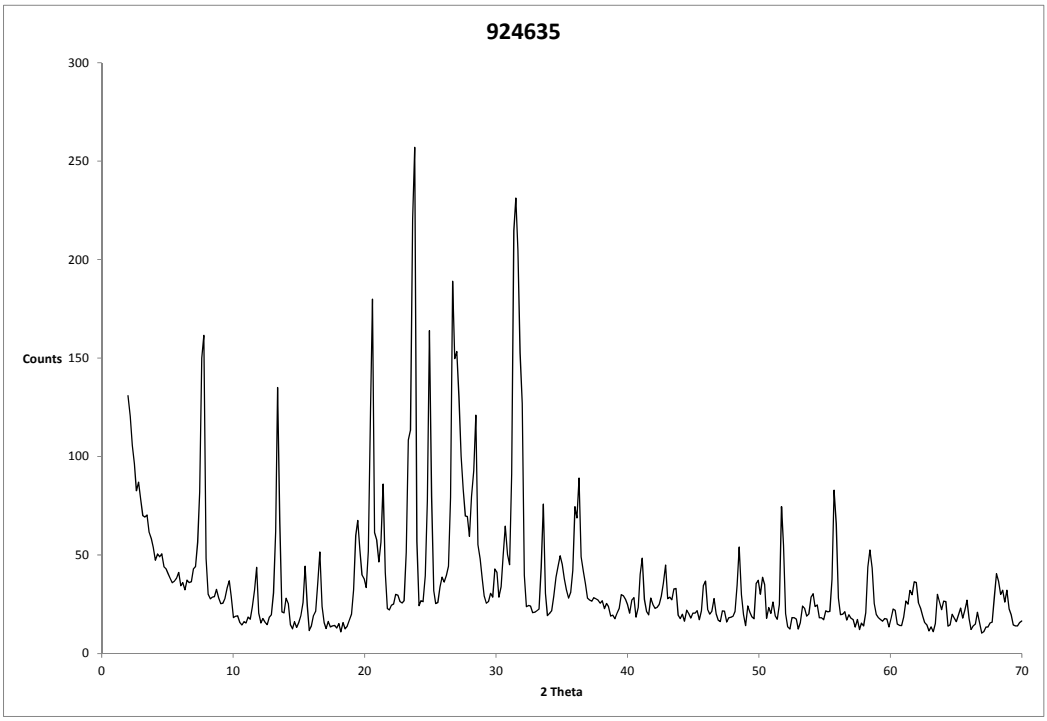
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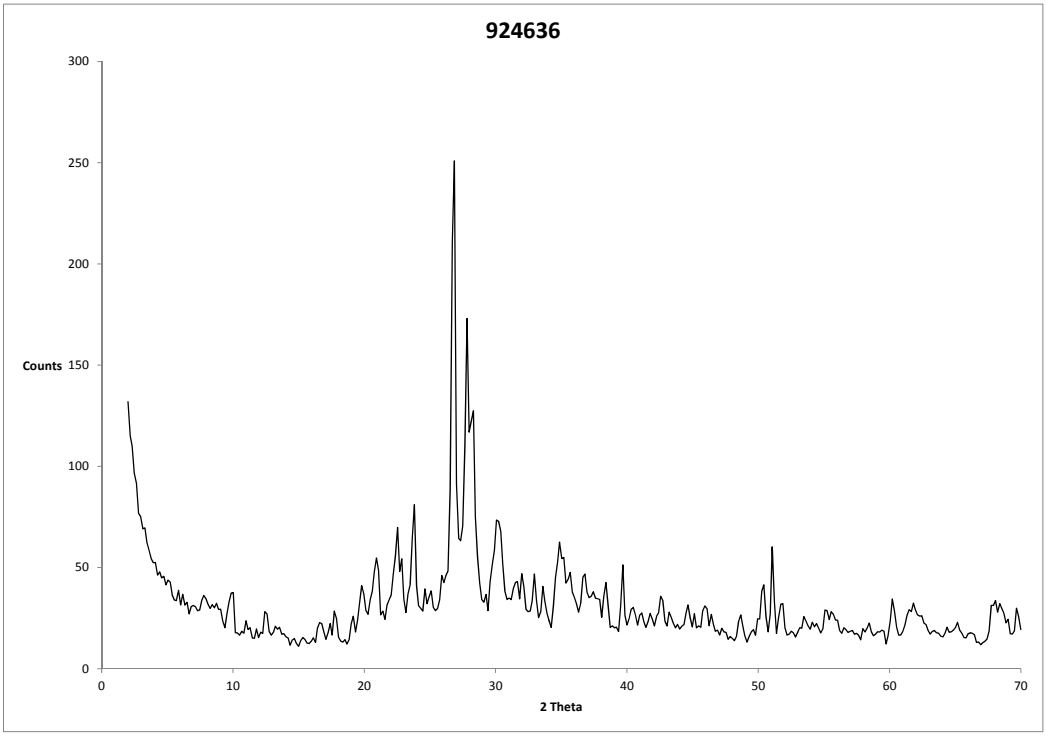
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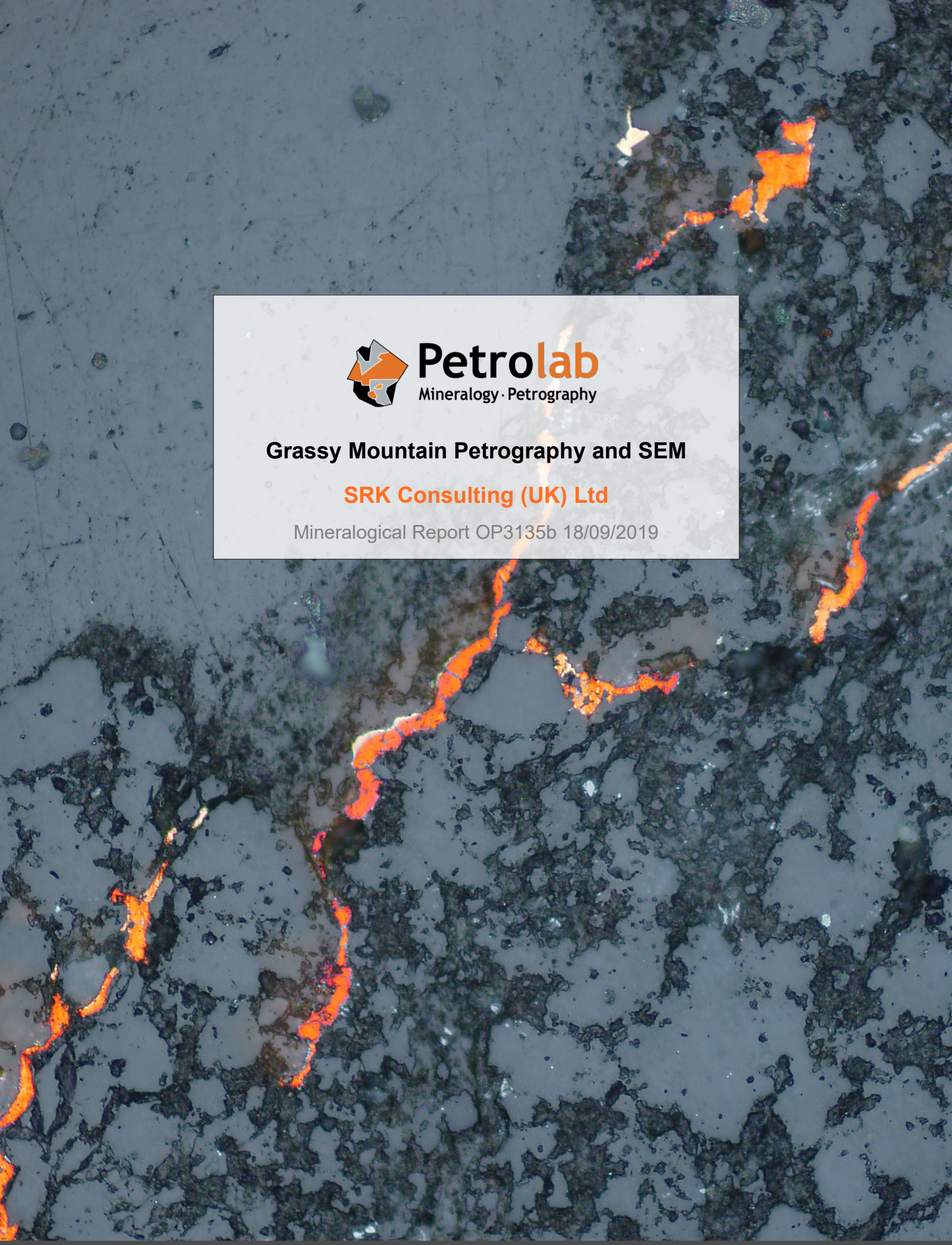
2 Theta



Petrolab
Mineralogy · Petrography

Grassy Mountain Petrography and SEM

SRK Consulting (UK) Ltd

Mineralogical Report OP3135b 18/09/2019

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Registered in England & Wales · Company No. 4777735

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Petrolab document control			
Client	SRK Consulting (UK) Ltd		
Report title	Grassy Mountain Petrography and SEM		
Analysis required	Petrography, XRD and SEM		
Client reference	UKPO028400	**Client contact**	Ruth Griffiths <rgriffiths@srk.co.uk> Amy Prestia <aprestia@srk.com>
Report ID (issue date)	OP3135 10/06/2019 OP3135b 18/09/2019	**Version note**	Report Initial Issue Table 1 ammendment
Prepared by	L Rose BSc MSc M Zając BSc MSc C Garner MCSM	**Checked by**	C Brough PhD CGeol

Limitations

This report relates only to those samples submitted and specimens examined and to any materials properly represented by those samples and specimens. This report is issued to the Client named above for the benefit of the Client for the purposes for which it was prepared. It does not confer or purport to confer on any third party any benefit or right pursuant to the Contracts (Rights of Third Parties) Act 1999.

Introduction

Scope

This is a mineralogical report for SRK Consulting (UK) Ltd to investigate 16 samples from the Grassy Mountain project waste rock. The samples were selected to investigate the presence of erionite and included 1 reference sample.

This report relates only to the samples examined (and any materials properly represented by those samples). It presents the findings of a mineralogical investigation by optical microscopy on thin sections prepared from selected sub-samples. The results of supplementary SEM and XRD analysis are considered (results are reproduced in Appendix 1).

List of samples

Samples received			
Report no.	**Sample reference**	**Mass (g)**	**Type**
1	Reference	1659	Rock lump
2	1446342	259	Mine waste residue
3	1446344	263	Mine waste residue
4	1446346	235	Mine waste residue
5	1446350	252	Mine waste residue
6	1446351	200	Mine waste residue
7	1446354	244	Mine waste residue
8	1446356	222	Mine waste residue
9	1446358	220	Mine waste residue
10	1446360	265	Mine waste residue
11	1446361	226	Mine waste residue
12	1446362	273	Mine waste residue
13	1446363	243	Mine waste residue
14	1446364	269	Mine waste residue
15	1446365	227	Mine waste residue
16	1446366	255	Mine waste residue

Methods of investigation

A detailed mineralogical investigation was requested, with special reference to identifying erionite that may be present in the samples.

One thin section and polished chip were prepared from each submitted sample. The sections were examined by conventional transmitted and reflected light polarising microscopy using a Nikon research polarising microscope. A visual estimate of relative phase abundance was made. Digital photomicrographs were taken using a high resolution digital camera attached to the trinocular head of the microscope.

Qualitative mineralogical analysis using a scanning electron microscope was requested. Polished thin sections were carbon coated to a thickness of 30 nm. Each section was analysed

using a ZEISS EVO MA 25 scanning electron microscope (SEM)[1] fitted with a Bruker xFlash 6|60 x-ray detector for energy-dispersive X-ray spectroscopy (EDX) analysis.

Representative (riffle split) sub-samples were sent to an independent specialist laboratory for whole rock and clay XRD analysis. The results are considered in this report and reproduced in Appendix 1.

Mineralogy results

The mineralogy of all 16 submitted samples are summarised in Table 1. A detailed mineralogical description of each sample received (which includes annotated photomicrographs), based on a high-power microscopical examination of prepared thin-sections, begins over-page.

1 SEM system located at Petrolab Ltd, Redruth, UK.

Table 1: Summary table of mineral observed by XRD analysis, petrography and by SEM[1,2]

Target minerals		Sample details and relative mineral abundance																Typical composition
		Reference	1446342	1446344	1446346	1446350	1446351	1446354	1446356	1446358	1446360	1446361	1446362	1446363	1446364	1446365	1446366	
Zeolites	Erionite	■						□				□						$(Na_2,K_2,Ca)_2(Al_4Si_{14}O_{36})*15(H_2O)$
Gangue minerals		**Reference**	**1446342**	**1446344**	**1446346**	**1446350**	**1446351**	**1446354**	**1446356**	**1446358**	**1446360**	**1446361**	**1446362**	**1446363**	**1446364**	**1446365**	**1446366**	**Typical Composition**
Bulk silicate minerals	Quartz		□		■	□	□	□	□	■	□			⊡	□			SiO_2
	Chalcedony						□	□										SiO_2
	Microcrystalline silica	⊡	□	□		⊡		□		□								SiO_2
	Andesine	■	■	■	■	■	■	■	■■	■	■	■■	■■	■■	■■	■■	■■	$(Na,Ca)(Si,Al)_4O_8$
Clay / mica minerals	Smectite[3]		⊡	⊡	■	⊡	⊡	⊡	⊡	■■	■	⊡	■	⊡	⊡	⊡	⊡	$(K,H_3O)(Al,Mg,Fe)_2(Si,Al)_4O_{10}[(OH)_2,(H_2O)]$
	Muscovite				⊡													$KAl_2(Si_3Al)O_{10}(OH)_2$
	Chlorite							⊡			□	□	□	□	□			$Mg_5Al(AlSi_3O_{10})(OH)_8$
	Biotite				⊡													$KMg_3(Si_3Al)O_{10}(OH)_2$
	Serpentine										⊡				□			$(Mg,Fe,Ni,Mn,Al,Zn)_3(Si_2O_5)(OH)_4$
Ultramafic minerals	Olivine	□	□			□	□	⊡	□	□	⊡	⊡	⊡	⊡		⊡	⊡	$(Mg,Fe)_2SiO_4$
	Pyroxene	⊡	■	■	⊡	■	■	■	■	⊡	■	■	■	■	■	■	■	$CaMgSi_2O_6$
Carbonate minerals	Calcite		⊡	□			■	□	□	□		□	□			□	□	$CaCO_3$
Iron Oxides	Goethite			□	□	□	□		□	□	□					□	□	FeOOH
	Hematite	□	■	⊡	□	⊡	⊡	□	⊡	□	□	□	⊡		□	□	□	Fe_2O_3
	Ilmenite	□	□	□	□			⊡	□		⊡	□	□	⊡	⊡	⊡	⊡	$Fe^{++}TiO_3$
	Magnetite	□	□	□		□	□	⊡	□		□	□	□	□	□	□	□	$Fe^{2+}Fe^{3+}{}_2O_4$
Sulphides	Pyrite			□			□			□			□				□	FeS_2
	Chalcopyrite			□								□	□	□	□			$CuFeS_2$
Amorphous phases	Volcanic glass		⊡			■			⊡			⊡	⊡			□		Amorphous phase containing Si & O

1. Relative phase abundance : ■■ major+ (>=50%) ■ major (>=10<50%), ⊡ minor (>=2<10%), □ trace (<2%). Quantification of the differing mineralogical phases for each sample are provided in the sample descriptions that follow this table.
2. Erionite was only unabmiguously identified in the reference sample, and tentatively as trace by XRD analysis in two other samples.
3. Smectite were the major clay mineral identified during XRD analysis but that definition covers a large range of potential clay minerals and this is reflected in the range of clay mineral compositions identified during SEM analysis. For optical petrography and SEM analysis the general term 'clay' was used unless it was specifically muscovite, chlorite, biotite or serpentine.

Reference

Sample as received

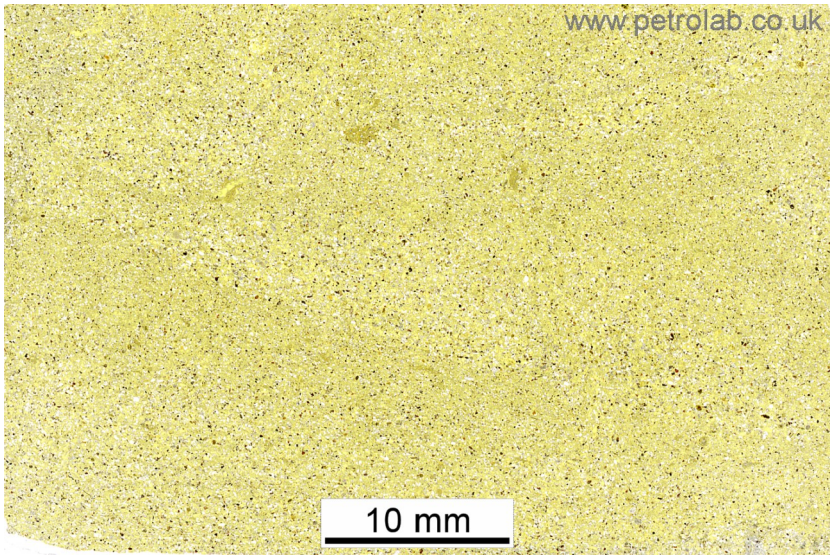
Sample Reference		
Petrolab ID	**Date received**	**Type · mass**
#12814	17/04/2019	Rock lump · 1659 g

A **Sample Reference**

Photograph of sample as received (scale in cm).

Image A
Nikon D7000 digital camera
Daylight balanced oblique light

Section(s)



B **Sample Reference**

Low magnification view of sample thin section.

Image B
Epson scanner
White cold cathode light

Mineral abundance

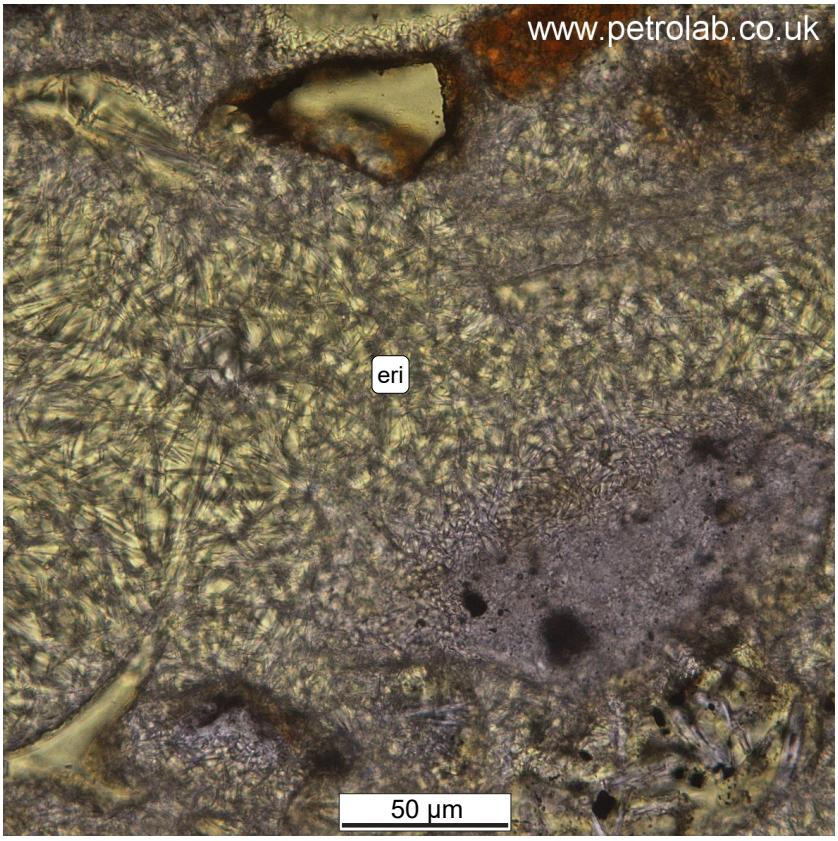
Sample Reference		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Erionite, eri	$(Ca,K_2,Na_2)_2[Al_4Si_{14}O_{36}]\bullet 15(H_2O)$ | sg~2.08	Major
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Major
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Minor
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Minor
Microcrystalline Silica, M qtz	SiO_2 | sg~2.65	Minor
Magnetite, mag	$Fe^{++}Fe^{+++}{}_2O_4$ | sg~5.15	Trace
Haematite, hm	Fe_2O_3 | sg~5.30	Trace
Ilmenite, ilm	$Fe^{++}TiO_3$ | sg~4.72	Trace

Sample summary

Sample Reference
• The sample is comprised of sub-angular to sub-rounded fragments of altered basalt cemented by clay and needle-like minerals. Remnant volcanic basaltic fragments are seen as well as olivine, plagioclase feldspar and pyroxene (augite) crystals. However, the majority of the sample comprises clays and needle-like minerals (erionite). These have replaced the groundmass and olivine crystals and are observed both growing into voids and in the groundmass with clay minerals. Microcrystalline silica fragments are also observed. Iron oxides are present as liberated, slightly rounded subhedral to euhedral magnetite and haematite grains, with rare ilmenite. In some altered basalt grains, finely disseminated iron oxides are present.

1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

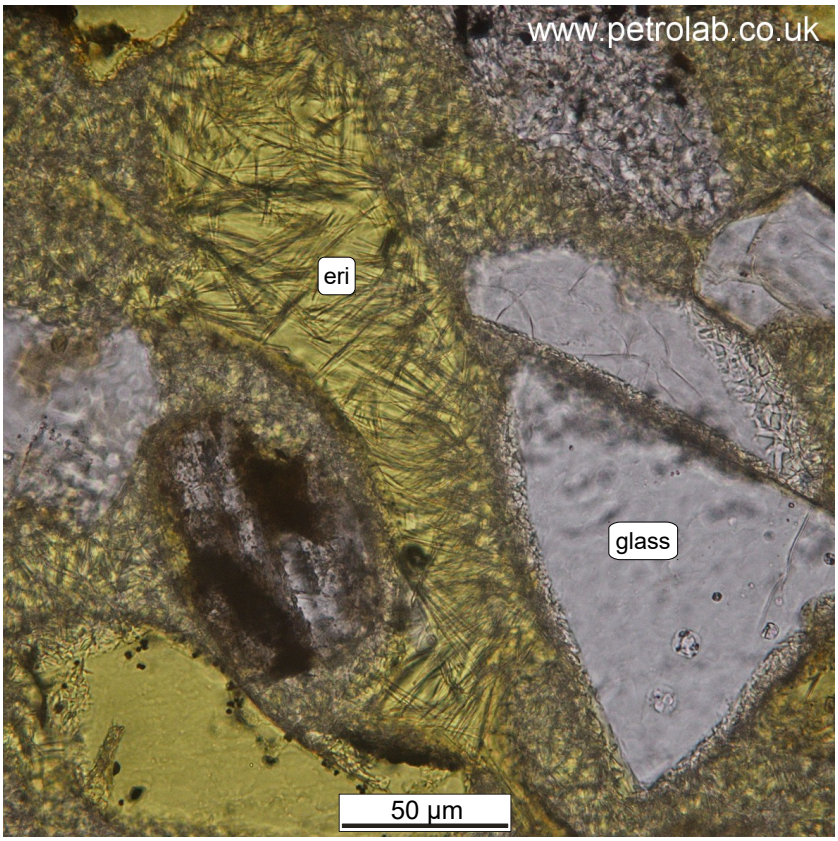
Photomicrographs



C **Sample Reference**

Photomicrograph of sample showing abundant erionite needles.

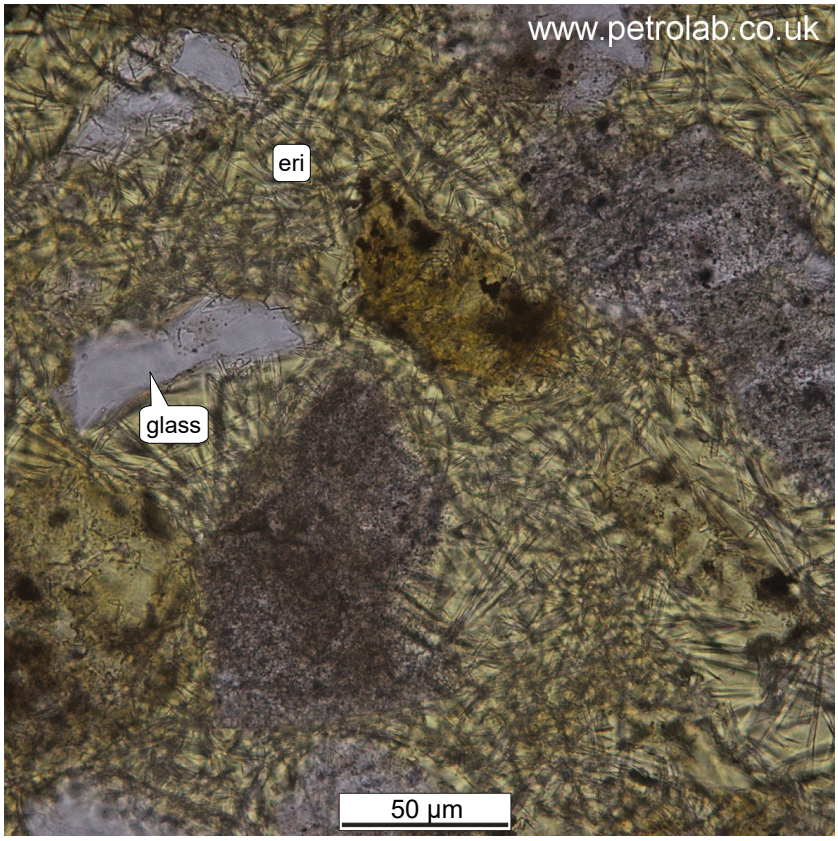
Image C
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x400



D **Sample Reference**

Photomicrograph of sample showing abundant erionite needles and glass.

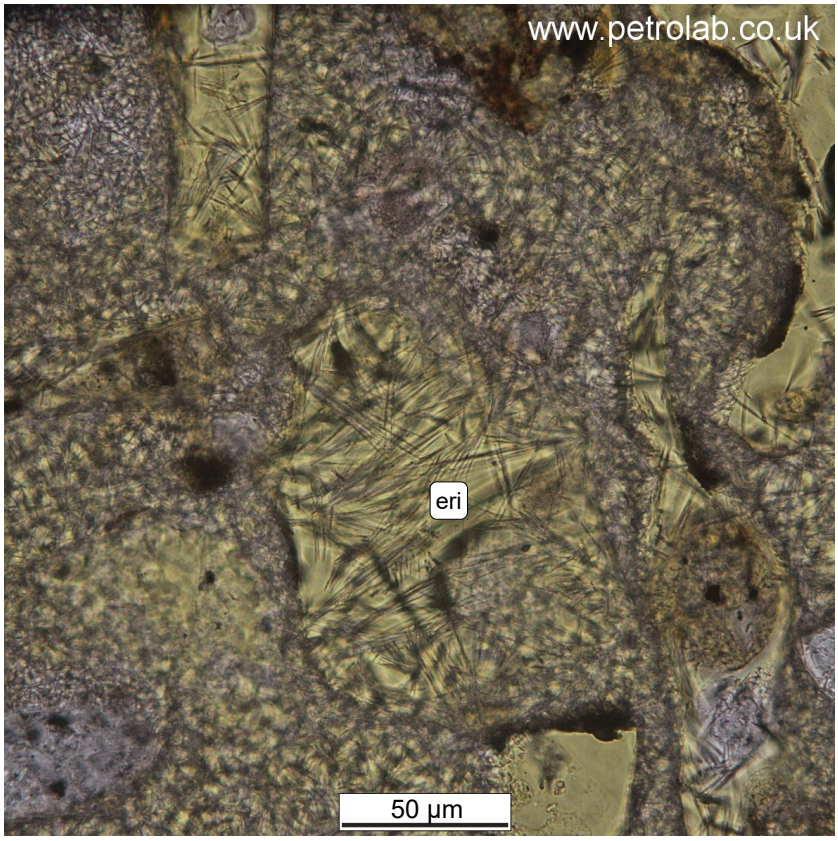
Image D
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x400



E **Sample Reference**

Photomicrograph of sample showing abundant erionite needles and glass.

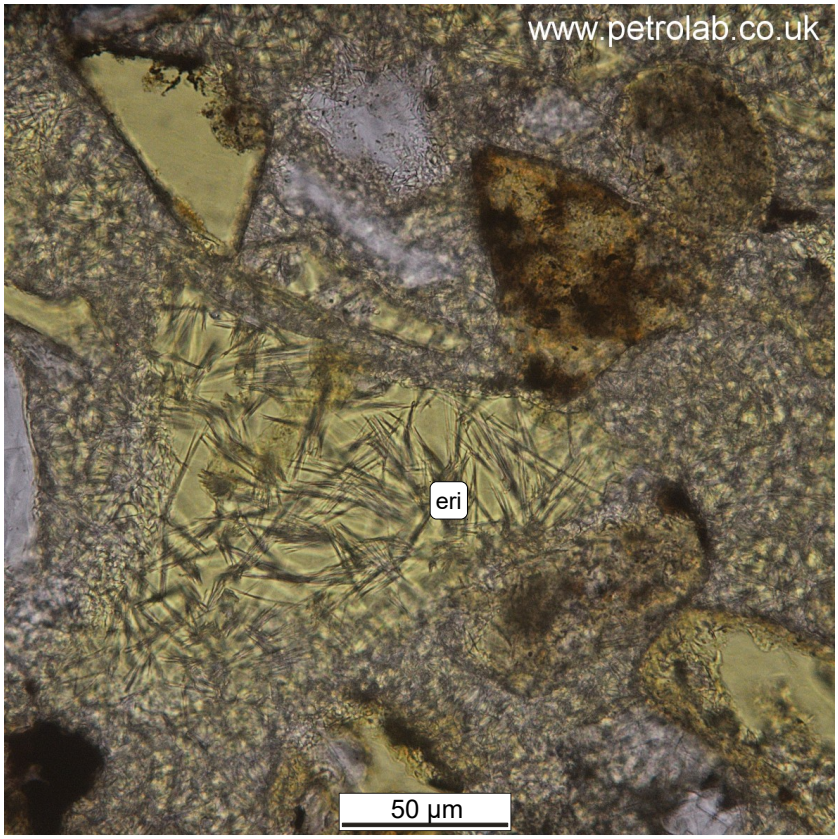
Image E
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x400



F **Sample Reference**

Photomicrograph of sample showing abundant erionite needles.

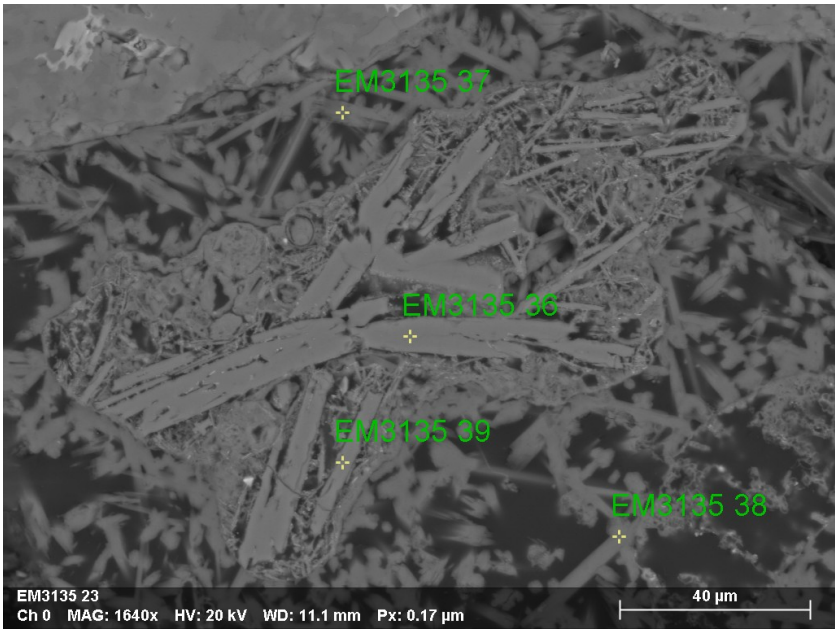
Image F
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x400



G **Sample Reference**

Photomicrograph of sample showing abundant erionite needles.

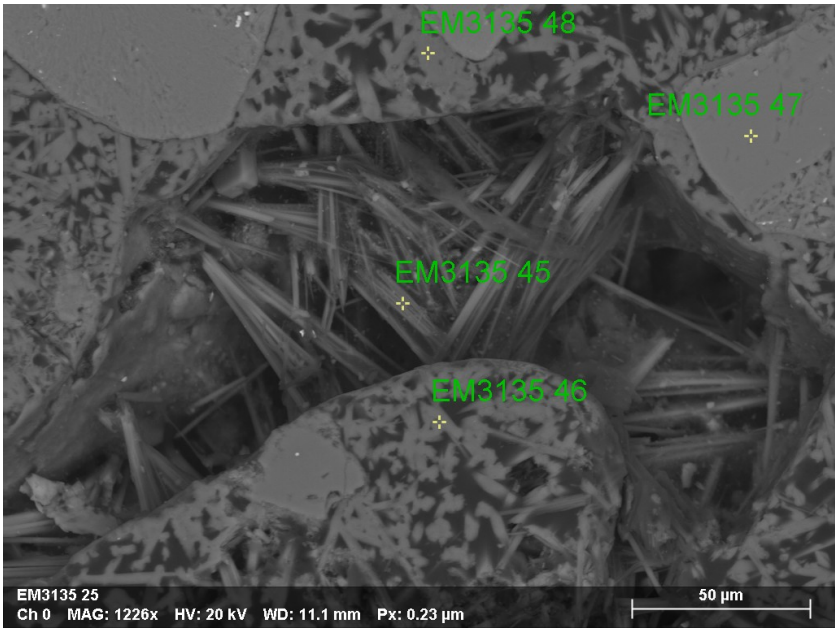
Image G
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x400



H **Sample Reference**

Backscatter electron (BSE) image showing erionite needles (EM3135 37 and 38) and plagioclase laths (EM3135 36 and 39).

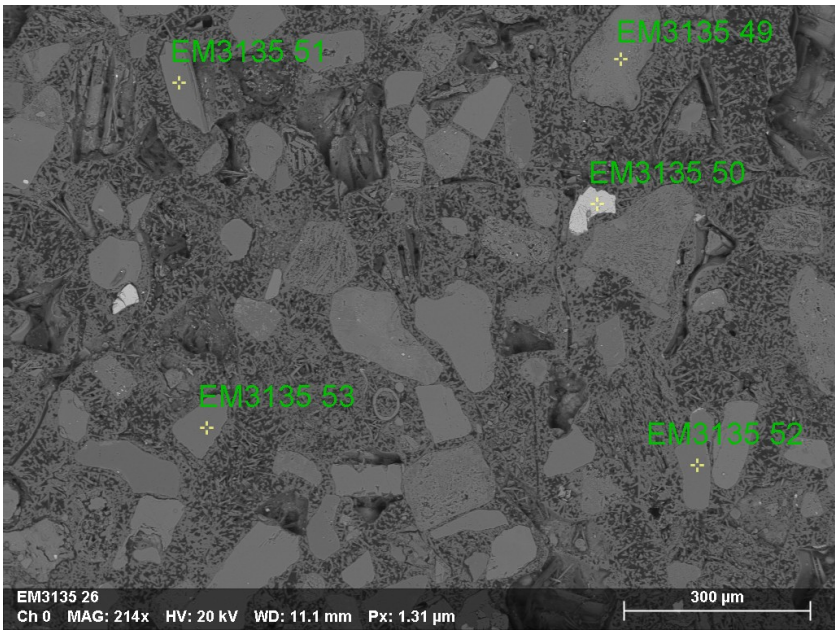
Image H
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x1640



I **Sample Reference**

Backscatter electron (BSE) image showing erionite needles (EM3135 45, 46 and 48) and plagioclase laths (EM3135 47).

Image I
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x1226



J **Sample Reference**

Backscatter electron (BSE) image showing the overall texture of the sample, with abundant plagioclase (EM3135 51, 52 and 53), minor iron oxides (magnetite) (EM3135 50) and clays (EM3135 49).

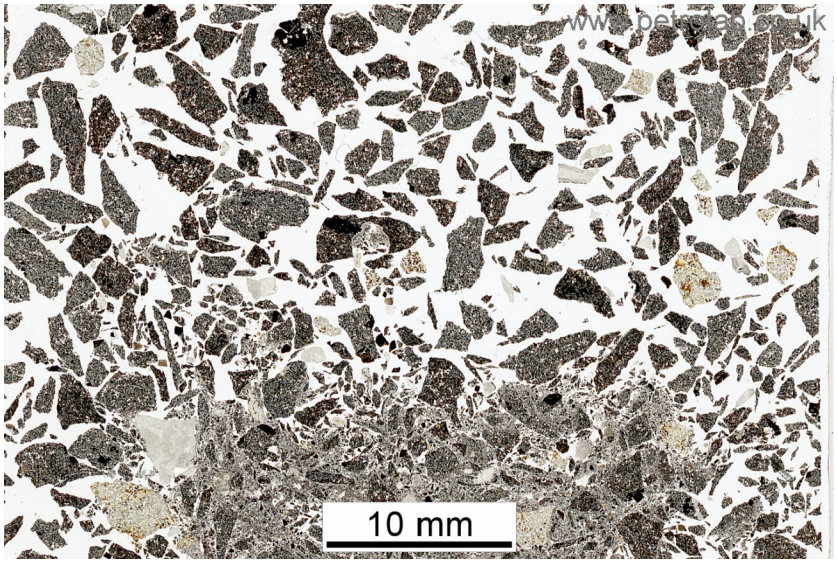
Image J
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x214

1446342

Sample as received

Sample 1446342		
Petrolab ID	**Date received**	**Type · mass**
#12799	17/04/2019	Mine waste residue · 259 g

Section(s)



A Sample 1446342

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

Sample 1446342		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Major
Haematite, hm	Fe_2O_3 | sg~5.30	Major
Calcite, cal	$CaCO_3$ | sg~2.70	Minor
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Minor
Glassy phases	Amorphous phase containing silica, oxygen, and minor amounts of Fe, Al, Ca & Mg | sg~2.50	Minor
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Trace
Magnetite, mag	$Fe^{++}Fe^{+++}{}_2O_4$ | sg~5.15	Trace
Ilmenite, ilm	$Fe^{++}TiO_3$ | sg~4.72	Trace

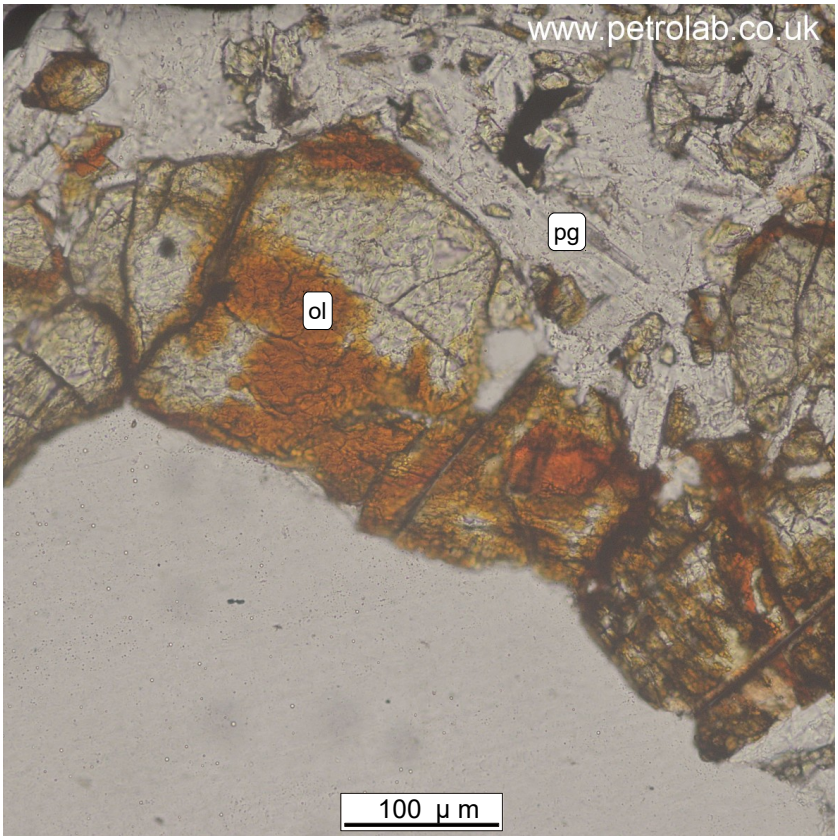
1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

Sample 1446342

- The sample is composed of basaltic fragments containing plagioclase laths, subhedral olivine, sub-ophitic pyroxene (augite), various clays, and abundant volcanic glass and oxides throughout the matrix. The matrix is commonly altered to calcite and clays which forms irregular patches between plagioclase laths. Rare basalt fragments only contain trace amounts of glass and instead have a matrix of coarse ophitic augite and olivines. Basalt fragments rarely contain phenocrysts of olivine which are usually heavily altered or pseudomorphed by iddingsite and iron oxides particularly down fractures and cracks. There are minor amounts of liberated calcite which originated from cross-cutting veins throughout the basalt. Liberated brown opaline silica is also present. Pore spaces and vesicles within the sample are rare, commonly infilled by clays (kaolinite, chlorite and illite) or chalcedony which are usually lined by the same mineral. Calcite with a void lining of clays is particularly common within basalt depleted in glass and iron oxides. In reflected light, iron oxides of haematite and magnetite form skeletal and dendritic textures or are finely disseminated throughout the matrix. Rarely they form larger grains showing exsolution textures and lath shaped ilmenite. Within phenocrysts of olivine, haematite and goethite can commonly be seen rimming the crystal or forming thin veinlets down cracks and fractures.

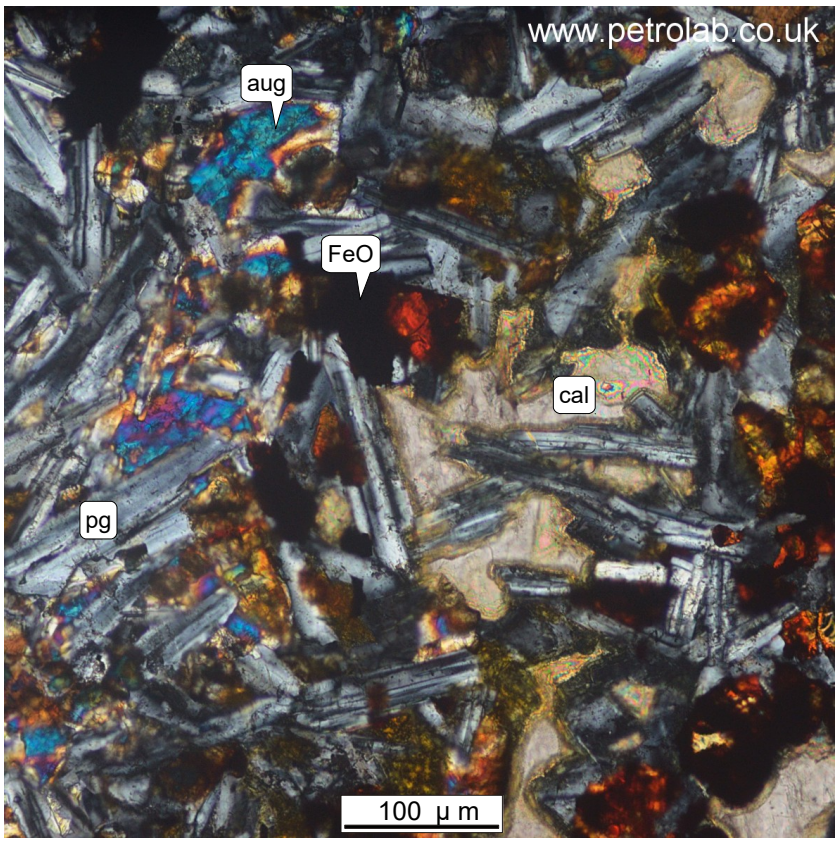
Photomicrographs



B **Sample 1446342**

Photomicrograph of sample showing plagioclase groundmass and olivine with partial alteration to clays, including along fractures.

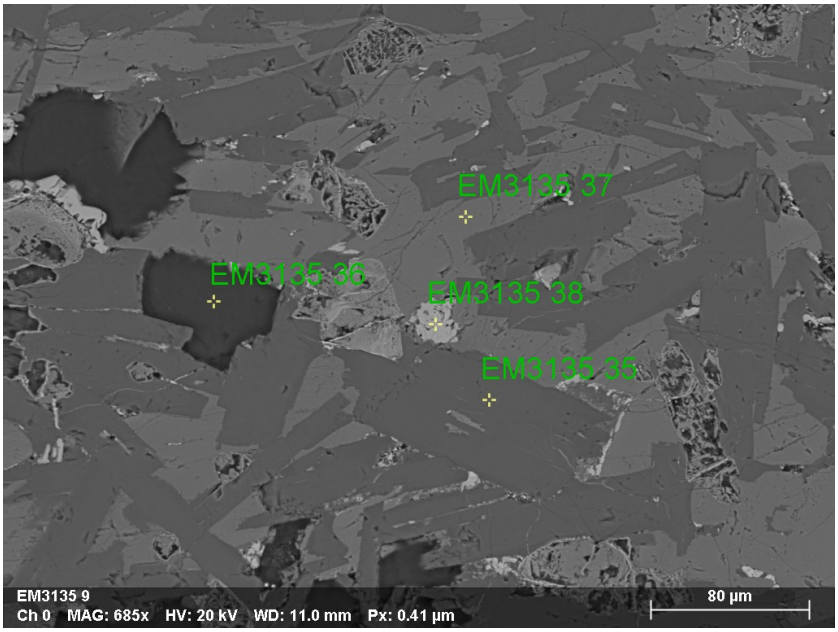
Image B
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x200



C **Sample 1446342**

Photomicrograph of sample showing calcite replacement of the groundmass and olivine alteration to clays.

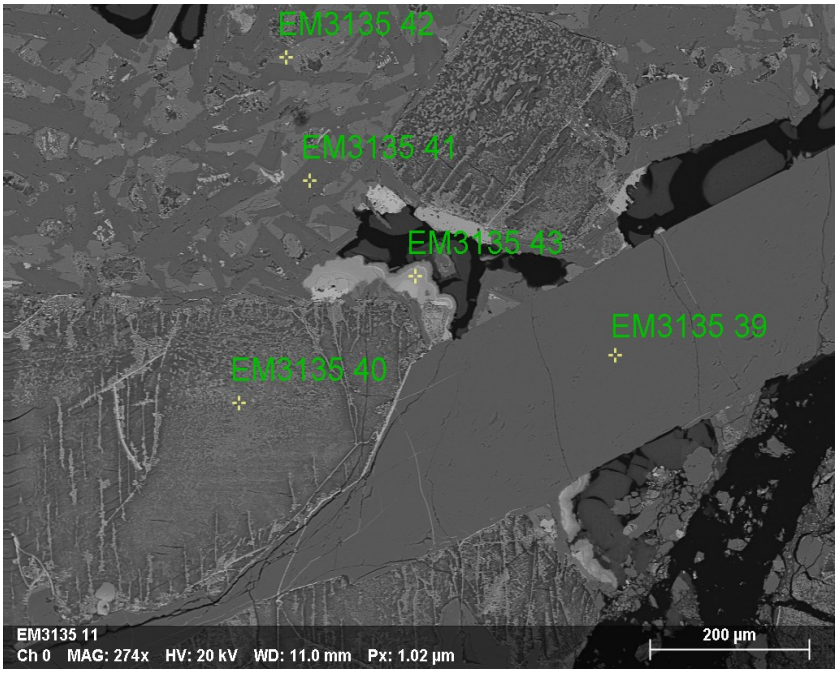
Image C
Nikon Microphot-FXA petrological microscope
Cross polarised transmitted light
x200



D **Sample 1446342**

Backscatter electron (BSE) image showing typical basaltic groundmass texture with plagioclase laths (EM3135 35), clay minerals (EM3135 36), pyroxenes (EM3135 37), and trace iron oxides (EM3135 38).

Image D
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x685



E **Sample 1446342**

Backscatter electron (BSE) image showing typical basaltic groundmass texture with plagioclase phenocrysts (EM3135 39), altered olivine phenocrysts (EM3135 40), plagioclase groundmass (EM3135 41) with pyroxene (augite) (EM3135 42) and clays (EM3135 42).

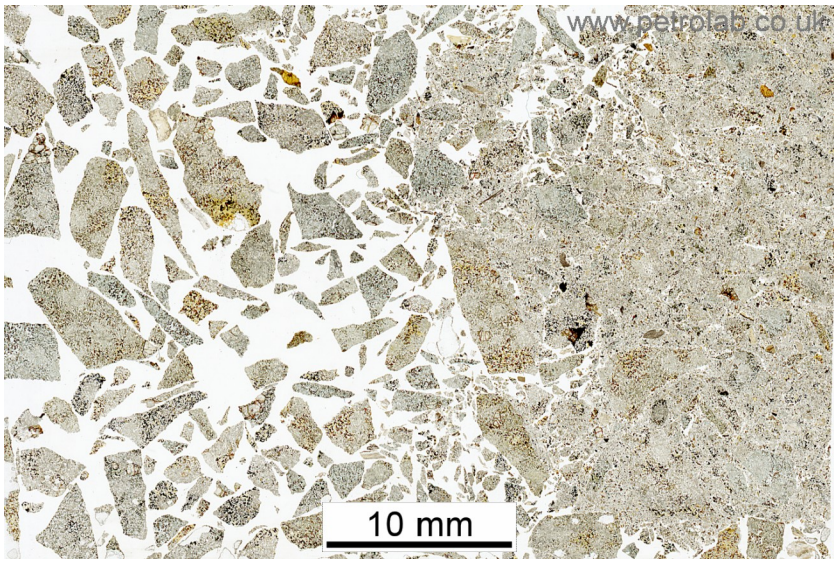
Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x274

1446344

Sample as received

Sample 1446344		
Petrolab ID	**Date received**	**Type · mass**
#12800	17/04/2019	Mine waste residue · 263 g

Section(s)



A Sample 1446344

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

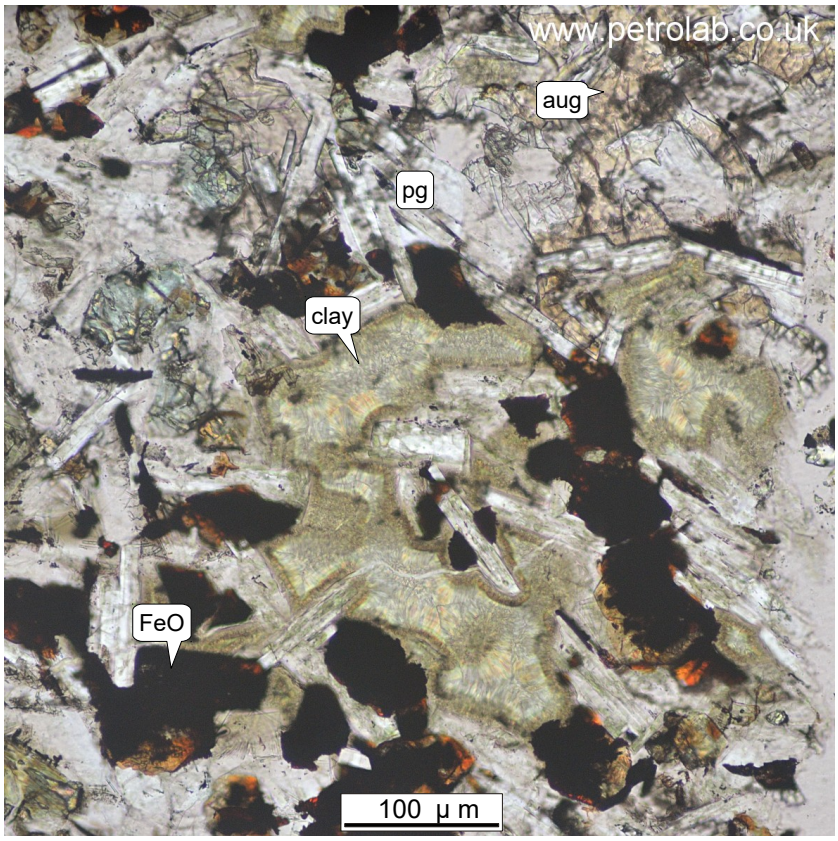
Sample 1446344		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Major
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Minor
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Minor
Calcite, cal	$CaCO_3$ | sg~2.70	Trace
Microcrystalline Silica, M qtz	SiO_2 | sg~2.65	Trace
Magnetite, mag	$Fe^{++}Fe^{+++}{}_2O_4$ | sg~5.15	Trace
Haematite, hm	Fe_2O_3 | sg~5.30	Trace
Ilmenite, ilm	$Fe^{++}TiO_3$ | sg~4.72	Trace
Goethite, Gt	FeOOH | sg~4.27	Trace
Pyrite, py	FeS_2 | sg~5.01	Trace
Chalcopyrite, cp	$CuFeS_2$ | sg~4.19	Trace

1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

Sample 1446344
• The sample is composed of basaltic fragments with ophitic to sub-ophitic intergrowths of augite and olivine surrounding fine-grained plagioclase laths. Rare phenocrysts of olivine are present, usually partially or completely pseudomorphed by iddingsite, bowlingite or various clays. The matrix is usually moderately kaolinised or chloritised associated with yellow clays, possibly stilpnomelane, presenting as rounded grains. Calcite and microcrystalline silica are present as veins cross-cutting the basalt. Fragments with heavily mottled textures and pervasive kaolinisation are also present within the sample as well as larger liberated fragments of opaline and glassy silicates. Amygdales (possibly original vesicles) are common within the sample and infilled with fibrous radial masses of clay, usually kaolinite or chlorite. Chalcedony and microcrystalline silica are also present as vesicle infills, and in rare grains are associated with pervasive clay alteration. Iron oxides within the sample are mostly present as lath shaped grains of magnetite and haematite throughout the matrix, sometimes forming sub- to euhedral larger grains with exsolutions of ilmenite. Thin veinlets of haematite or goethite are found within olivine fractures and cracks. There are also traces of subhedral pyrite grains and very fine blebs of chalcopyrite.

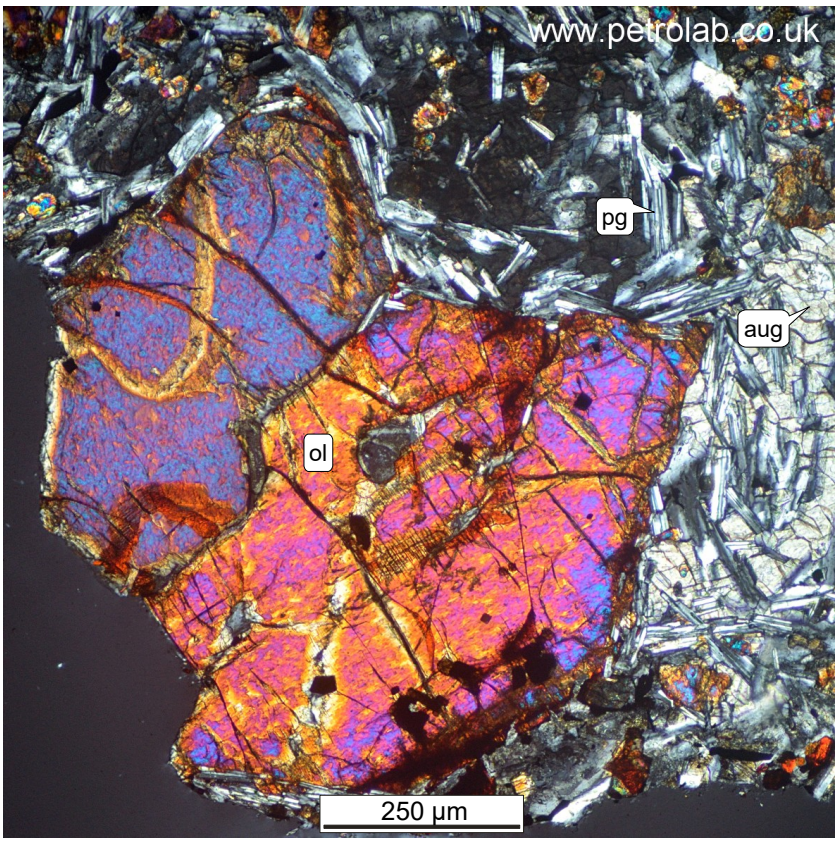
Photomicrographs



B Sample 1446344

Photomicrograph of sample showing clay replacement inside vesicles in the groundmass.

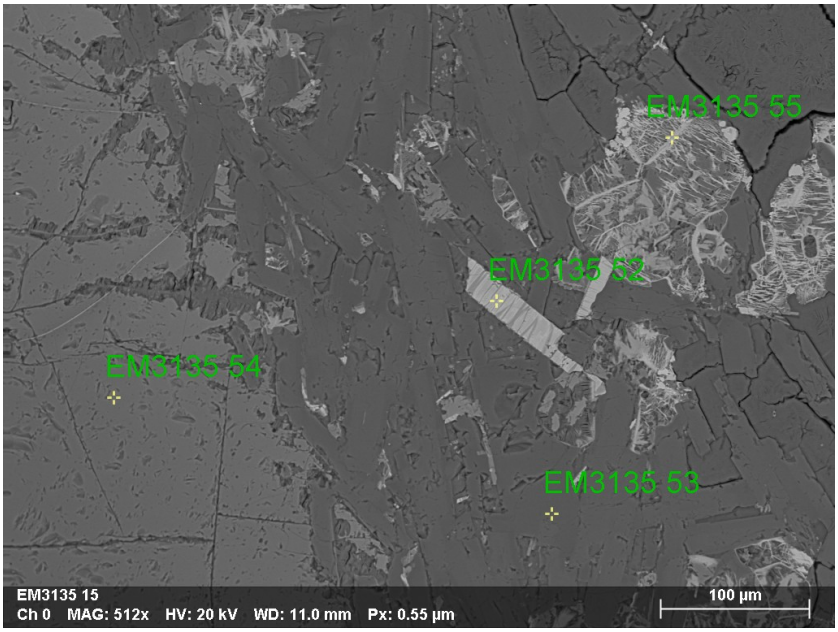
Image B
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x200



C **Sample 1446344**

Photomicrograph of sample showing an olivine phenocryst with clay replacement along fractures, surrounded by sub-ophitic groundmass.

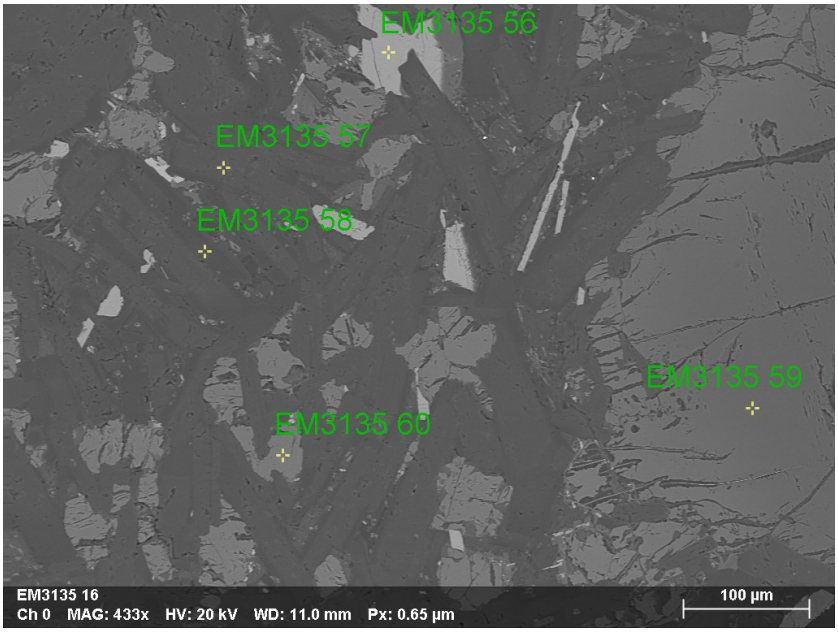
Image C
Nikon Microphot-FXA petrological microscope
Cross polarised transmitted light
x100



D **Sample 1446344**

Backscatter electron (BSE) image showing typical basaltic groundmass texture with ilmenite (EM3135 52), plagioclase groundmass (EM3135 53), altered olivine (EM3135 54) with skeletal iron oxides within olivine cracks (EM3135 55).

Image D
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x512



E **Sample 1446344**

Backscatter electron (BSE) image showing typical basaltic groundmass texture with ilmenite (EM3135 56), clays and original plagioclase groundmass (EM3135 57 and 58), and phenocryst olivine (EM3135 59) and groundmass olivine (EM3135 60).

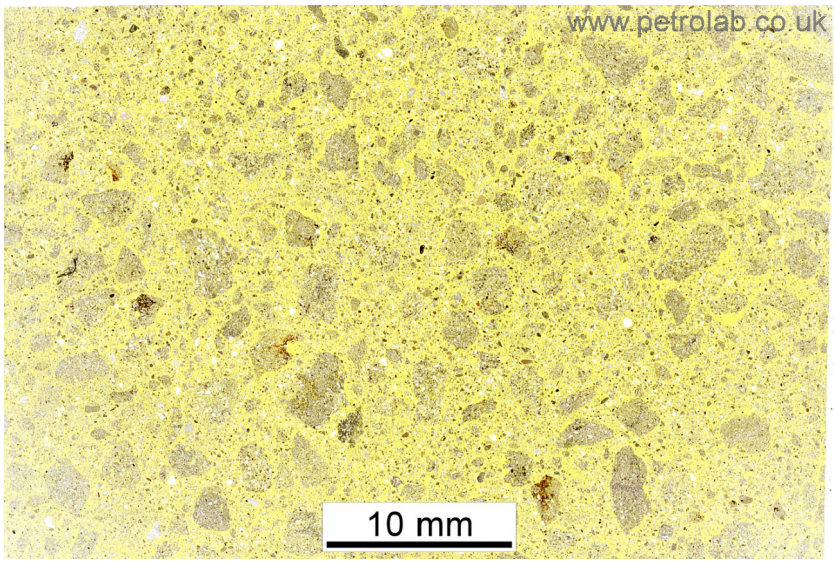
Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x433

1446346

Sample as received

Sample 1446346		
Petrolab ID	**Date received**	**Type · mass**
#12801	17/04/2019	Mine waste residue · 235 g

Section(s)



A Sample 1446346

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

Sample 1446346		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Major
Quartz, qtz	SiO_2 | sg~2.65	Major
Biotite group, bt	$K(Mg,Fe{++})_3(AlSi_3O_{10})(OH,F)_2$ | sg~3.09	Minor
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O8$ | sg~2.68	Minor
Glassy phases	Amorphous phase containing silica, oxygen, and minor amounts of Fe, Al, Ca & Mg | sg~2.50	Minor
Microcrystalline Silica, M qtz	SiO_2 | sg~2.65	Minor
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Minor
Muscovite, ms	$KAl_2(Si_3Al)O_{10}(OH,F)_2$ | sg~2.82	Trace
Haematite, hm	Fe_2O_3 | sg~5.30	Trace
Goethite, Gt	FeOOH | sg~4.27	Trace
Ilmenite, ilm	$Fe{++}TiO_3$ | sg~4.72	Trace
Pyrite, py	FeS_2 | sg~5.01	Trace

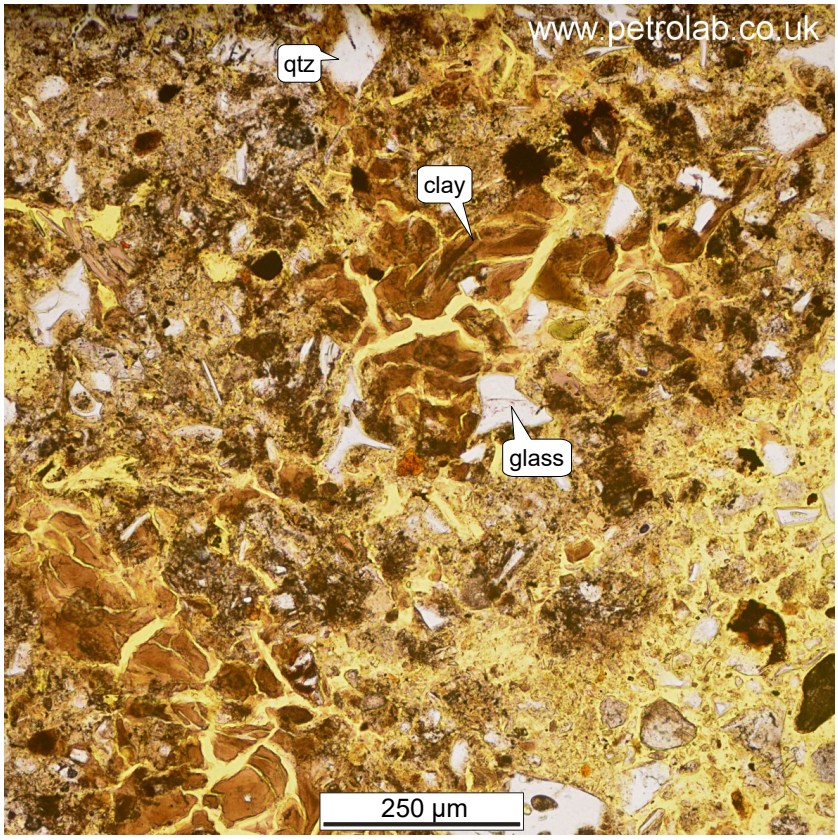
1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

Sample 1446346

- The sample is comprised of fine grained material mostly composed of clays, micas, quartz, plagioclase, and various white isotropic glass phases and brown opaline silica. Clays of kaolinite, illite and chlorite are usually found in accumulations cementing other constituent minerals into sub-angular to sub-rounded agglomerations. Some of these are likely to be expansive clays, possibly including smectite and show shrinkage cracks in larger accumulations. Clays are also found within aggregate fragments of sub-rounded mudstones, claystones cross-cut by thin quartz veins, and interbedded with injections of microcrystalline silica. Micas of predominantly biotite and rarer muscovite are liberated and form platy crystals. Within glassy silicate phase a needle-like deposit was identified which nevertheless did not return an erionite composition. Iron oxides within the sample are rare, but usually found as liberated, rounded grains of haematite and goethite. Iron oxides can also form sub- to euhedral grains containing exsolutions of ilmenite. Traces of goethite veins can also be found within fractured clay grains. Very rare anhedral pyrite is also observed.

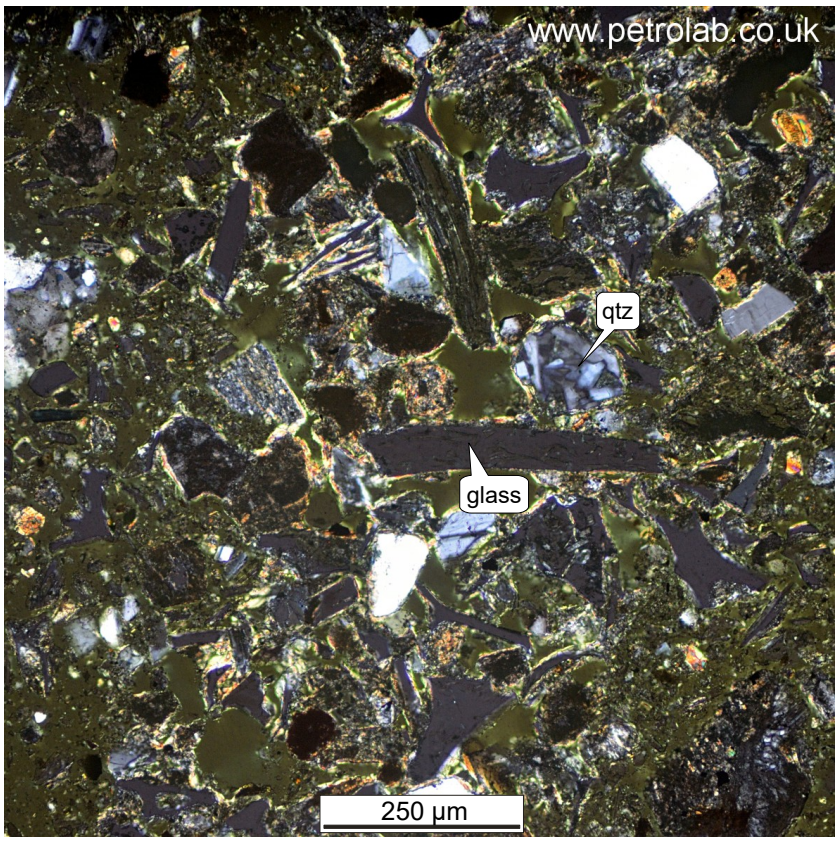
Photomicrographs



B **Sample 1446346**

Photomicrograph of sample showing high abundance of clays including swelling clays with volcanic glass grains.

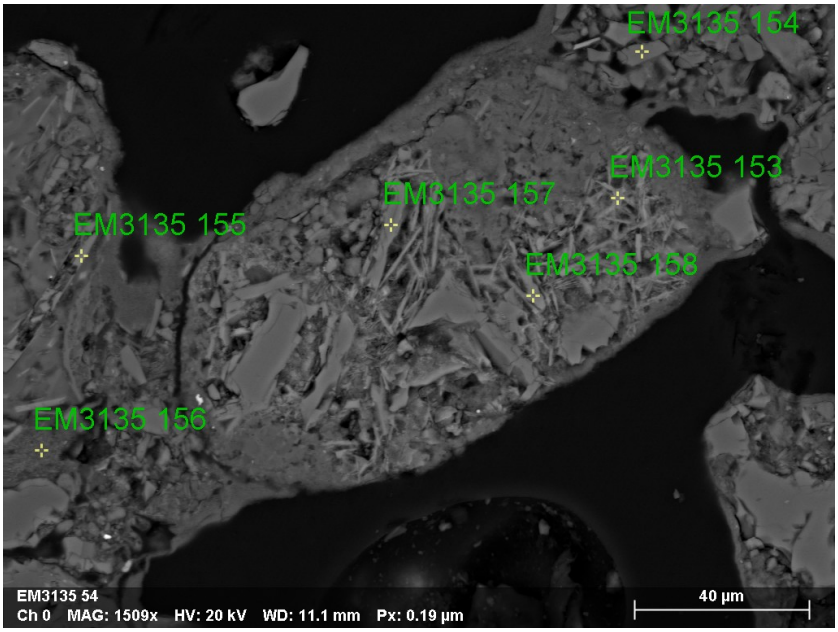
Image B
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x100



C **Sample 1446346**

Photomicrograph of sample showing high abundance volcanic glass.

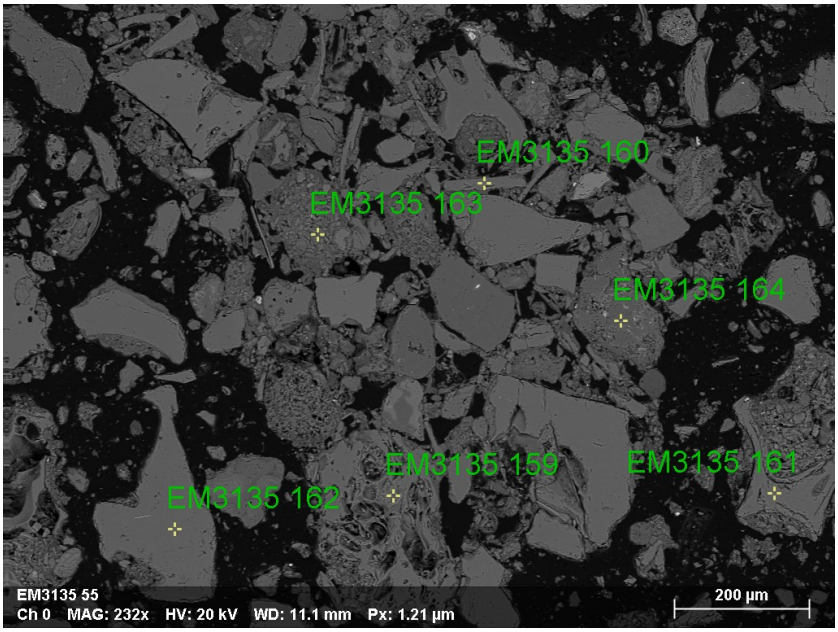
Image C
Nikon Microphot-FXA petrological microscope
Cross polarised transmitted light
x100



D **Sample 1446346**

Backscatter electron (BSE) image showing abundant plagioclase laths (EM3135 154, 155, 157 and 158) and clay minerals (EM3135 153 and 156).

Image D
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x1509



E **Sample 1446346**

Backscatter electron (BSE) image showing overall texture of the sample. Compositions consisted of amorphous glassy phases (EM3135 159 - 162) along with clay minerals (EM3135 163) and cryptocrystalline quartz (EM3135 164).

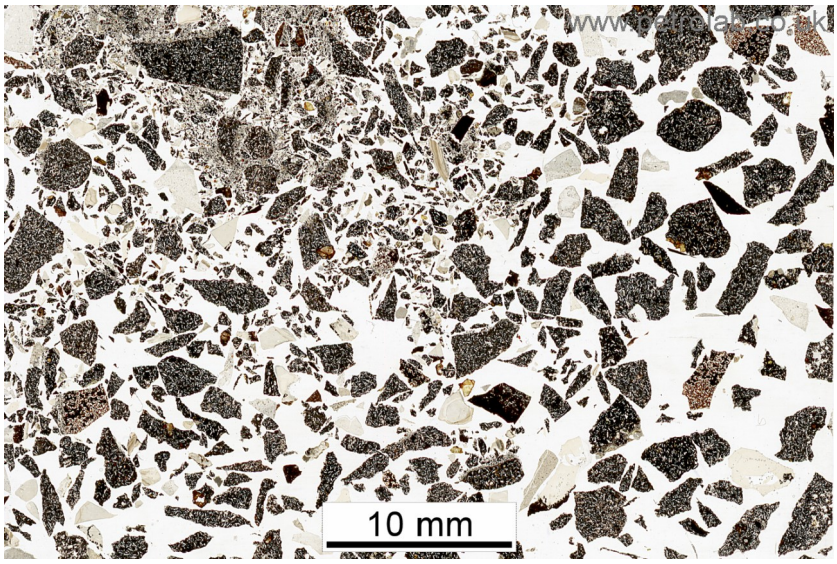
Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x232

1446350

Sample as received

Sample 1446350		
Petrolab ID	**Date received**	**Type · mass**
#12802	17/04/2019	Mine waste residue · 252 g

Section(s)



A Sample 1446350

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

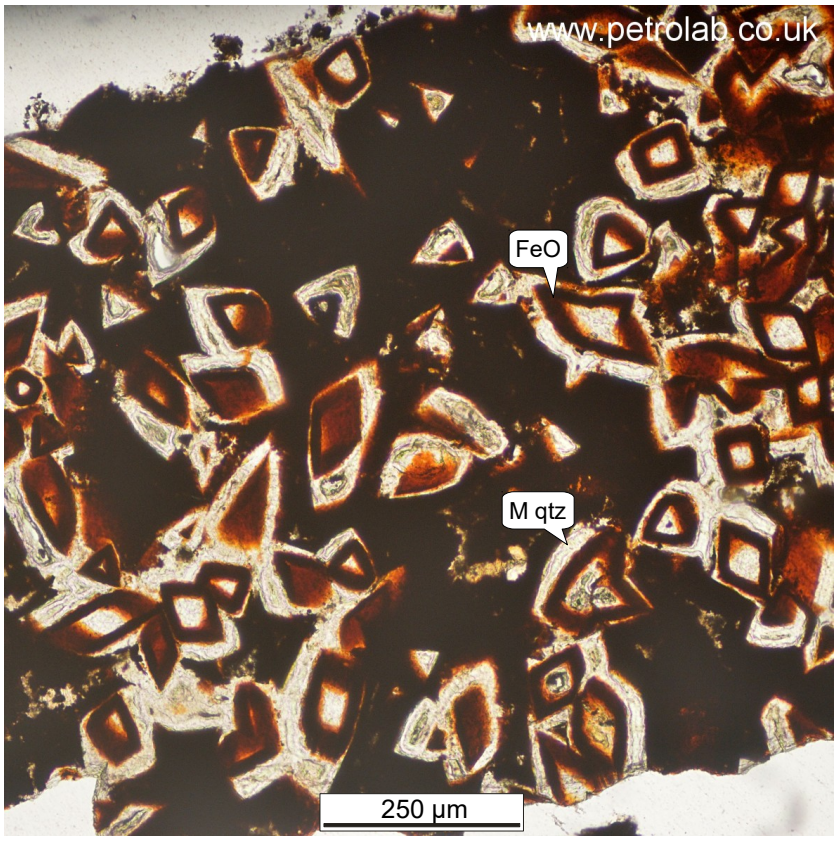
Sample 1446350		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Glassy phases	Amorphous phase containing silica, oxygen, and minor amounts of Fe, Al, Ca & Mg | sg~2.50	Major+
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major
Microcrystalline Silica, M qtz	SiO_2 | sg~2.65	Minor
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Minor
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Minor
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Trace
Haematite, hm	Fe_2O_3 | sg~5.30	Trace
Magnetite, mag	$Fe{+}{+}Fe{+}{+}{+}_2O_4$ | sg~5.15	Trace
Goethite, Gt	FeOOH | sg~4.27	Trace

1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

Sample 1446350
• The sample is composed primarily of volcanic glass fragments with euhedral to subhedral, partially interlocking plagioclase laths. Olivine phenocrysts are rarely seen, having been almost entirely replaced by clays, likely iddingsite and bowlingite. Rare vein carbonate (possibly dolomite) fragments are entirely replaced by microcrystalline silica and iron oxides preserving rhombic structures. Other fragments include microcrystalline silica, opaline silica and glassy silicate phases, some cross-cut by quartz veins. Some fragments are completely replaced by kaolinite and chlorite clays and have been subsequently limonitised. Augite is rarely seen throughout the sample. In reflected light, iron oxides of haematite and magnetite form skeletal and dendritic textures or are finely disseminated throughout the matrix. Rarely haematite and goethite form rims surrounding olivine crystals and altered clay patches.

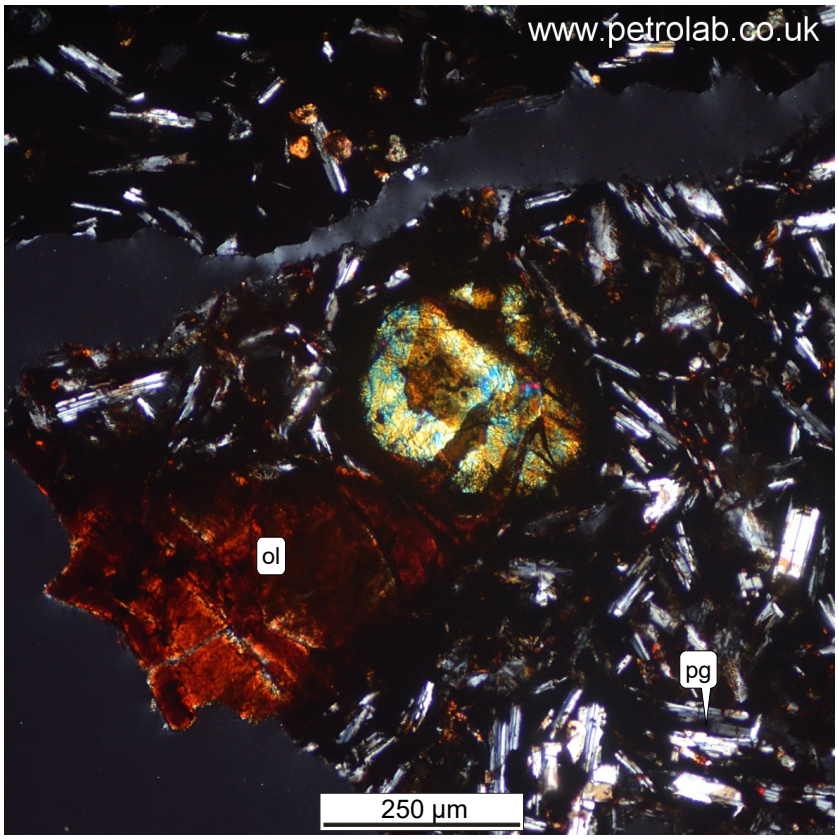
Photomicrographs



B **Sample 1446350**

Photomicrograph of sample showing microcrystalline silica and iron oxides forming pseudomorphs after dolomite.

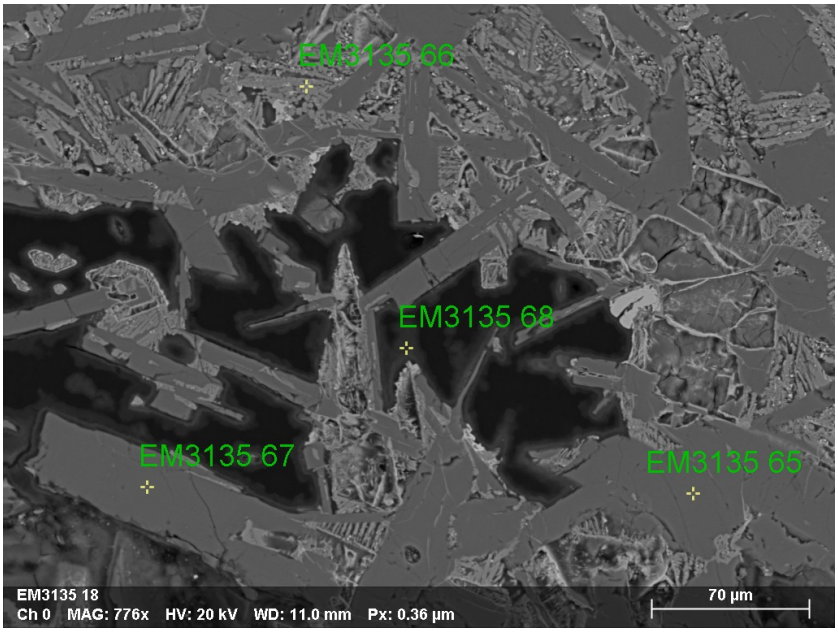
Image B
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x100



C **Sample 1446350**

Photomicrograph of sample showing plagioclase rich groundmass with altered olivine phenocrysts to clays.

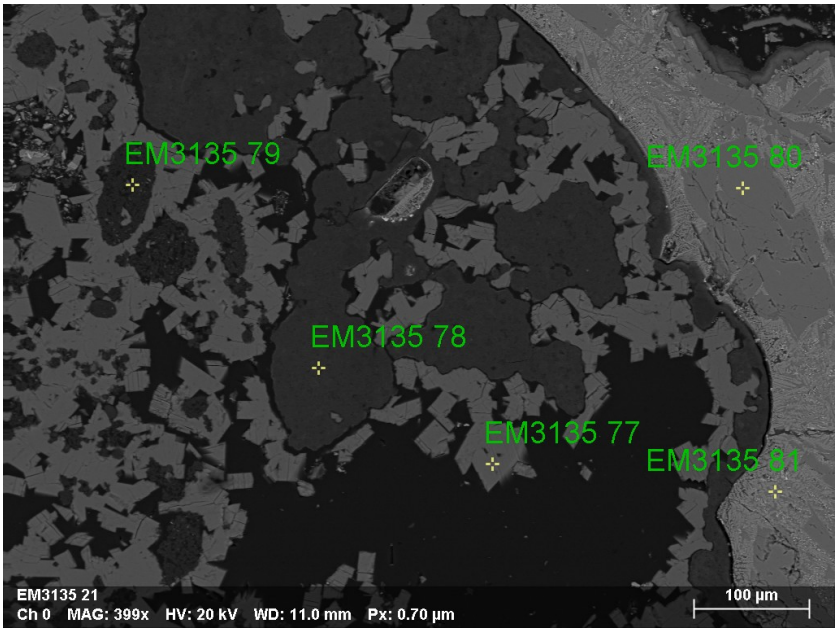
Image C
Nikon Microphot-FXA petrological microscope
Cross polarised transmitted light
x100



D **Sample 1446350**

Backscatter electron (BSE) image of basaltic groundmass textures with amphibole (EM3135 65 and 67), clay minerals with iron oxides (EM3135 66) and microcrystalline silica (EM3135 68).

Image D
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x776



E **Sample 1446350**

Backscatter electron (BSE) image of basaltic groundmass textures with plagioclase (EM3135 77), replacement clay minerals (EM3135 78 and 79), pyroxene (EM3135 80), and altered pyroxene with additional skeletal iron oxides (EM3135 81).

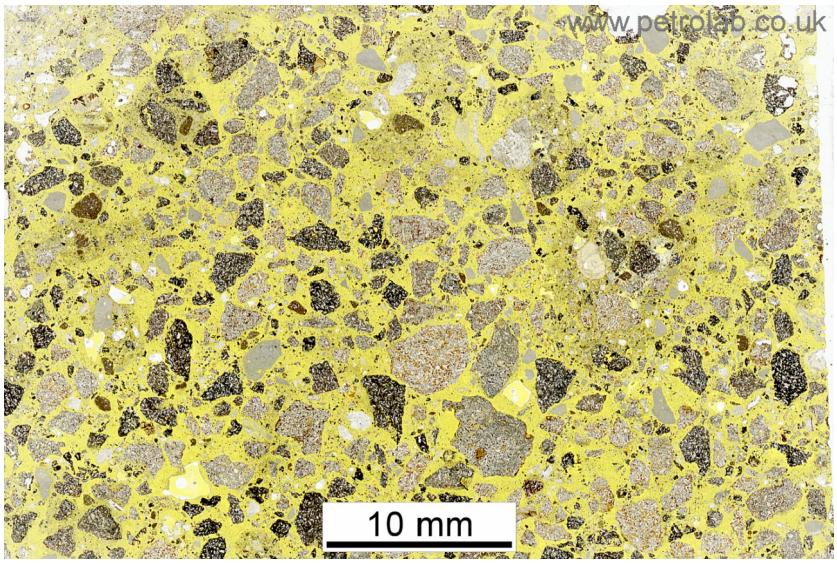
Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x399

1446351

Sample as received

Sample 1446351		
Petrolab ID	**Date received**	**Type · mass**
#12803	17/04/2019	Mine waste residue · 200 g

Section(s)



A Sample 1446351

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

Sample 1446351		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major
Calcite, cal	$CaCO_3$ | sg~2.70	Major
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Major
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Minor
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Minor
Chalcedony	$SiO_2 \cdot n(H_2O)$ | sg~2.09	Trace
Haematite, hm	Fe_2O_3 | sg~5.30	Trace
Magnetite, mag	$Fe^{++}Fe^{+++}{}_2O_4$ | sg~5.15	Trace
Pyrite, py	FeS_2 | sg~5.01	Trace
Goethite, Gt	FeOOH | sg~4.27	Trace

1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

Sample 1446351

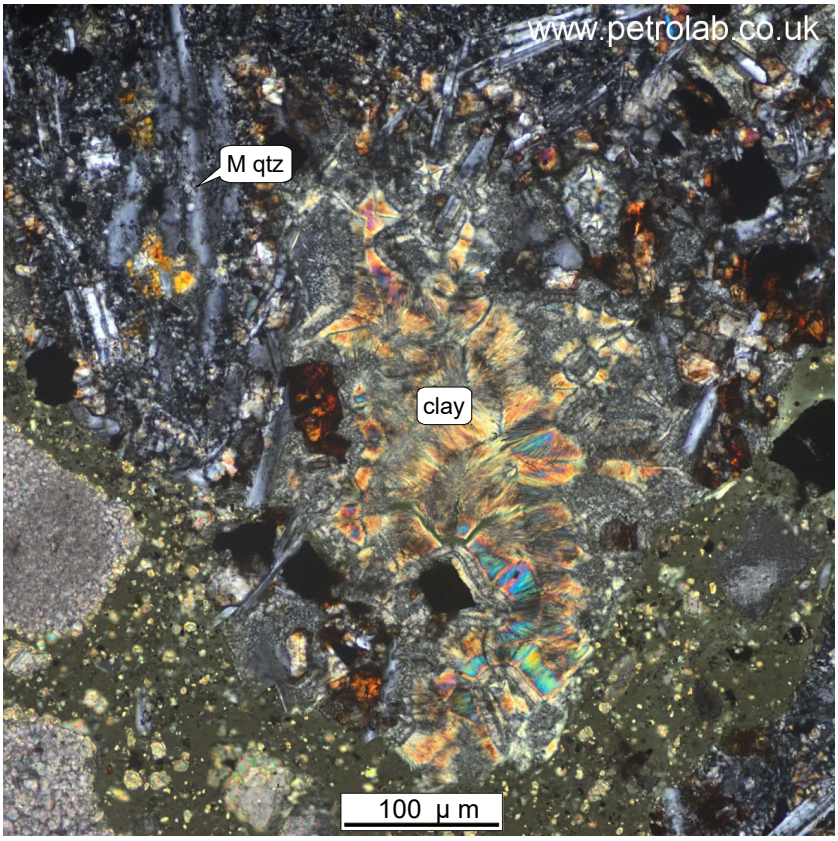
- The sample is a sub-ophitic basalt comprised of laths of plagioclase, subhedral to euhedral olivine phenocrysts, pyroxene (augite), calcite, various clays and traces of chalcedony. The presence and habit of calcite and amorphous silica suggests that they originated from later cross-cutting veins. Olivine phenocrysts are partially or completely altered, replaced by iddingsite, bowlingite and/or various clays. The matrix has undergone heavy pervasive chloritisation and kaolinisation. Other fragments include limestones and micrite (very fine-grained carbonate mud), some of which contain sparry calcite veins. The sample also contains a high abundance of fine-grained calcite dust. Liberated chalcedony, opaline silica and undefined glassy fragments are also present. The most common fibrous clays (kaolinite and chlorite) create concentric masses filling amygdales (possibly original vesicles). Other type of clays - yellowish to brown are the alteration products of olivines, occurring along the fractures and edges of olivine crystals. Calcite is also a common vesicle infill usually lined by yellow clays. Iron oxides within the sample include botryoidal goethite in liberated clays and glassy silicate fragments or as thin veinlets within cracks. Within basalt fragments, haematite and magnetite can be found forming either lath shaped grains or larger euhedral crystals. Rare liberated subhedral pyrite was also visible.

Photomicrographs

B **Sample 1446351**

Photomicrograph of sample showing clay replacement of olivine in the groundmass with augite and plagioclase.

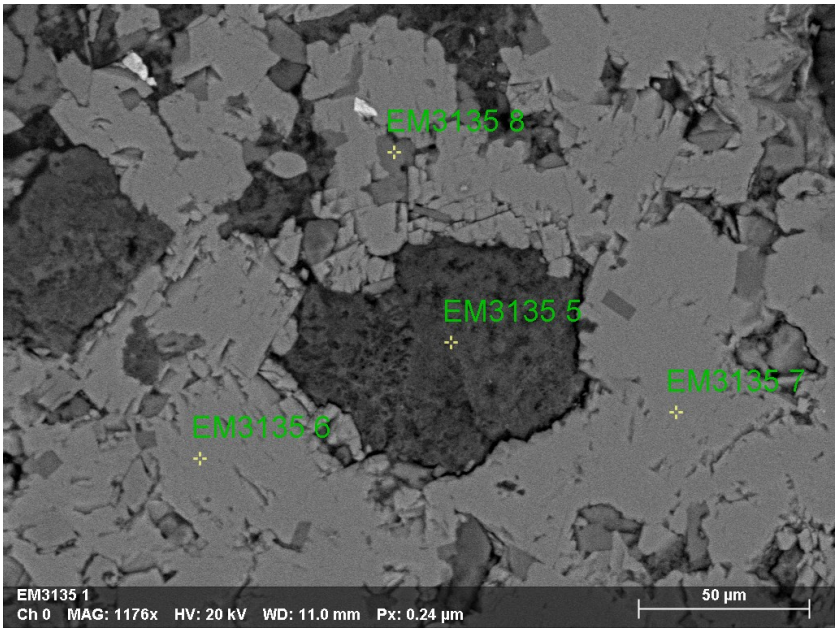
Image B
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x100



C **Sample 1446351**

Photomicrograph of sample showing water sensitive clays and microcrystalline silica.

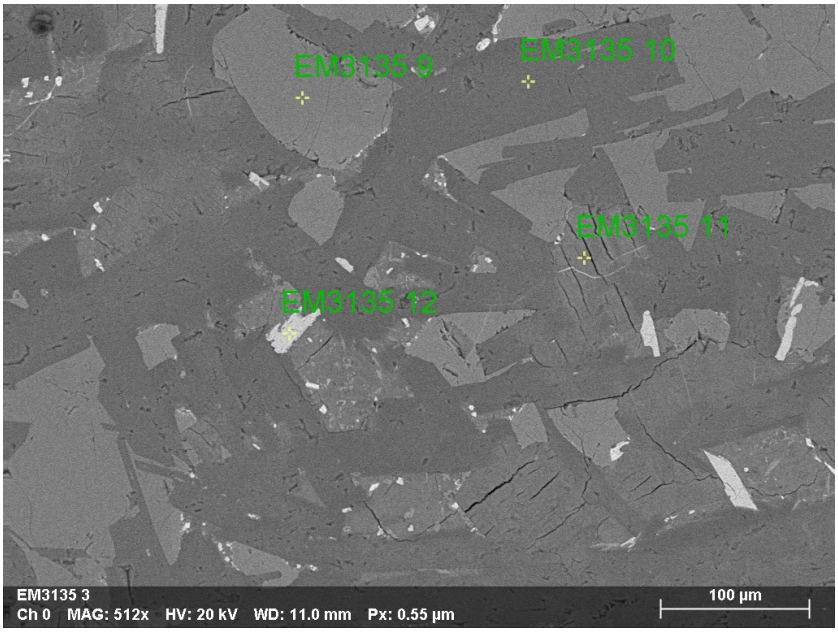
Image C
Nikon Microphot-FXA petrological microscope
Cross polarised transmitted light
x200



D **Sample 1446351**

Backscatter electron (BSE) image of basaltic groundmass textures with replacement clay minerals (EM3135 5), later stage calcite (EM3135 6 and 7) quartz (EM3135 8).

Image D
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x1176



E **Sample 1446351**

Backscatter electron (BSE) image of basaltic groundmass textures with pyroxene (augite) (EM3135 9), plagioclase (EM3135 10), chlorite (EM3135 11) and iron oxides (EM3135 12).

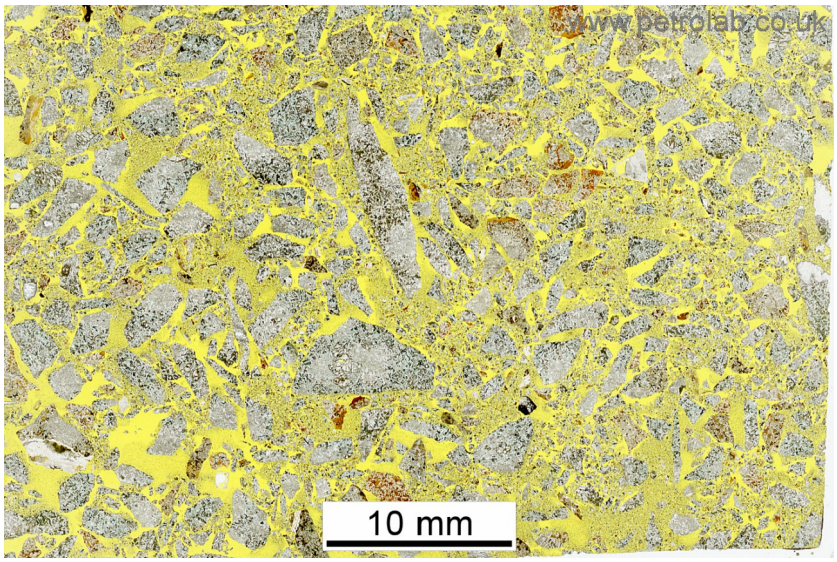
Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x512

1446354

Sample as received

Sample 1446354		
Petrolab ID	**Date received**	**Type · mass**
#12804	17/04/2019	Mine waste residue · 244 g

Section(s)



A Sample 1446354

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

Sample 1446354		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Major
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Minor
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Minor
Chlorite group (clinochlore), chl	$(Mg,Fe{++})_5Al(Si_3Al)O_{10}(OH)_8$ | sg~2.65	Minor
Calcite, cal	$CaCO_3$ | sg~2.70	Minor
Chalcedony	$SiO_2 \cdot n(H_2O)$ | sg~2.09	Trace
Microcrystalline Silica, M qtz	SiO_2 | sg~2.65	Trace
Haematite, hm	Fe_2O_3 | sg~5.30	Trace
Magnetite, mag	$Fe{++}Fe{+++}_2O_4$ | sg~5.15	Trace
Goethite, Gt	FeOOH | sg~4.27	Trace

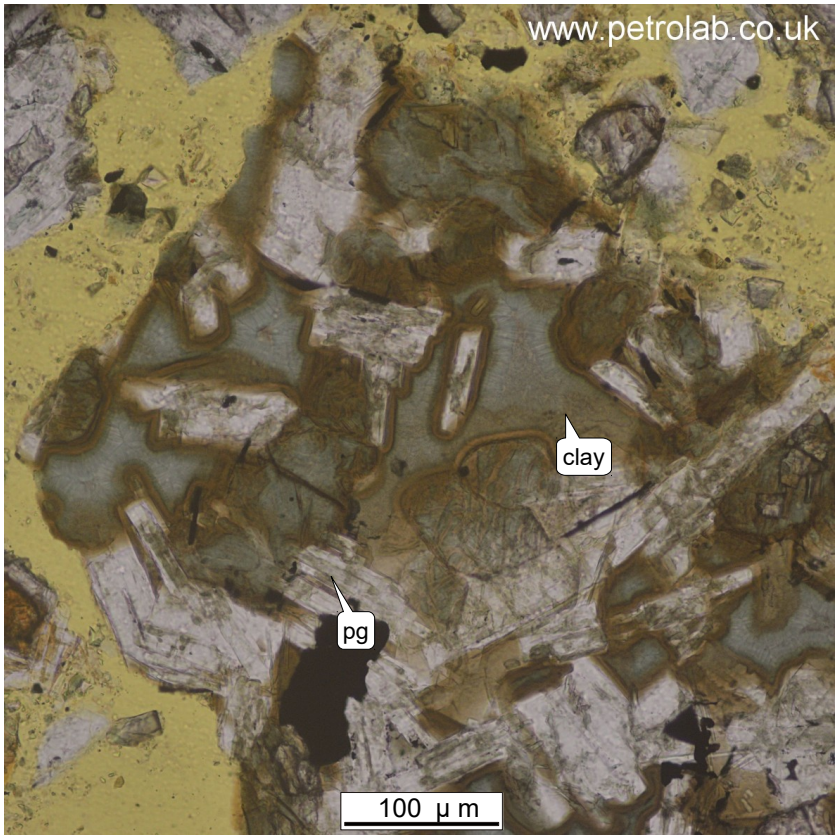
1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

Sample 1446354

- The sample is a basalt with sub-ophitic texture. It is comprised of laths of plagioclase, subhedral to euhedral olivine phenocrysts, pyroxene (augite), various clays and traces of calcite, microcrystalline silica and chalcedony. The presence and habit of liberated calcite suggests that they originated from later cross-cutting veins. Some olivine crystals have undergone pervasive alteration and are partially or completely replaced by iddingsite and/or yellowish clays (possibly bowlingite). Some basalt fragments either have thick rims of limonite or have pervasive limonitisation of the matrix. Fibrous, concentric clays (predominately chlorite) are replacing the groundmass or filling the amygdales (possibly original vesicles), usually lined by a rim of green/brown clays. Rare chlorite lined vesicles are filled with chalcedony or microcrystalline silica. Iron oxides of haematite and magnetite can be found forming either lath shaped grains or larger euhedral crystals. Veins of goethite are also present within altered olivines and clay patches, or rimming the edges of fragments.
- Erionite was provisionally identified in this samples as a trace phase by XRD analysis. The database suggested a match by XRD was the (K,Na) erionite species.

Photomicrographs



B **Sample 1446354**

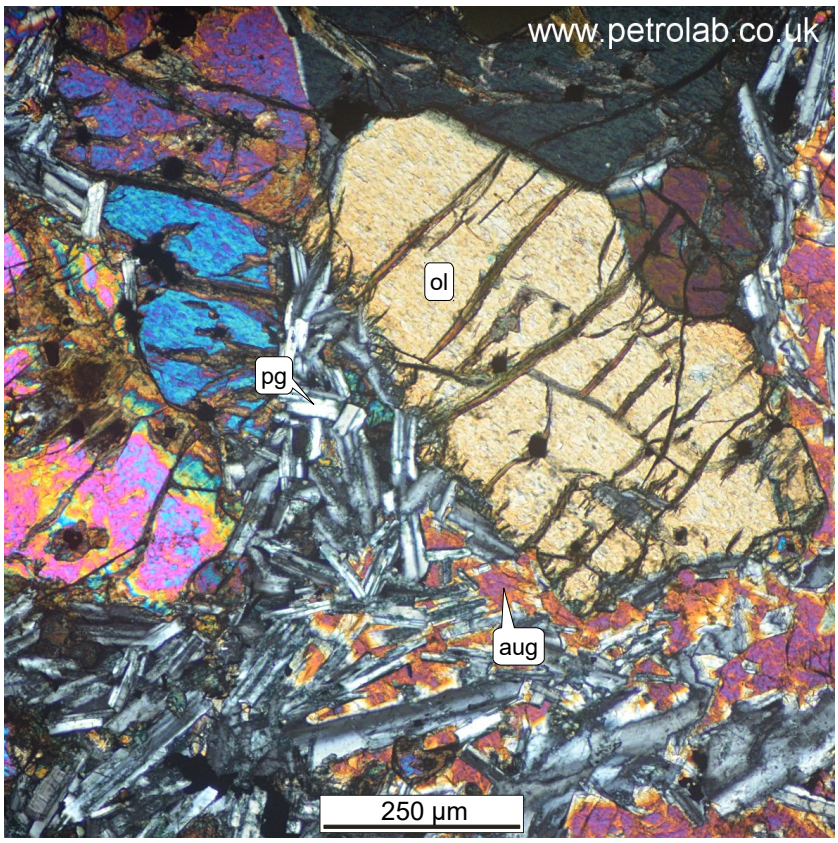
Photomicrograph of sample showing clays formed inside vesicles within the groundmass.

Image B

Nikon Microphot-FXA petrological microscope

Plane polarised transmitted light

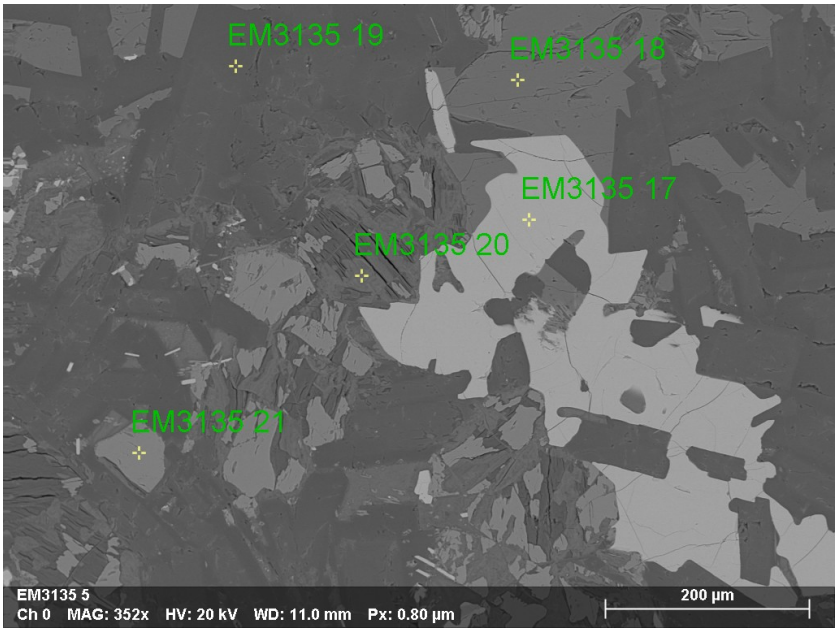
x200



C **Sample 1446354**

Photomicrograph of sample showing olivine phenocrysts and sub-ophitic groundmass texture.

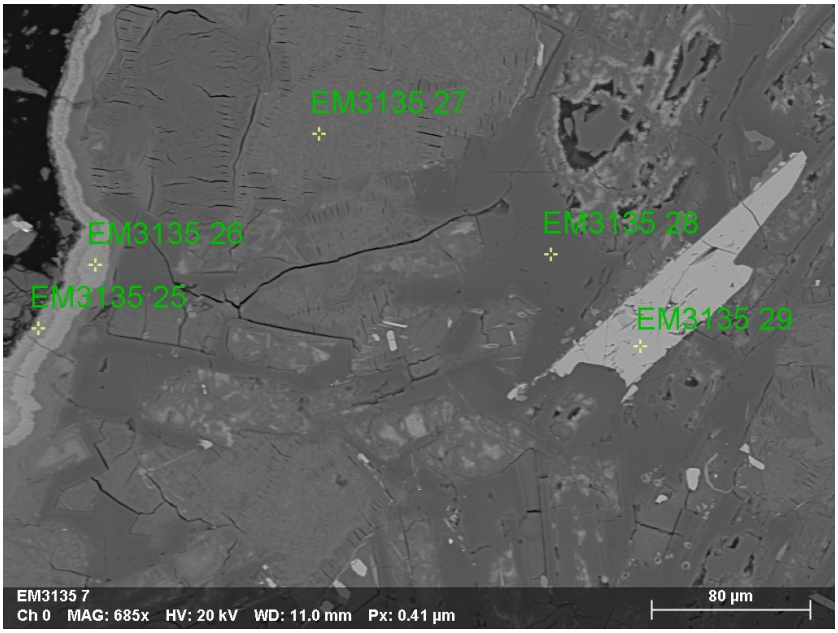
Image C
Nikon Microphot-FXA petrological microscope
Cross polarised transmitted light
x100



D **Sample 1446354**

Backscatter electron (BSE) image of basaltic groundmass textures with ilmenite (EM3135 17), pyroxene (augite) (EM 3135 18), altered plagioclase (EM3135 19) and clay altered olivine (EM3135 20), and olivine (EM3135 21).

Image D
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x352



E **Sample 1446354**

Backscatter electron (BSE) image of altered basaltic groundmass textures with iron-rich clays (EM3135 25 and 26), chlorite (EM3135 27), plagioclase (EM3135 28) and ilmenite (EM3135 29).

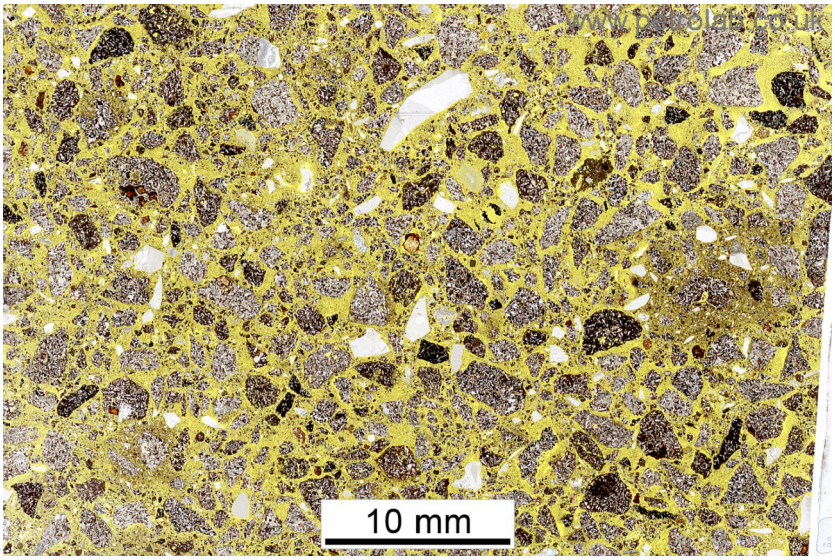
Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x685

1446356

Sample as received

Sample 1446356		
Petrolab ID	**Date received**	**Type · mass**
#12805	17/04/2019	Mine waste residue · 222 g

Section(s)



A Sample 1446356

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

Sample 1446356		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Major
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Minor
Glassy phases	Amorphous phase containing silica, oxygen, and minor amounts of Fe, Al, Ca & Mg | sg~2.50	Minor
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Trace
Calcite, cal	$CaCO_3$ | sg~2.70	Trace
Quartz, qtz	SiO_2 | sg~2.65	Trace
Magnetite, mag	$Fe^{++}Fe^{+++}{}_2O_4$ | sg~5.15	Trace
Haematite, hm	Fe_2O_3 | sg~5.30	Trace
Ilmenite, ilm	$Fe^{++}TiO_3$ | sg~4.72	Trace
Goethite, Gt	FeOOH | sg~4.27	Trace

1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

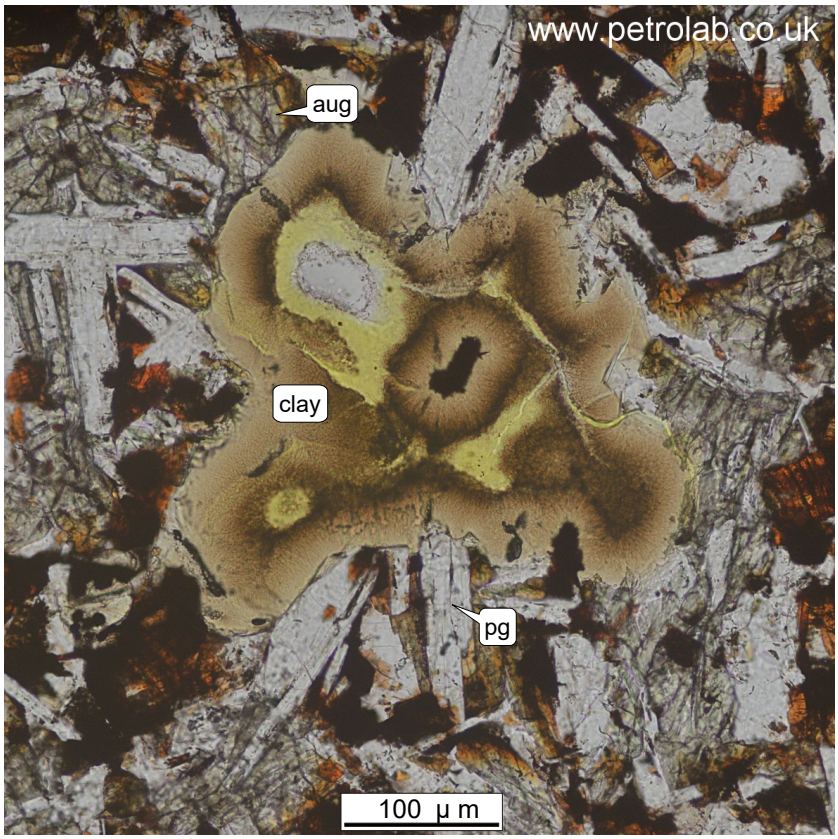
Sample 1446356
• The sample comprises sub-ophitic basaltic fragments containing plagioclase laths, subhedral olivine phenocrysts, pyroxene (augite), volcanic glass and various clays. There are traces of clacite and iron oxides. Numerous olivine phenocrysts are partially or completely altered by iddingsite and/or yellowish clays (possibly bowlingite) usually along cracks and fractures within the crystal. Rare fragments have been cross-cut by coarse sparry calcite or contain large patches of amorphous silica which contains shrinkage cracks. Liberated grains of calcite, microcrystalline silica and glassy phases/amorphous silica are also present. The basalt contains abundant limonite and clay rims around constituent mineral crystals. Fibrous, concentric clays (predominately kaolinite and chlorite with traces of illite) are replacing the groundmass or filling the amygdales (possibly original vesicles), rarely lined by a rim of brown clays. In reflected light, iron oxides of haematite and magnetite form skeletal and dendritic textures or are finely disseminated throughout the matrix. Within clays and silicate glasses which contain shrinkage cracks, veins of haematite and goethite usually create stockwork textures throughout. In altered olivine phenocrysts haematite and goethite form thin veinlets or rims surrounding the crystals.

Photomicrographs

B Sample 1446356

Photomicrograph of sample showing clay textures in vesicles.

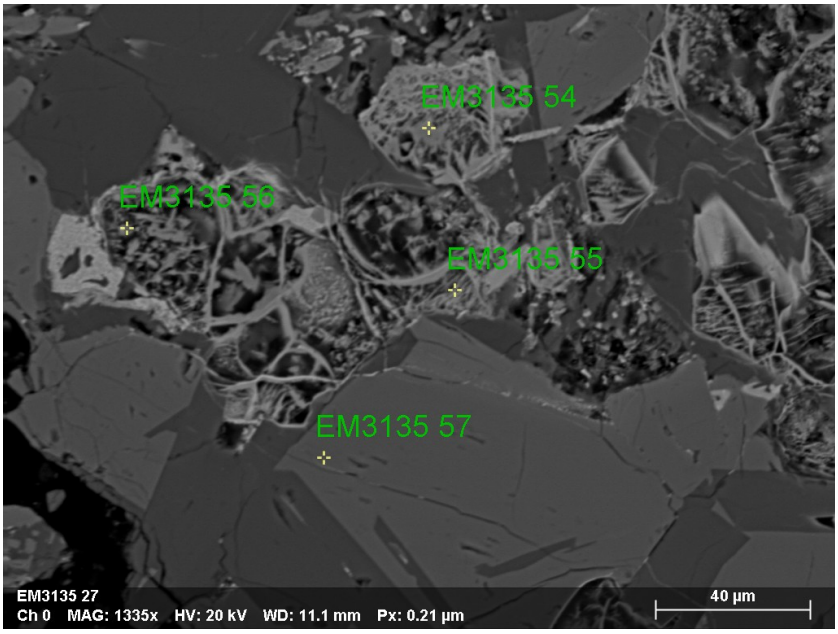
Image B
Nikon Microphot-FXA petrological microscope
Cross polarised transmitted light
x200



C **Sample 1446356**

Photomicrograph of sample showing clay textures in vesicles within the groundmass.

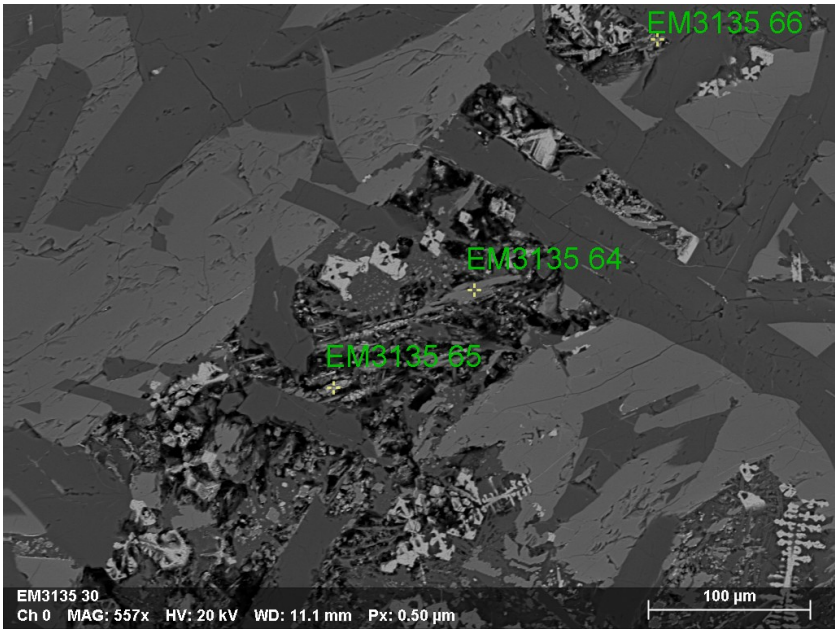
Image C
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x200



D **Sample 1446356**

Backscatter electron (BSE) image of altered olivine crystals to clays (EM3135 54, 55 and 56) with pyroxene (augite) (EM 3135 57).

Image D
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x1335



E **Sample 1446356**

Backscatter electron (BSE) image showing iron oxide textures with groundmass amphibole (EM3135 64, 65 and 66).

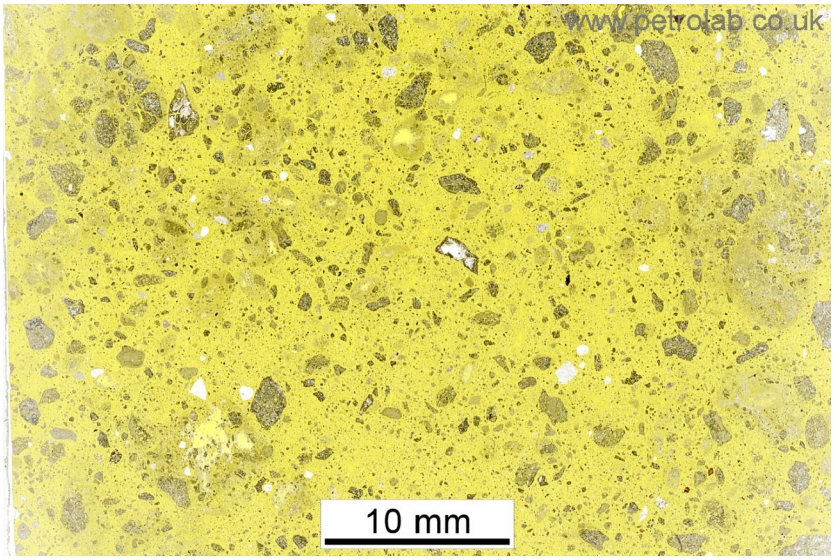
Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x557

1446358

Sample as received

Sample 1446358		
Petrolab ID	**Date received**	**Type · mass**
#12806	17/04/2019	Mine waste residue · 220 g

Section(s)



A Sample 1446358

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

Sample 1446358		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Major+
Quartz, qtz	SiO_2 | sg~2.65	Major
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Minor
Microcrystalline Silica, M qtz	SiO_2 | sg~2.65	Trace
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Trace
Calcite, cal	$CaCO_3$ | sg~2.70	Trace
Haematite, hm	Fe_2O_3 | sg~5.30	Trace
Goethite, Gt	FeOOH | sg~4.27	Trace
Pyrite, py	FeS_2 | sg~5.01	Trace

1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

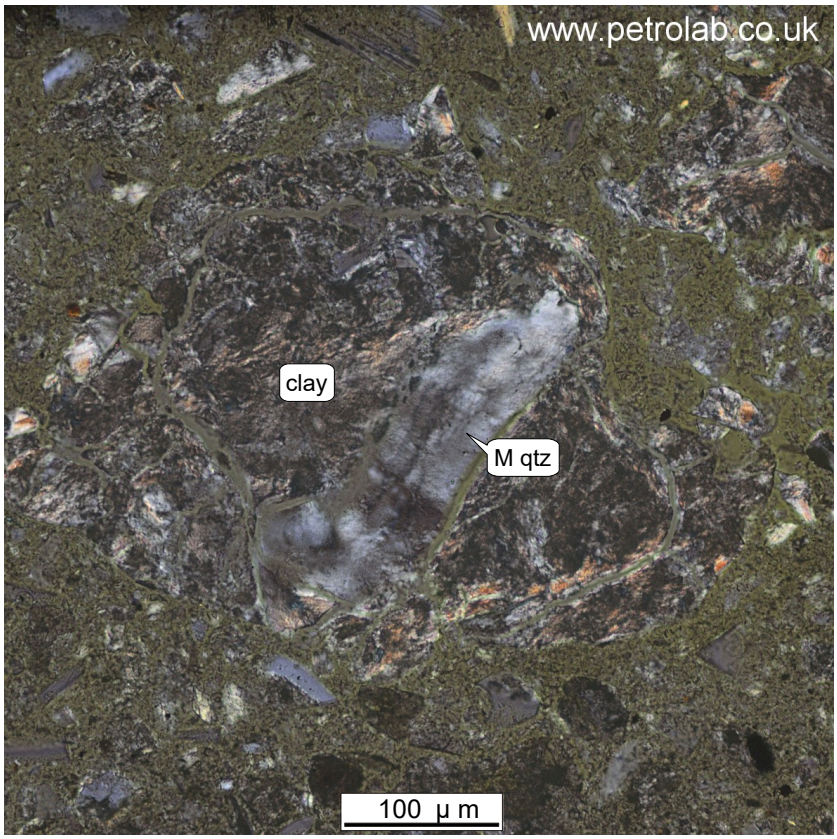
Sample 1446358
• The sample is comprised of fine grained material mostly composed of clays, micas, quartz, plagioclase, and various white isotropic glass phases and brown opaline silica. Clays of kaolinite, illite and chlorite are usually found in accumulations cementing other constituent minerals into sub-angular to sub-rounded agglomerations. Some of these are likely to be expansive clays, possibly including smectite and show shrinkage cracks in larger accumulations. Rare fragments of sandstone and altered basalt can also be seen. Fragments containing thick accumulations of needle-like material were observed but the composition did not match erionite. Iron oxides within the sample are rare, but usually found as liberated, rounded grains of haematite and goethite. Fine-grained anhedral to subhedral pyrite is present, rarely with oxidation rims, within larger quartz grains.

Photomicrographs

B **Sample 1446358**

Photomicrograph of sample showing water sensitive clay textures with microcrystalline quartz.

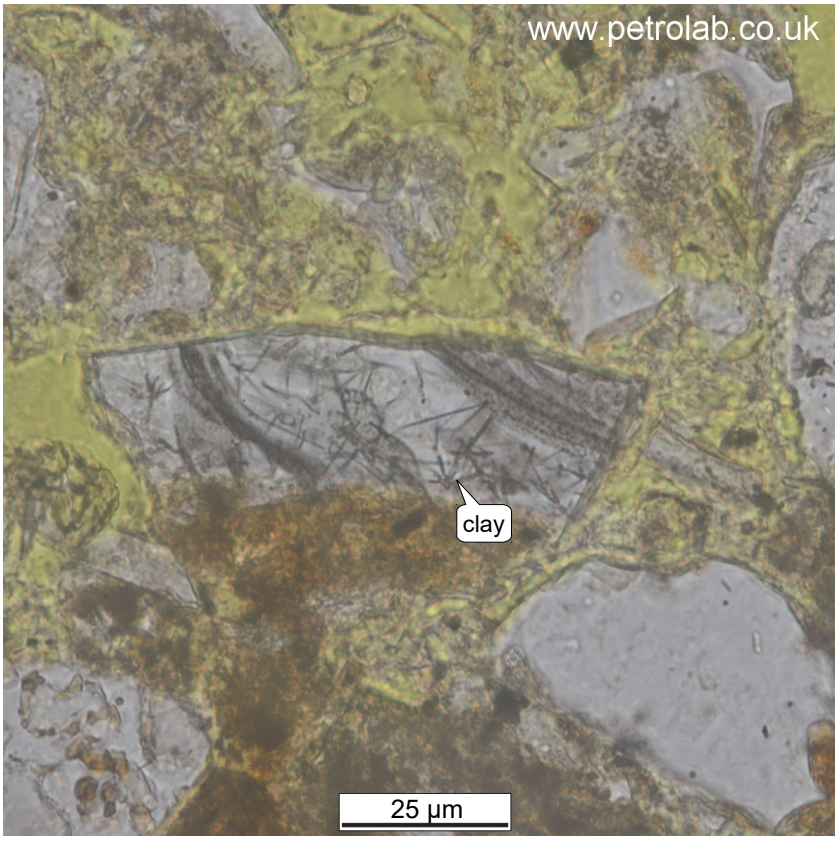
Image B
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x200



C **Sample 1446358**

Photomicrograph of sample showing water sensitive clay textures with microcrystalline quartz.

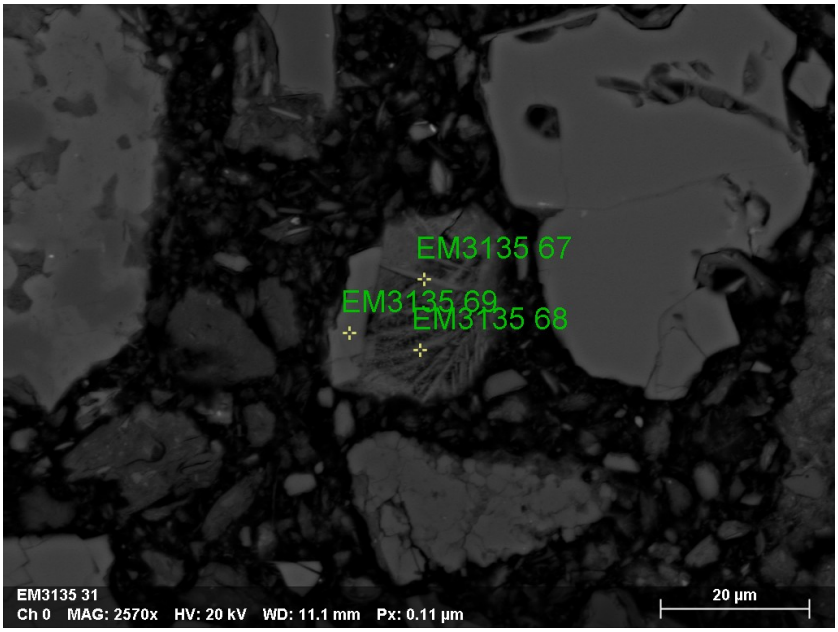
Image C
Nikon Microphot-FXA petrological microscope
Cross polarised transmitted light
x200



D **Sample 1446358**

Photomicrograph of sample showing needle-like clay minerals.

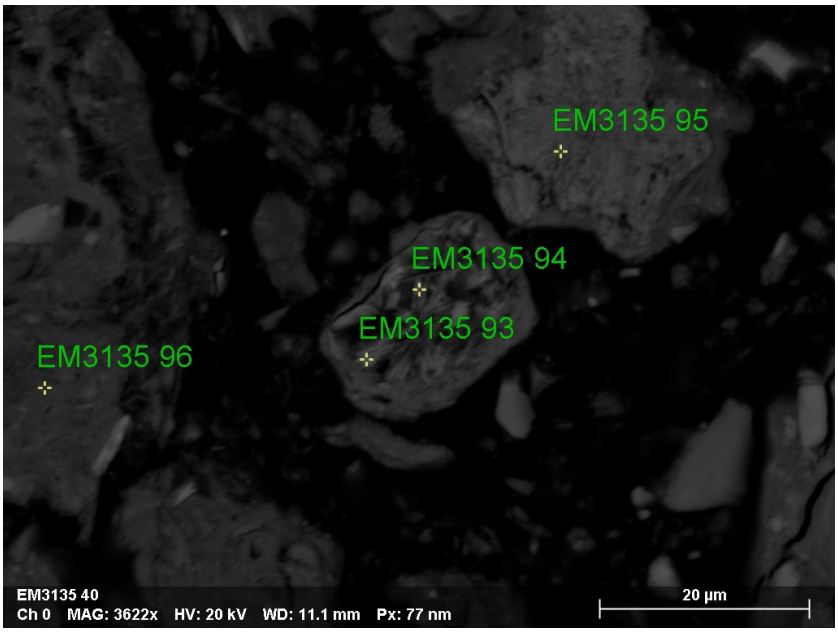
Image D
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x800



E **Sample 1446358**

Backscatter electron (BSE) image showing fine-grained plagioclase laths (EM3135 67, 68 and 69).

Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x2570



F **Sample 1446358**

Backscatter electron (BSE) image showing fine-grained plagioclase laths (EM3135 93 and 94) and clay minerals (EM3135 95 and 96).

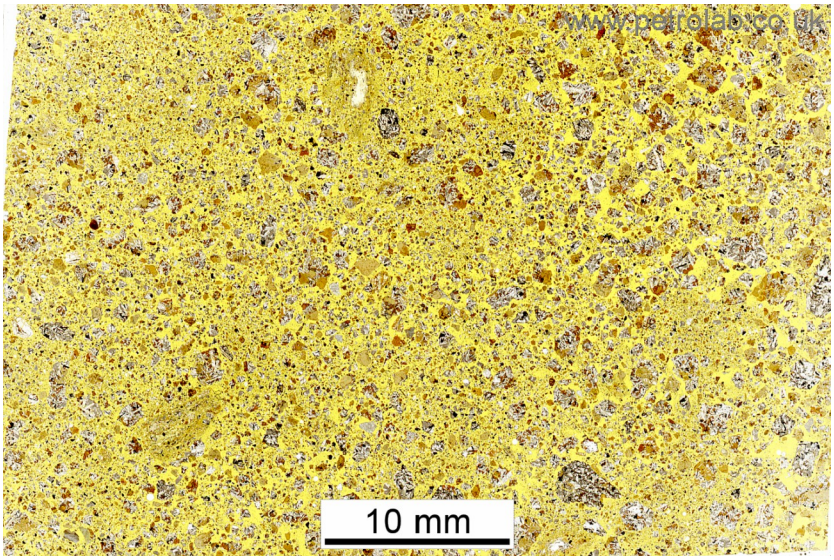
Image F
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x3622

1446360

Sample as received

Sample 1446360		
Petrolab ID	**Date received**	**Type · mass**
#12807	17/04/2019	Mine waste residue · 265 g

Section(s)



A Sample 1446360

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

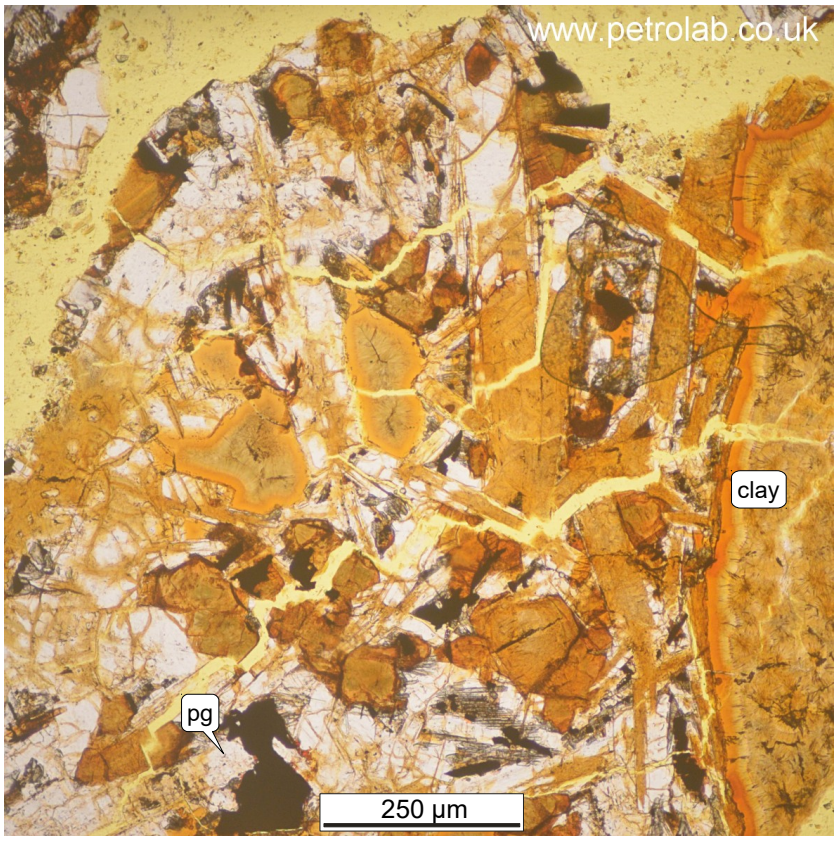
Sample 1446360		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Major
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Major
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Minor
Chlorite group (clinochlore), chl	$(Mg,Fe{++})_5Al(Si_3Al)O_{10}(OH)_8$ | sg~2.65	Trace
Calcite, cal	$CaCO_3$ | sg~2.70	Trace
Magnetite, mag	$Fe{++}Fe{+++}_2O_4$ | sg~5.15	Trace
Ilmenite, ilm	$Fe{++}TiO_3$ | sg~4.72	Trace
Haematite, hm	Fe_2O_3 | sg~5.30	Trace
Goethite, Gt	FeOOH | sg~4.27	Trace

1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

Sample 1446360
• The sample represents a slightly coarser grained basalt composed of plagioclase laths, augite and various clay minerals, which have also completely replaced the euhedral to subhedral olivine. Iddingsite and bowlingite clays replace the olivine and along fractures in the sample. Brown/green clays and chlorite are present as abundant fibrous concentric growths in vesicles and as larger grains containing fibrous rosette textures. Plagioclase laths and augite are abundant and largely unaltered, comprising the majority of the groundmass with a sub-ophitic texture. Minor calcite is also observed, possibly derived from late veining. Coarse euhedral to subhedral magnetite/haematite grains showing numerous ilmenite exsolutions are present. Haematite and goethite also forms thin veins throughout fractures or surrounding crystal rims.

Photomicrographs



B Sample 1446360

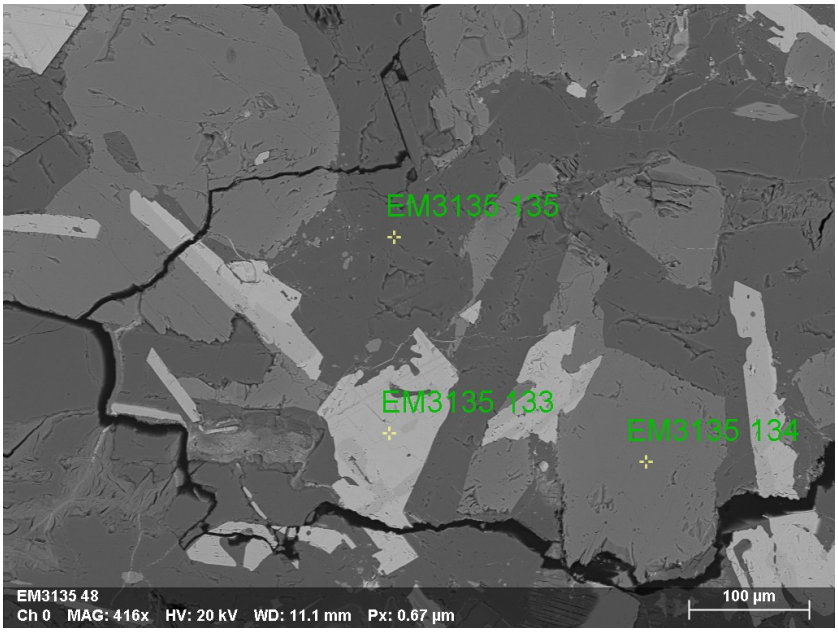
Photomicrograph of sample showing clay alteration of olivine with plagioclase groundmass.

Image B
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x100

C **Sample 1446360**

Photomicrograph of sample showing clay alteration of olivine with augite and plagioclase groundmass.

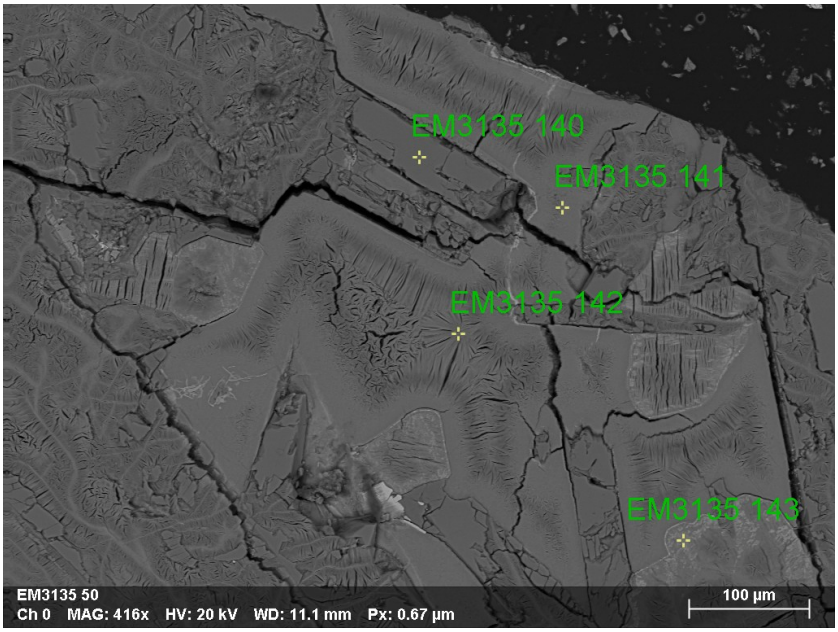
Image C
Nikon Microphot-FXA petrological microscope
Cross polarised transmitted light
x100



D **Sample 1446360**

Backscatter electron (BSE) image showing typical basaltic sub-ophitic groundmass texture, with various iron oxides (EM3135 133), pyroxene (EM3135 134) and plagioclase (EM3135 135).

Image D
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x416



E **Sample 1446360**

Backscatter electron (BSE) image showing typical basaltic altered groundmass texture, with plagioclase crystals (EM3135 140) and various clay minerals (EM3135 141 and 142), including high iron clay minerals (EM3135 143).

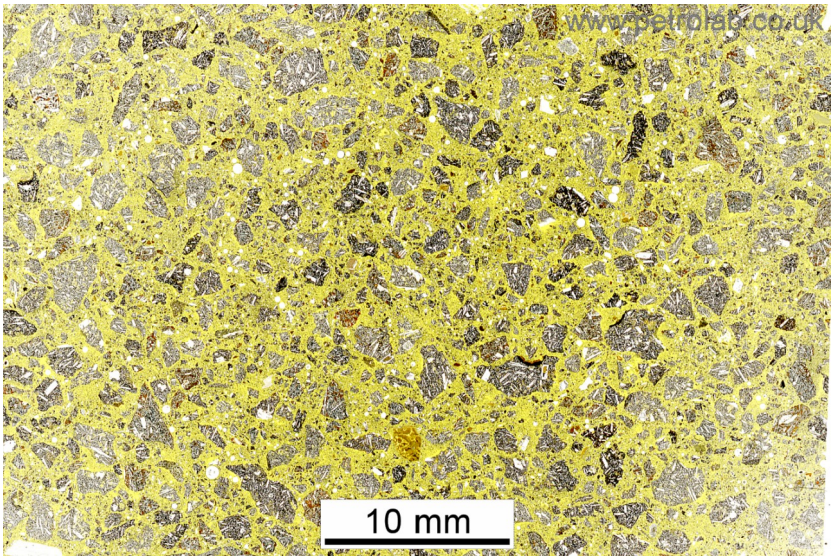
Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x416

1446361

Sample as received

Sample 1446361		
Petrolab ID	**Date received**	**Type · mass**
#12808	17/04/2019	Mine waste residue · 226 g

Section(s)



A Sample 1446361

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

Sample 1446361		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major+
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Major
Glassy phases	Amorphous phase containing silica, oxygen, and minor amounts of Fe, Al, Ca & Mg | sg~2.50	Minor
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Minor
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Minor
Chlorite group (clinochlore), chl	$(Mg,Fe{++})_5Al(Si_3Al)O_{10}(OH)_8$ | sg~2.65	Trace
Calcite, cal	$CaCO_3$ | sg~2.70	Trace
Magnetite, mag	$Fe{++}Fe{+++}_2O_4$ | sg~5.15	Trace
Ilmenite, ilm	$Fe{++}TiO_3$ | sg~4.72	Trace
Haematite, hm	Fe_2O_3 | sg~5.30	Trace
Chalcopyrite, cp	$CuFeS_2$ | sg~4.19	Trace

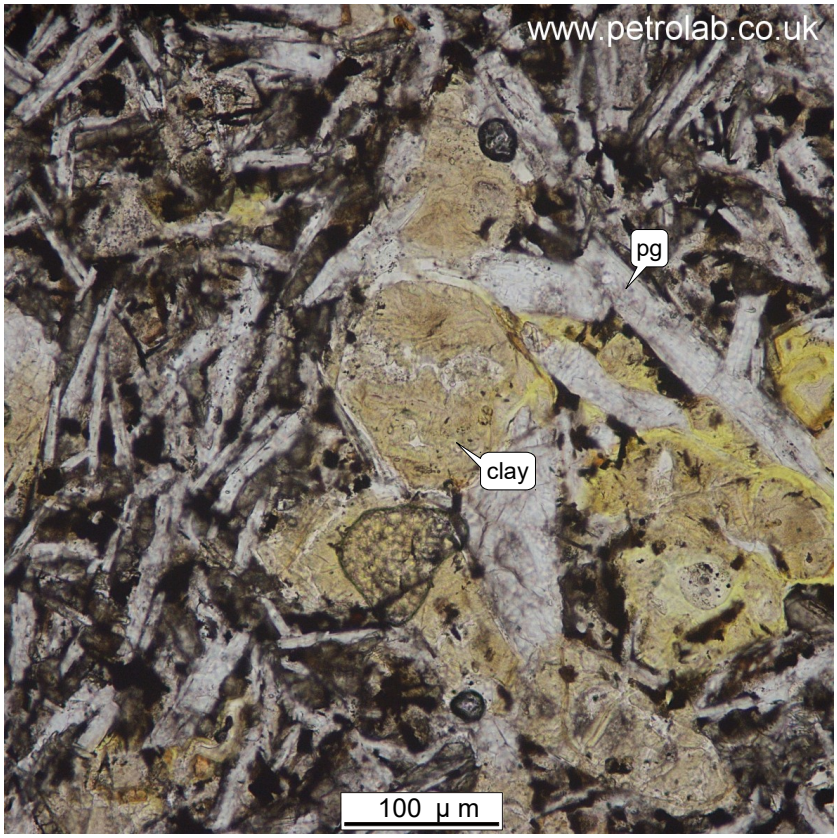
1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

Sample 1446361

- The sample is a basalt comprising primarily of volcanic glass fragments with euhedral to subhedral, partially interlocking plagioclase laths. They show polysynthetic twinning and rare partial alteration to clays along cleavage planes and fractures. Olivine crystals are less abundant and are partially to completely replaced by clay minerals. They are replaced by iddingsite and bowlingite and also along fractures in less altered grains. Clays are present primarily as complete replacements of olivine and groundmass, as well as larger individual grains. Chlorite and calcite crystals are rare, with unaltered augite also present in the groundmass of the basalt. Iron oxides are present as predominantly finely disseminated haematite showing skeletal and dendritic textures. Fine grained subhedral to euhedral ilmenite and magnetite exsolutions are also seen with rare larger grains. Traces of subhedral chalcopyrite are also observed.
- Erionite was provisionally identified in this samples as a trace phase by XRD analysis. The database suggested a match by XRD was the (K,Na) erionite species.

Photomicrographs



B **Sample 1446361**

Photomicrograph of sample showing complete olivine replacement by clays.

Image B

Nikon Microphot-FXA petrological microscope

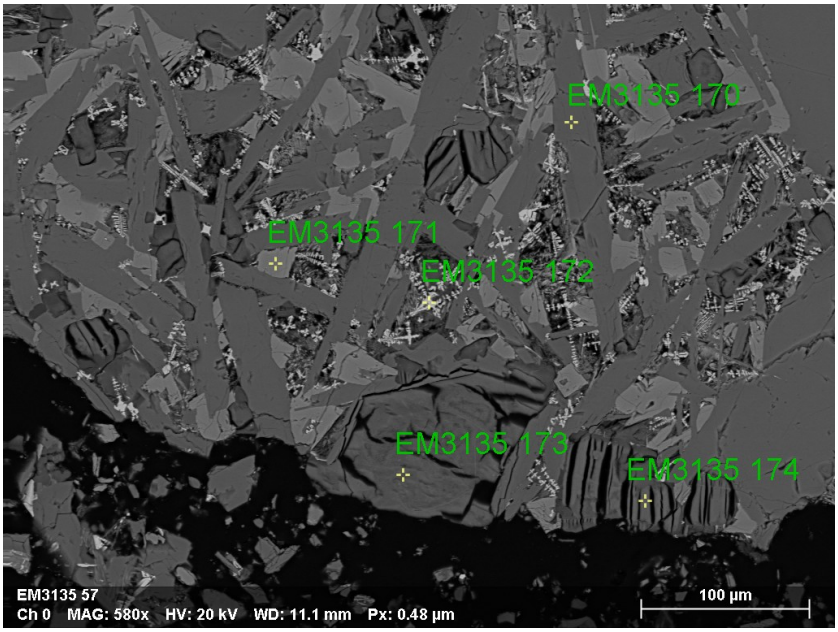
Plane polarised transmitted light

x200

C **Sample 1446361**

Photomicrograph of sample showing clay alteration in the groundmass with plagioclase.

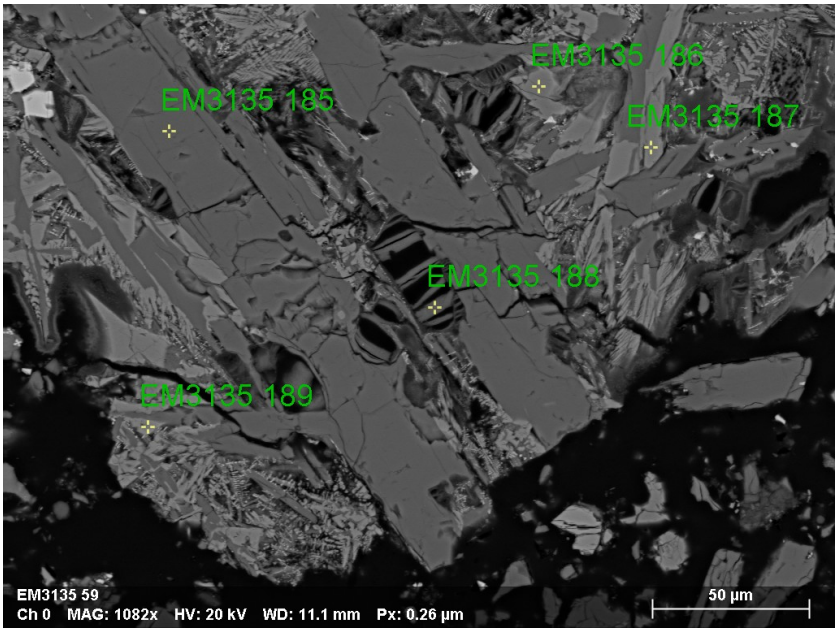
Image C
Nikon Microphot-FXA petrological microscope
Cross polarised transmitted light
x200



D **Sample 1446361**

Backscatter electron (BSE) image of typical altered basaltic groundmass, with plagioclase laths (EM3135 170), pyroxene (EM3135 171), skeletal iron oxide textures (EM3135 172), and clay replacement of olivine (EM3135 173 and 174).

Image D
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x580



E **Sample 1446361**

Backscatter electron (BSE) image of typical altered basaltic groundmass, with plagioclase laths (EM3135 185), pyroxene (EM3135 186, 187 and 189), and clay replacement textures (EM3135 188).

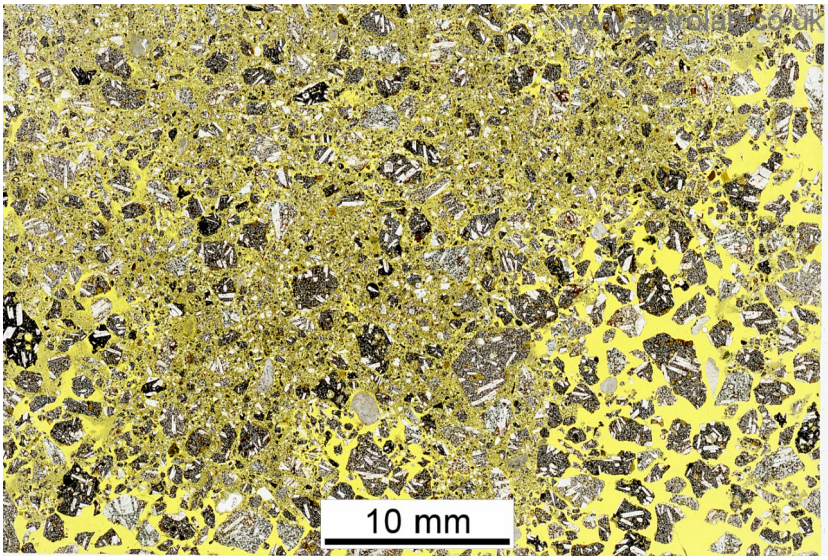
Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x1082

1446362

Sample as received

Sample 1446362		
Petrolab ID	**Date received**	**Type · mass**
#12809	17/04/2019	Mine waste residue · 273 g

Section(s)



A Sample 1446362

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

Sample 1446362		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major+
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Major
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Major
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Minor
Glassy phases	Amorphous phase containing silica, oxygen, and minor amounts of Fe, Al, Ca & Mg | sg~2.50	Minor
Chlorite group (clinochlore), chl	$(Mg,Fe{++})_5Al(Si_3Al)O_{10}(OH)_8$ | sg~2.65	Trace
Calcite, cal	$CaCO_3$ | sg~2.70	Trace
Magnetite, mag	$Fe{++}Fe{+++}_2O_4$ | sg~5.15	Trace
Ilmenite, ilm	$Fe{++}TiO_3$ | sg~4.72	Trace
Haematite, hm	Fe_2O_3 | sg~5.30	Trace
Pyrite, py	FeS_2 | sg~5.01	Trace
Chalcopyrite, cp	$CuFeS_2$ | sg~4.19	Trace

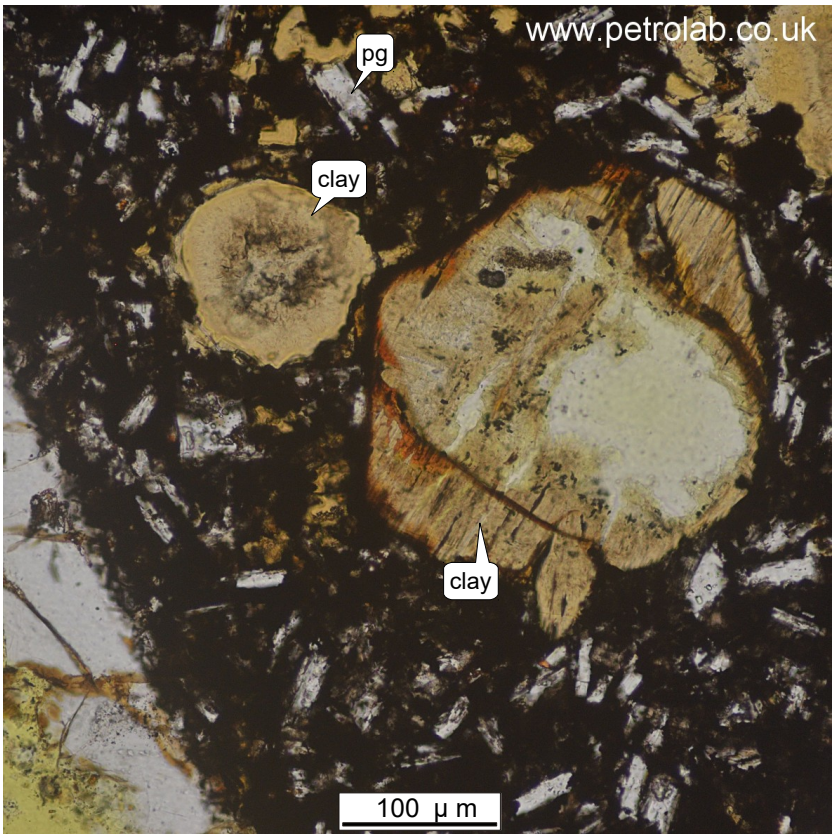
1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

Sample 1446362

- The sample contains sub-ophitic basaltic fragments with abundant volcanic glass with euhedral to subhedral plagioclase laths. Clays are more abundant and present as larger separate grains/clusters as well as alterations to olivine and the groundmass. Fibrous clays are seen as larger homogeneous grains, as vesicular infills and clusters of fine rosettes. Nearly all of the olivine phenocrysts are replaced by clay minerals, except where replacement occurs primarily along fractures in primary olivine crystals. Euhedral to subhedral plagioclase laths are present as phenocrysts and abundant interlocking crystals in the groundmass and volcanic glass fragments. Augite is unaltered and a minor component of the basaltic fragments. Calcite crystals are also observed as liberated grains, possibly derived from later stage veining. Iron oxides present show abundant ilmenite and magnetite exsolutions throughout the sample. Haematite commonly has a skeletal/dendritic texture. Thin veinlets of haematite and goethite are found within olivine fractures and cracks. Traces of pyrite and chalcopyrite are also observed in calcite crystals.

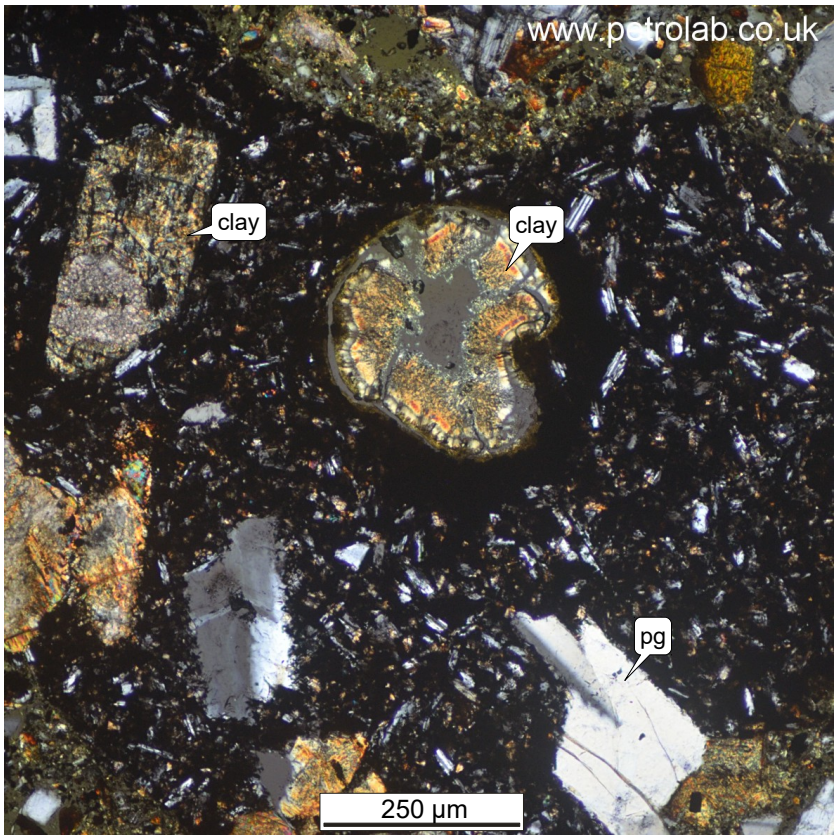
Photomicrographs



B **Sample 1446362**

Photomicrograph of sample showing complete olivine replacement by clays and clays forming in vesicles.

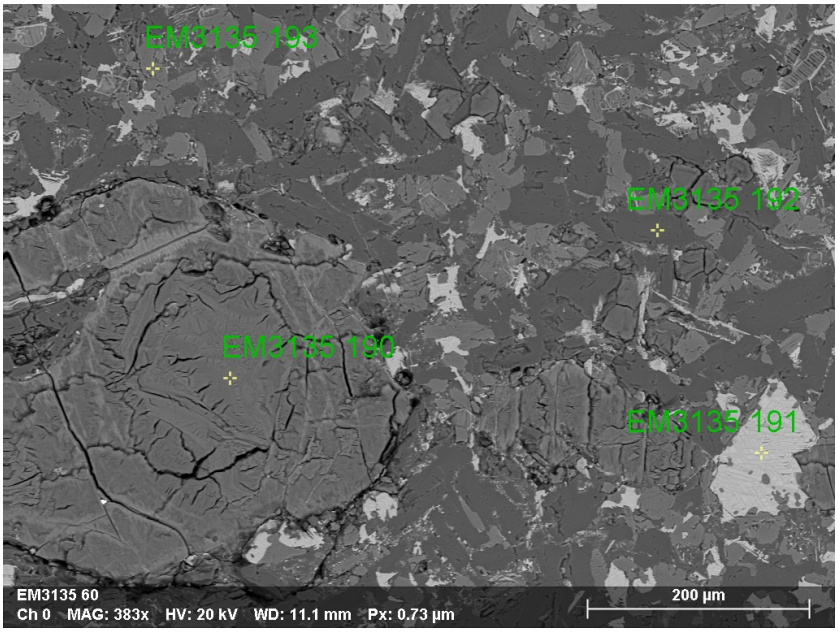
Image B
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x200



C **Sample 1446362**

Photomicrograph of sample showing complete olivine replacement by clays and clays forming in vesicles.

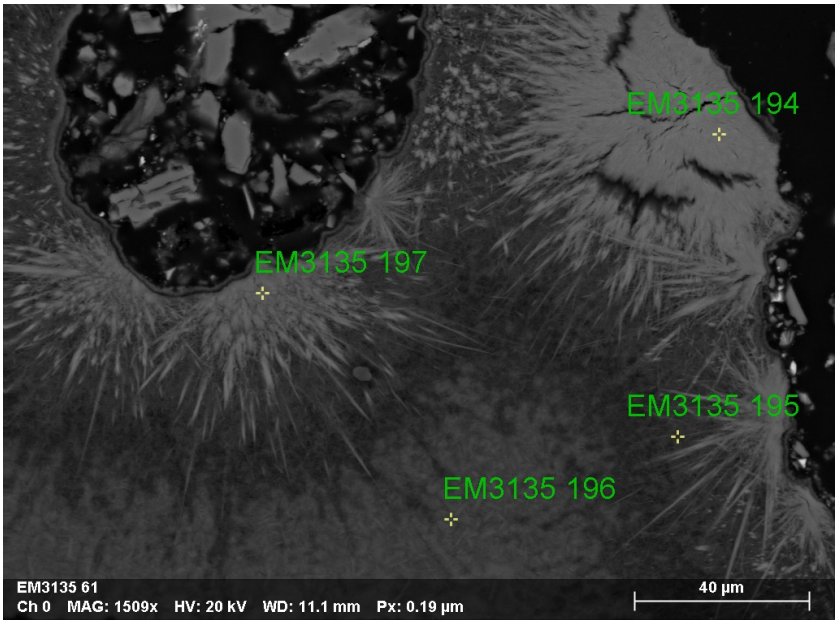
Image C
Nikon Microphot-FXA petrological microscope
Cross polarised transmitted light
x100



D **Sample 1446362**

Backscatter electron (BSE) image of typical altered basaltic groundmass, with clay altered olivine phenocrysts (EM3135 190), abundant iron oxides (EM3135 191), and sub-ophitic groundmass plagioclase (EM3135 192) and pyroxenes (EM3135 193).

Image D
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x383



E **Sample 1446362**

Backscatter electron (BSE) image of typical altered basaltic groundmass, with clay alteration (EM3135 194 and 197) surrounded by microcrystalline silica (EM3135 195 and 196).

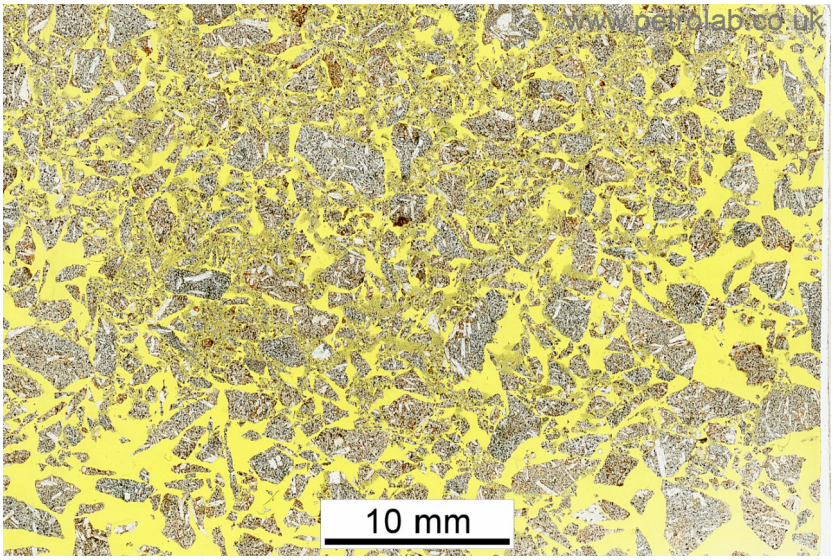
Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x1509

1446363

Sample as received

Sample 1446363		
Petrolab ID	**Date received**	**Type · mass**
#12810	17/04/2019	Mine waste residue · 243 g

Section(s)



A Sample 1446363

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

Sample 1446363		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major+
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Major
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Minor
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Minor
Quartz, qtz	SiO_2 | sg~2.65	Minor
Chlorite group (clinochlore), chl	$(Mg,Fe{++})_5Al(Si_3Al)O_{10}(OH)_8$ | sg~2.65	Trace
Ilmenite, ilm	$Fe{++}TiO_3$ | sg~4.72	Trace
Magnetite, mag	$Fe{++}Fe{+++}_2O_4$ | sg~5.15	Trace
Chalcopyrite, cp	$CuFeS_2$ | sg~4.19	Trace

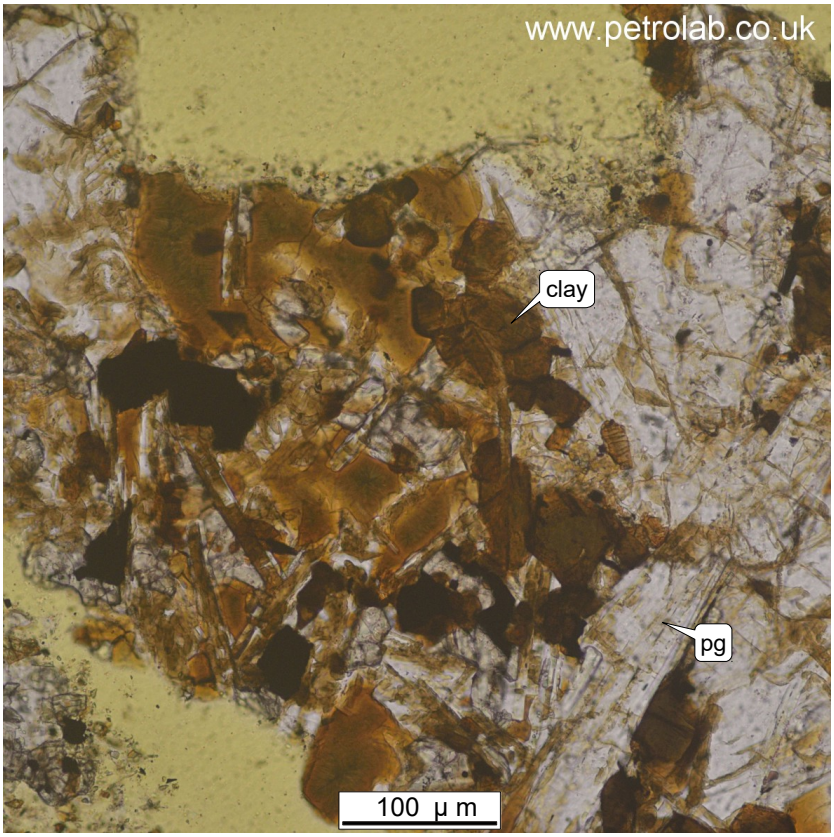
1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

Sample 1446363

- The sample is a basalt with a sub-ophitic texture, comprising plagioclase feldspar, olivine, augite and clays/chlorite. The olivine is partially to completely altered by clay minerals, primarily iddingsite and bowlingite, including along cracks. Plagioclase is partially interlocked and shows minor alteration to clays and chlorite. Iron oxides are present as medium to coarse-grained subhedral to euhedral ilmenite and magnetite exsolutions, with rare lath shaped grains. Very rare chalcopyrite is also observed within patches of iron oxides.

Photomicrographs



B **Sample 1446363**

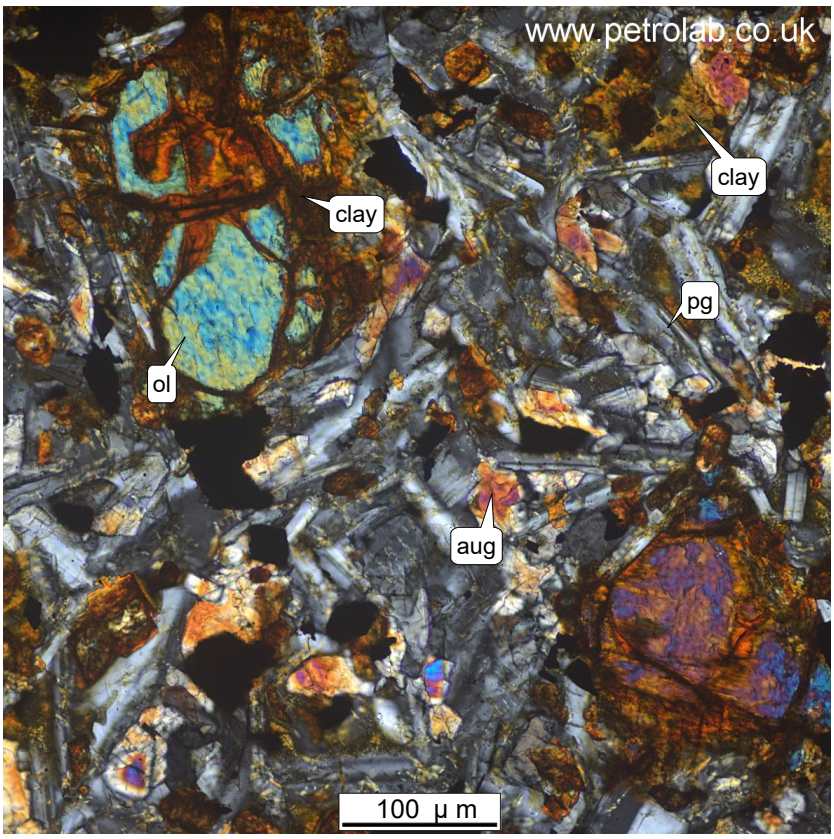
Photomicrograph of sample showing clay replacing the groundmass.

Image B

Nikon Microphot-FXA petrological microscope

Plane polarised transmitted light

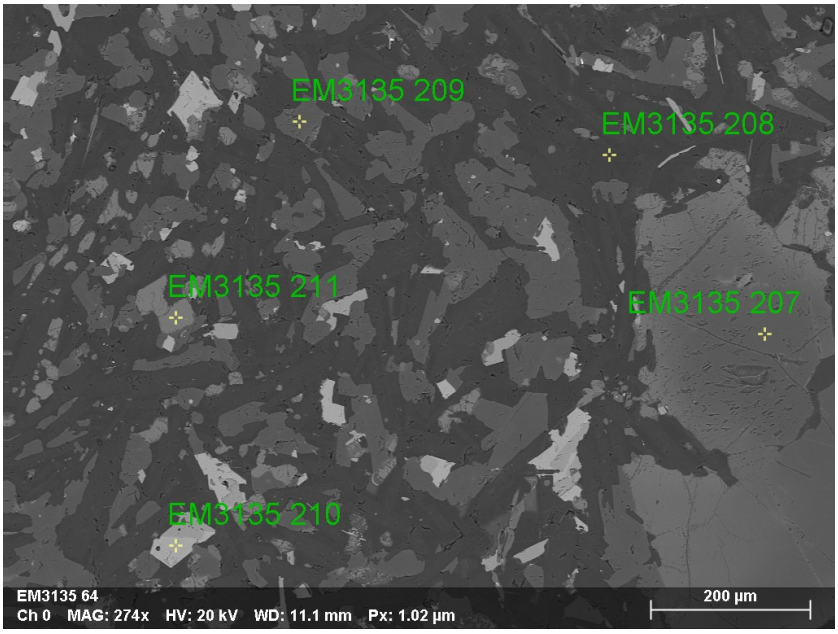
x200



C **Sample 1446363**

Photomicrograph of sample showing partial clay alteration to olivine with sub-ophitic groundmass.

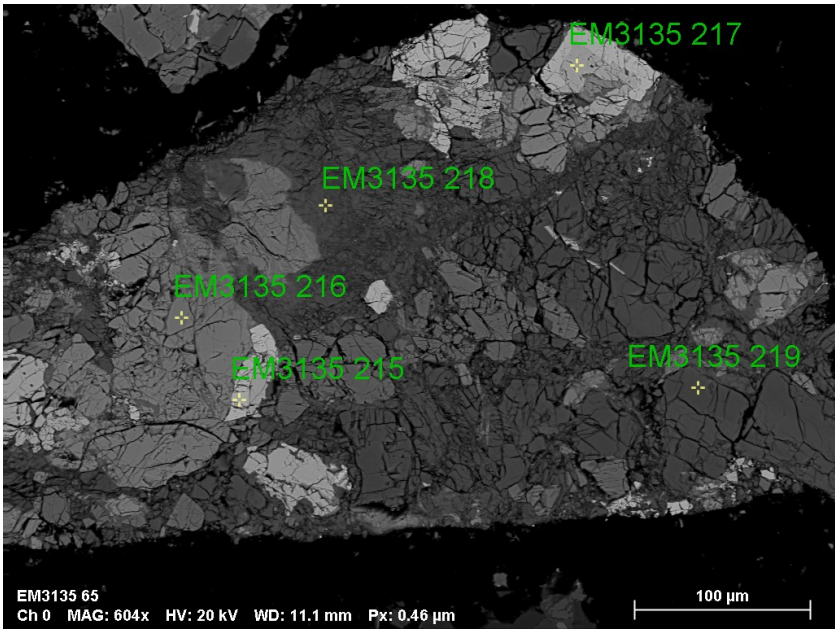
Image C
Nikon Microphot-FXA petrological microscope
Cross polarised transmitted light
x200



D **Sample 1446363**

Backscatter electron (BSE) image of typical altered basaltic groundmass, with olivine phenocryst (EM3135 207), plagioclase (EM3135 208), iron oxides (EM3135 210, and pyroxene (augite) (EM3135 208) and high iron pyroxene (EM3135 211).

Image D
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x274



E **Sample 1446363**

Backscatter electron (BSE) image of typical basaltic texture, with iron oxides (EM3135 215) including ilmenite (EM3135 217), clay altered olivine (EM3135 216), and various plagioclase feldspars (EM3135 218 and 219).

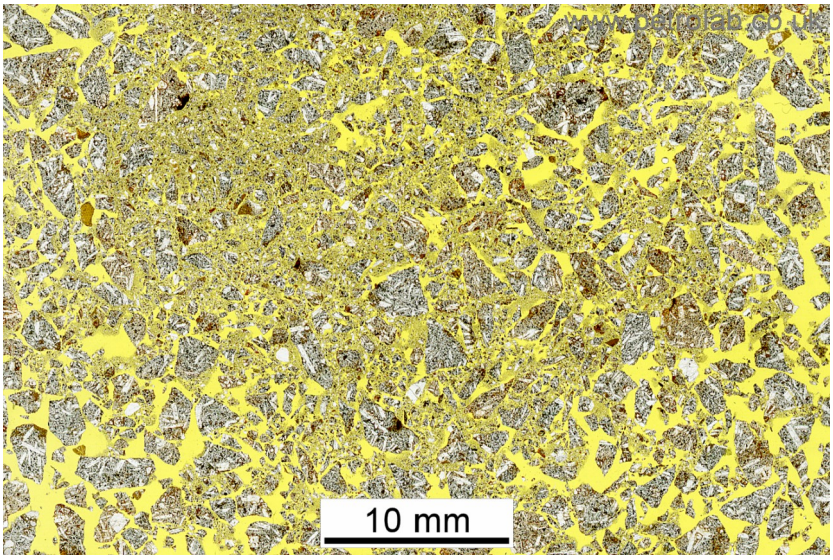
Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x604

1446364

Sample as received

Sample 1446364		
Petrolab ID	**Date received**	**Type · mass**
#12811	17/04/2019	Mine waste residue · 269 g

Section(s)



A Sample 1446364

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

Sample 1446364		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major+
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Major
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Minor
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Minor
Chlorite group (clinochlore), chl	$(Mg,Fe{++})_5Al(Si_3Al)O_{10}(OH)_8$ | sg~2.65	Trace
Serpentine group, srp	$(Mg,Fe,Ni,Al,Zn,Mn)_{2\text{-}3}(Si,Al,Fe)_2O_5(OH)_4$ | sg~2.85	Trace
Magnetite, mag	$Fe{++}Fe{+++}_2O_4$ | sg~5.15	Trace
Ilmenite, ilm	$Fe{++}TiO_3$ | sg~4.72	Trace
Haematite, hm	Fe_2O_3 | sg~5.30	Trace
Chalcopyrite, cp	$CuFeS_2$ | sg~4.19	Trace
Secondary copper, 2y-Cu	Cu_9S_5/Cu_2S /CuS | sg~5.31	Trace

1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

Sample 1446364

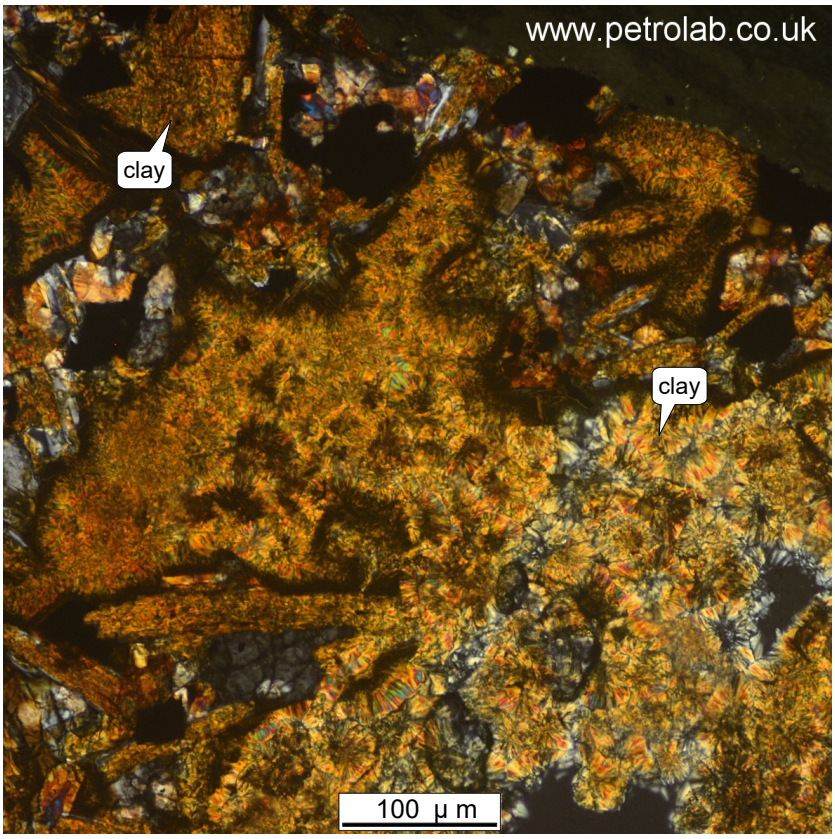
- The samples is a basalt with a sub-ophitic texture, comprising plagioclase feldspar, olivine, augite and clays/chlorite. Plagioclase is partially interlocked subhedral crystals showing polysynthetic twinning and minor alteration to clays/chlorite. The olivine is partially to completely altered by clay minerals, primarily iddingsite and bowlingite, in particular along fracture planes and cracks throughout the sample. Greenish brown clay minerals and chlorite are also abundant infilling vesicles, with a fibrous texture radiating around the inside of the vesicle walls. These are also found replacing patches of groundmass. Iron oxides are present as subhedral to euhedral patches of ilmenite and magnetite. Traces of chalcopyrite and secondary copper are observed within large patches of ilmenite and magnetite.

Photomicrographs

B **Sample 1446364**

Photomicrograph of sample showing partial clay alteration around olivines and in the groundmass.

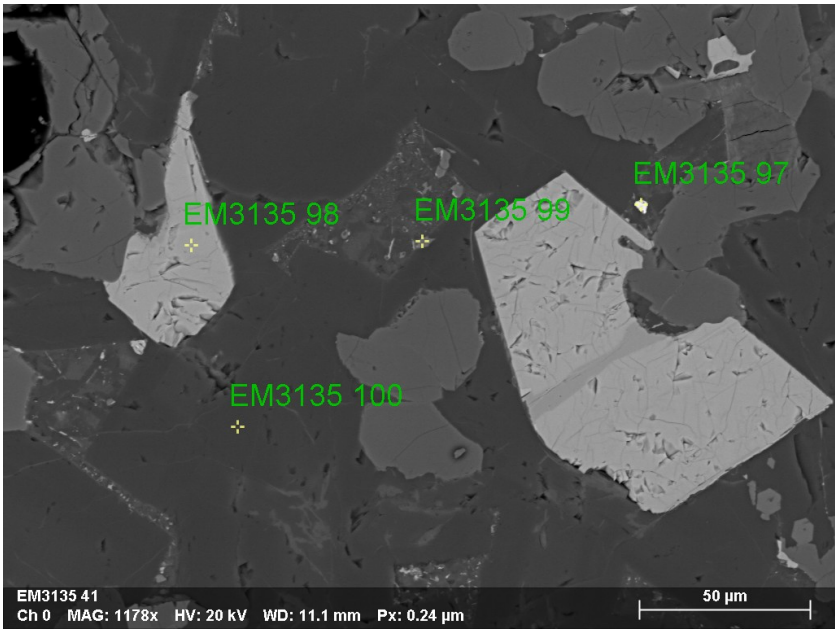
Image B
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x200



C **Sample 1446364**

Photomicrograph of sample showing abundant clay alteration with rosette structures.

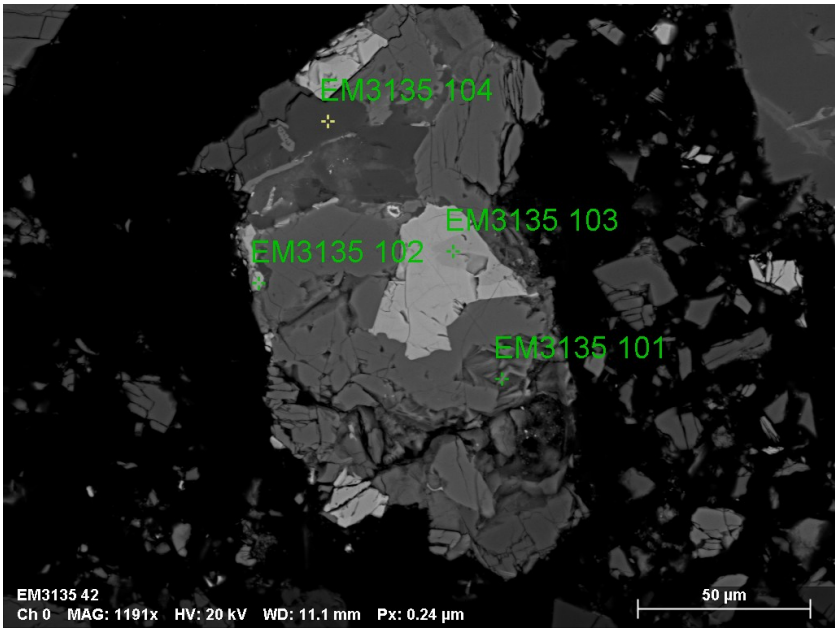
Image C
Nikon Microphot-FXA petrological microscope
Cross polarised transmitted light
x200



D **Sample 1446364**

Backscatter electron (BSE) image showing basaltic groundmass texture with iron oxides (EM3135 98), clay alteration (EM3135 99), plagioclase (EM3135 100) and trace copper sulphides (EM3135 97).

Image D
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x1178



E **Sample 1446364**

Backscatter electron (BSE) image showing basaltic groundmass texture with pyroxene (EM3135 101), iron oxides (EM3135 102) including ilmenite (EM3135 103), and plagioclase (EM3135 104).

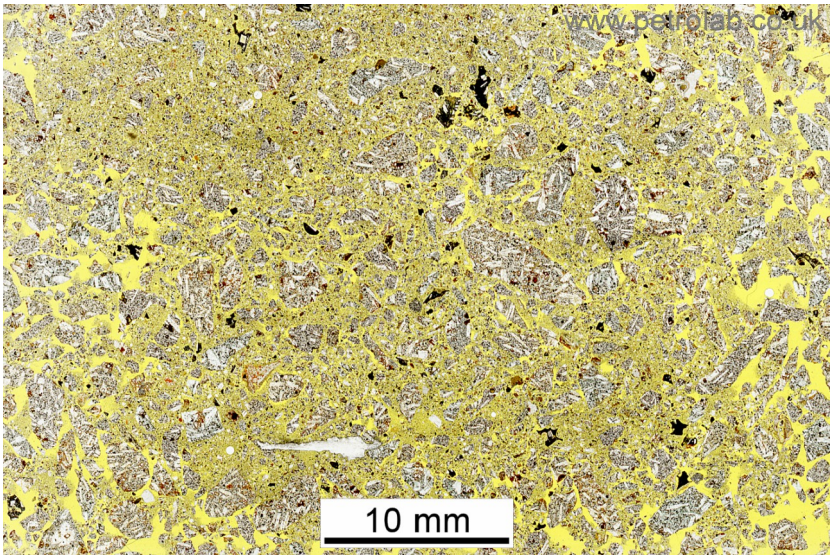
Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x1191

1446365

Sample as received

Sample 1446365		
Petrolab ID	**Date received**	**Type · mass**
#12812	17/04/2019	Mine waste residue · 227 g

Section(s)



A Sample 1446365

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

Sample 1446365		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major+
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Major
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Minor
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Minor
Chlorite group (clinochlore), chl	$(Mg,Fe{++})_5Al(Si_3Al)O_{10}(OH)_8$ | sg~2.65	Trace
Calcite, cal	$CaCO_3$ | sg~2.70	Trace
Glassy phases	Amorphous phase containing silica, oxygen, and minor amounts of Fe, Al, Ca & Mg | sg~2.50	Trace
Magnetite, mag	$Fe{++}Fe{+++}_2O_4$ | sg~5.15	Trace
Ilmenite, ilm	$Fe{++}TiO_3$ | sg~4.72	Trace
Haematite, hm	Fe_2O_3 | sg~5.30	Trace
Goethite, Gt	FeOOH | sg~4.27	Trace

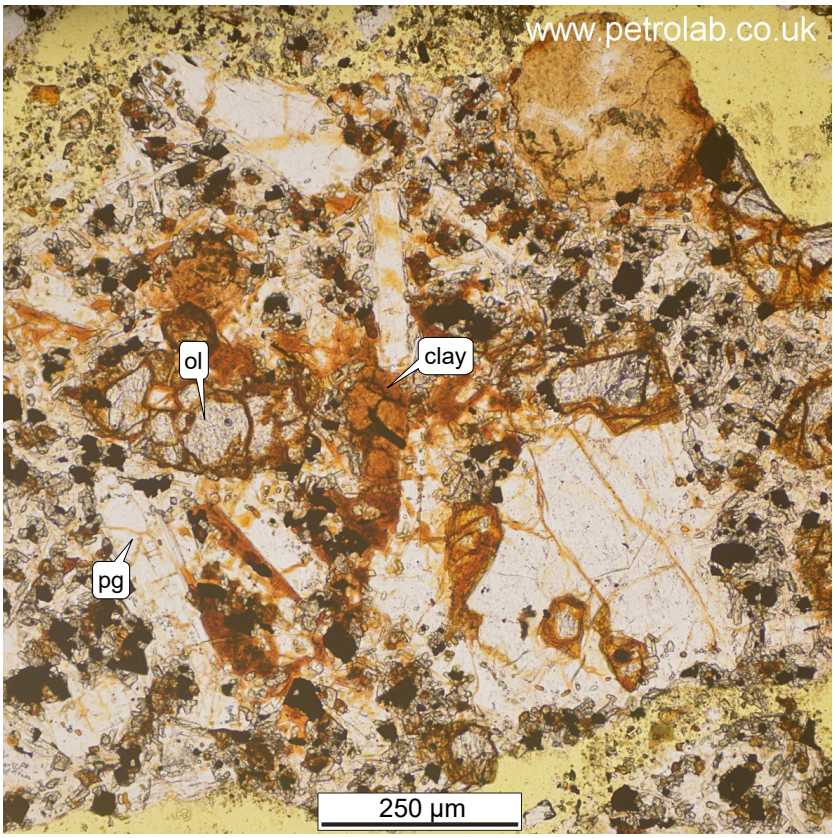
1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

Sample 1446365

- The sample is a basalt with a sub-ophitic texture, comprised of plagioclase feldspar, olivine, with fine-grained augite and clays/chlorite. Plagioclase comprises the majority of the groundmass along with clay/chlorite alteration and minor augite. Clay minerals are primarily present as alterations of olivine, namely iddingsite and bowlingite, also along fractures and cracks. Clay minerals and chlorite are also seen as rare fibrous infills of vesicles. Calcite veins are observed associated with basalt fragments, indicating potential later stage veining. Iron oxides present vary depending on the grain they are observed in. In the clay-rich grains, iron oxides, including goethite are finely disseminated with a skeletal texture. In unaltered basaltic fragments, the iron oxides are larger subhedral to euhedral grains with exsolution textures. Ilmenite is rare, with clays and goethite often surrounding the altered olivine and augite crystals.

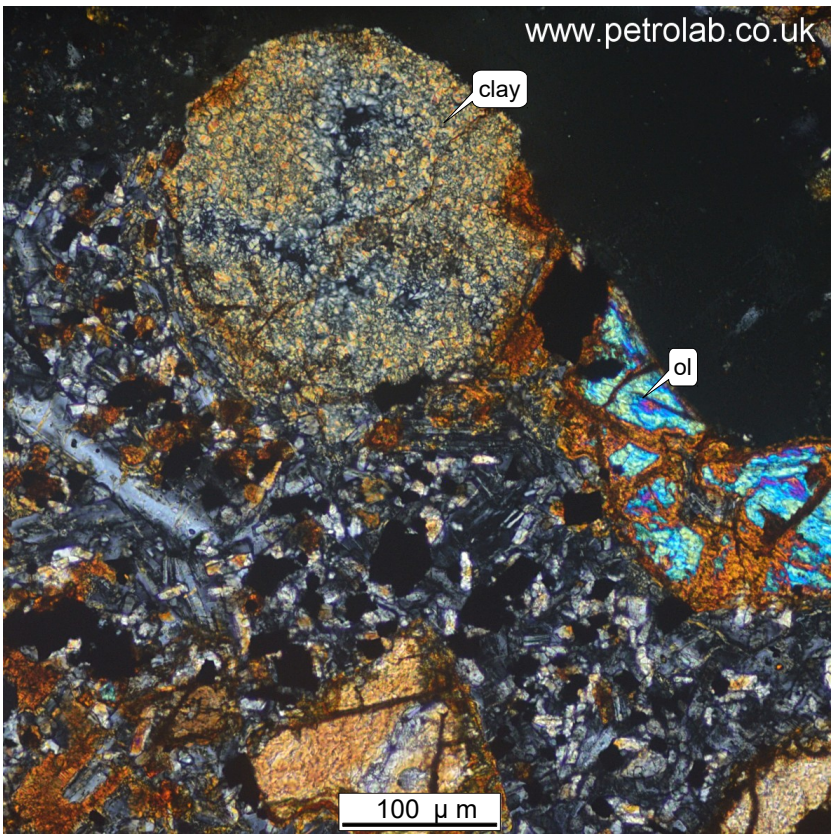
Photomicrographs



B **Sample 1446365**

Photomicrograph of sample showing alteration of olivine by clays.

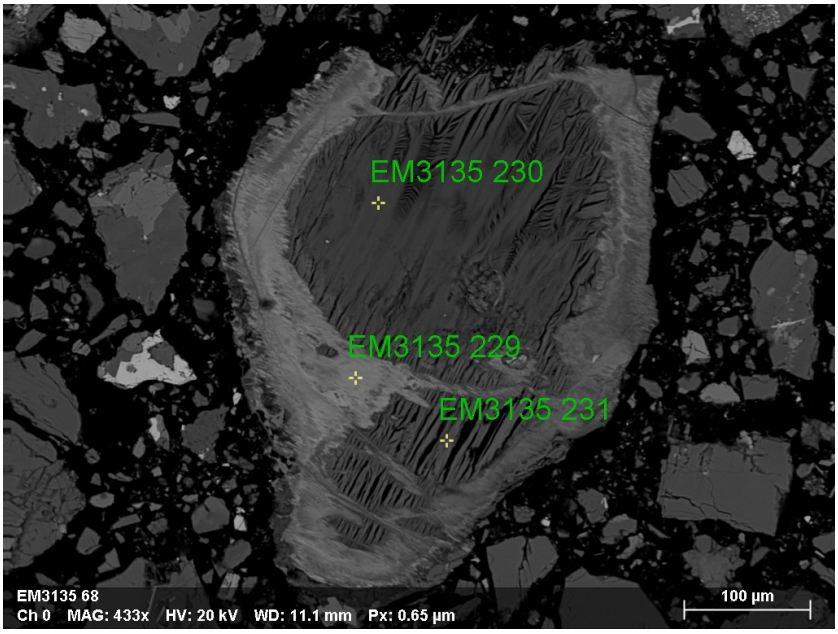
Image B
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x100



C **Sample 1446365**

Photomicrograph of sample showing partial and complete alteration of olivine by clays.

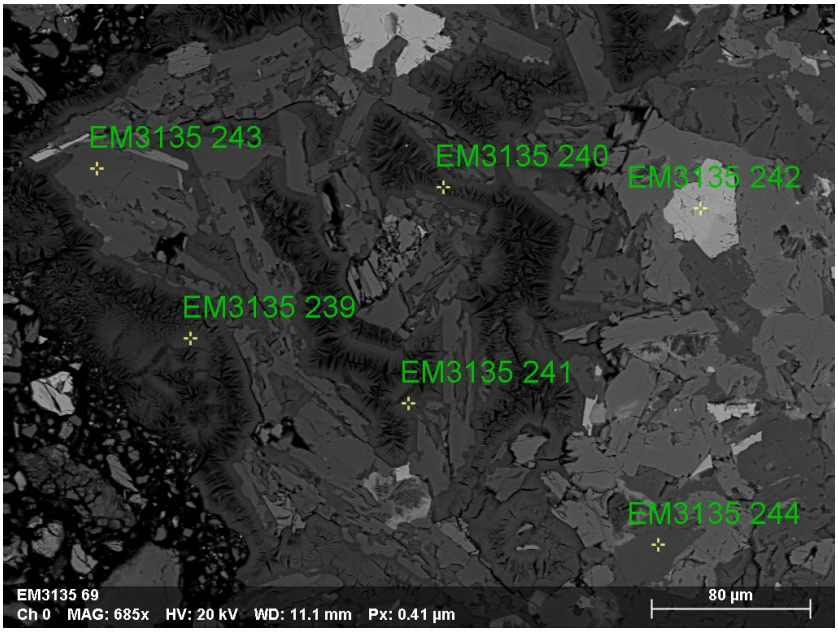
Image C
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x100



D **Sample 1446365**

Backscatter electron (BSE) image of altered olivine crystal, with goethite (EM3135 229), amorphous silica (EM3135 230) and clay alteration (EM3135 231).

Image D
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x433



E **Sample 1446365**

Backscatter electron (BSE) image of clay-rich basaltic groundmass, with abundant clays/chlorite in voids (EM3135 239, 240 and 241), iron oxides (EM3135 242) and plagioclase (EM3135 243 and 244).

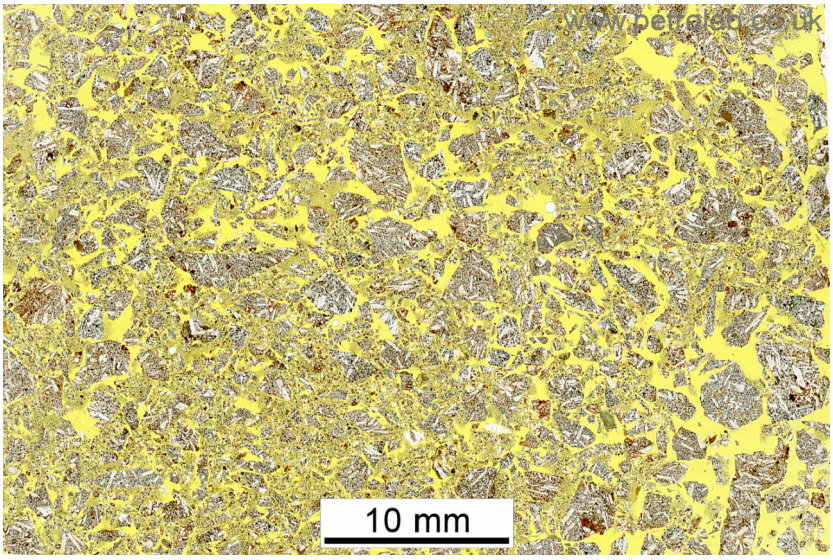
Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x685

1446366

Sample as received

Sample 1446366		
Petrolab ID	**Date received**	**Type · mass**
#12813	17/04/2019	Mine waste residue · 255 g

Section(s)



A Sample 1446366

Low magnification view of sample thin section.

Image A
Epson scanner
White cold cathode light

Mineral abundance

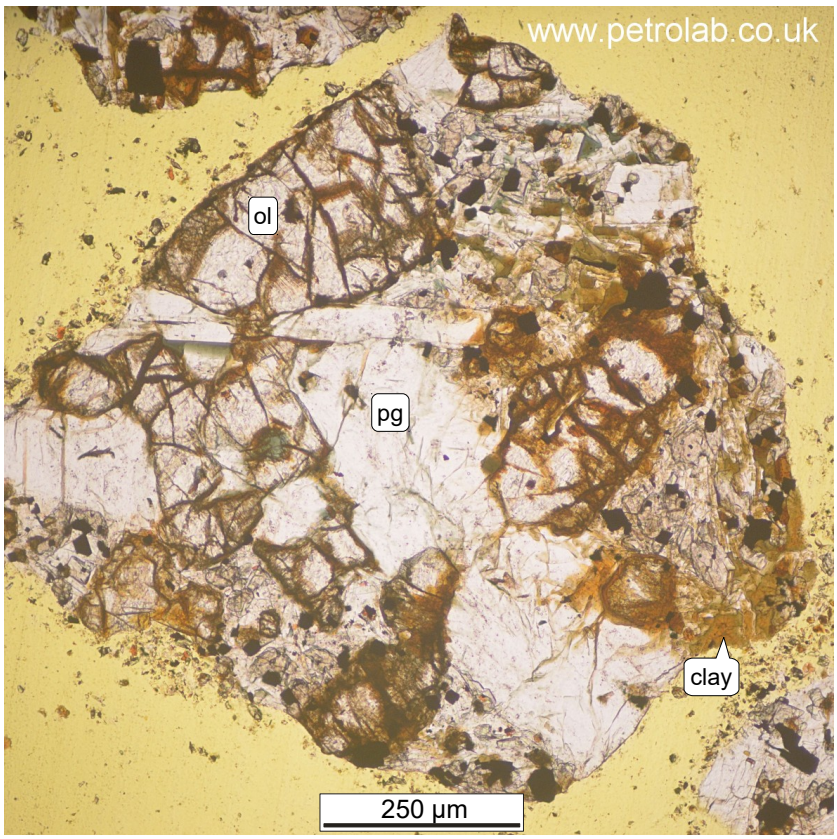
Sample 1446366		
Mineral / Phase	**General formula | s.g.**	**Abundance[1]**
Plagioclase feldspar, pg	$(Na,Ca)(Si,Al)_4O_8$ | sg~2.68	Major+
Augite, aug	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ | sg~3.40	Major
Olivine, ol	$(Mg,Fe)_2SiO_4$ | sg~3.32	Minor
Clay, clay	Undifferentiated crystalline clay/ mica minerals | sg~2.60	Minor
Calcite, cal	$CaCO_3$ | sg~2.70	Trace
Magnetite, mag	$Fe^{++}Fe^{+++}{}_2O_4$ | sg~5.15	Trace
Ilmenite, ilm	$Fe^{++}TiO_3$ | sg~4.72	Trace
Goethite, Gt	FeOOH | sg~4.27	Trace
Pyrite, py	FeS_2 | sg~5.01	Trace

1 Visual estimate of abundance is approximate: Trace < 2%, Minor > 2% < 10%, Major > 10%, Major+ > 50%.

Sample summary

Sample 1446366
• The sample is an altered basalt comprised of laths of plagioclase, subhedral to euhedral olivine phenocrysts, pyroxene (augite), various clays, with trace calcite. Olivine phenocrysts are partially or completely altered, usually replaced by iddingsite or clays precipitating along the fractures within crystals. Trace fibrous greenish clays replace the groundmass. Iron oxides are abundant throughout the sample, present as fine to medium-grained patches. Goethite is also present as rims surrounding clays and altered olivine crystals. Very finely disseminated pyrite is also found within olivine and calcite crystals.

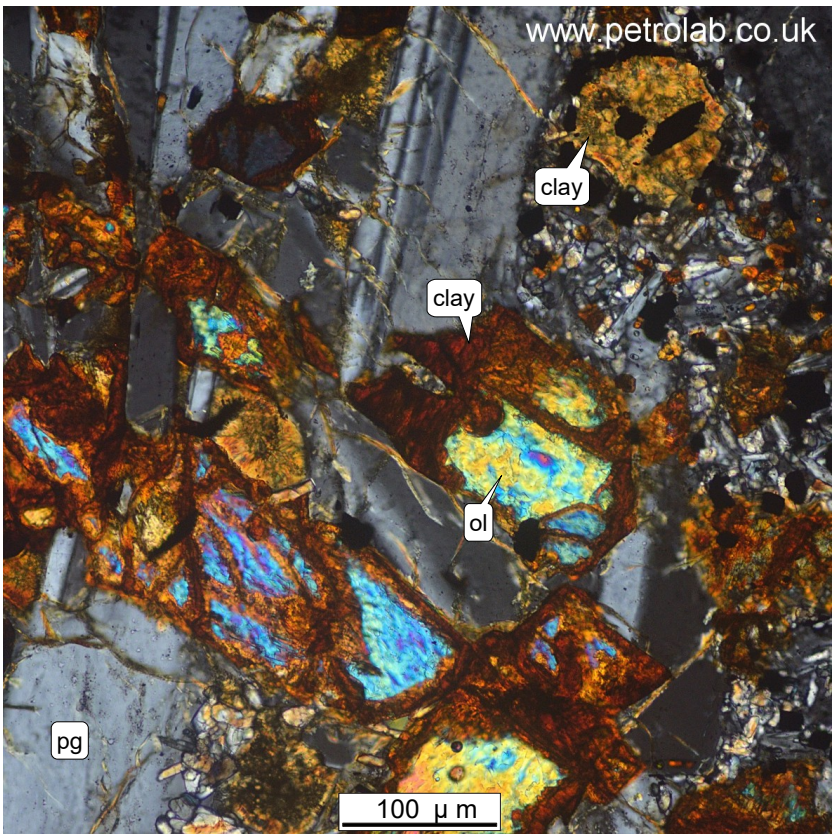
Photomicrographs



B Sample 1446366

Photomicrograph of sample showing partial clay alteration of olivine with plagioclase.

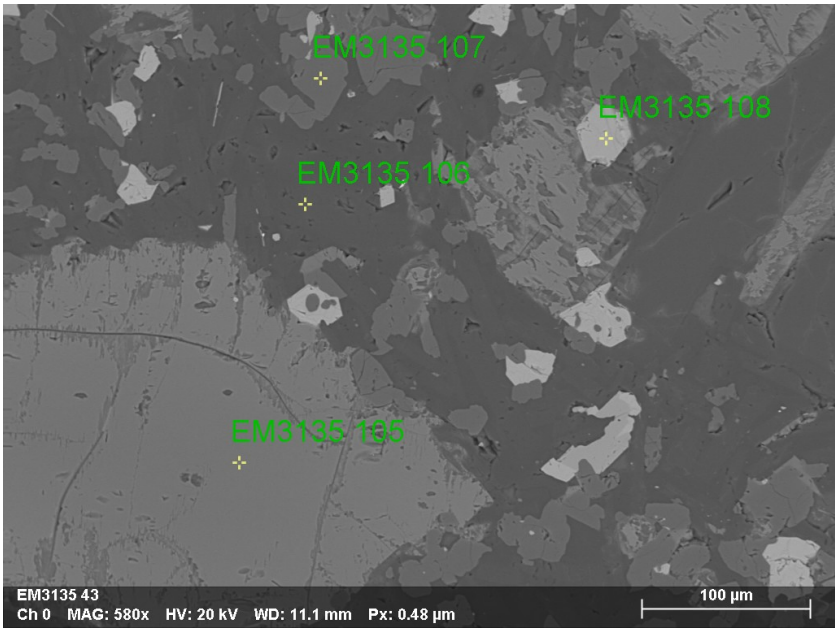
Image B
Nikon Microphot-FXA petrological microscope
Plane polarised transmitted light
x100



C **Sample 1446366**

Photomicrograph of sample showing partial clay alteration of olivine along fractures with plagioclase.

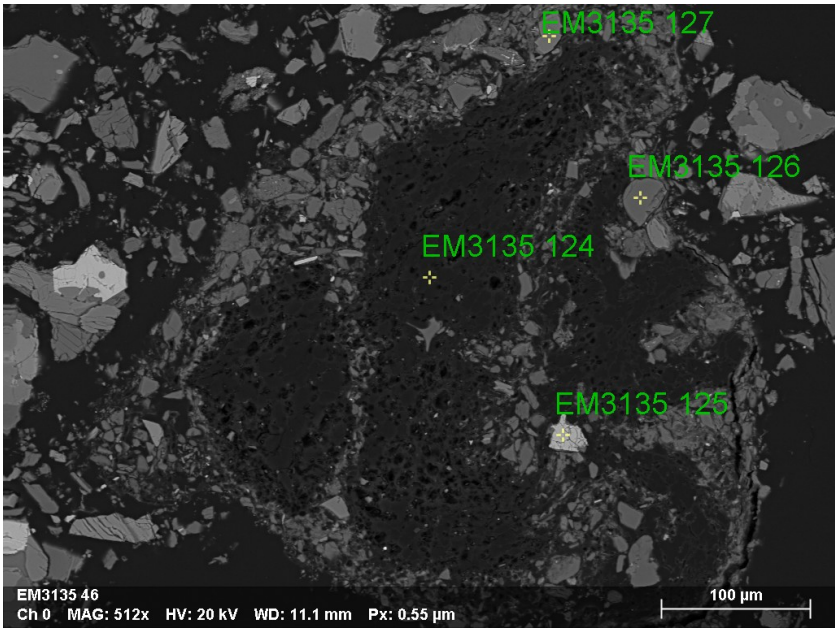
Image C
Nikon Microphot-FXA petrological microscope
Cross polarised transmitted light
x200



D **Sample 1446366**

Backscatter electron (BSE) image showing basaltic groundmass texture with clay altered olivine (EM3135 105), plagioclase (EM3135 106), pyroxene (augite) (EM3135 107), and iron oxides (EM3135 108).

Image D
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x580



E **Sample 1446366**

Backscatter electron (BSE) image showing basalt alteration textures of vesicular glass (EM3135 124) iron oxides (EM3135 125), and groundmass plagioclase and augite (EM3135 126 and 127).

Image E
ZEISS EVO MA-25 SEM
Backscatter electron (BSE) mode
x512

Conclusions

The principal conclusions from this study are as follows;

1. The majority of samples represent variably altered ophitic to sub-ophitic basalts comprising laths of plagioclase, subhedral to euhedral olivine phenocrysts, augitic pyroxene and iron-oxides (hematite, magnetite and ilmenite).
2. The degree of alteration has varied from mild to pervasive and included chloritisation, kaolinisation, serpentinisation and the formation of large proportions of smectite-type clay minerals. Many of these smectites will be swelling clays as evidenced by dehydration shrinkage cracks. Glassy phases, microcrystalline quartz and cryptocrystalline quartz are also abundant, some of which have been introduced through cross-cutting veins. Vesicles and amygdales are rarely present and usually filled by clay minerals, microcrystalline quartz or calcite.
3. Occasionally the degree of alteration is so pervasive as to produce a texture of remnant minerals cemented in a clay groundmass.
4. Calcite is an occasional presence and most likely introduced as part of a later stage epithermal cross-cutting vein system, or as vesicular infill.
5. Due the high degree of alteration a number of fibrous textures were observed either as concentric growths in vesicles or as larger grains containing fibrous rosette textures.
6. In addition to these samples a reference sample was also analysed which comprised of sub-angular to sub-rounded fragments from a highly altered basalt cemented by clay and erionite. The erionite was observed to be growing into voids and present within the groundmass associated with other clay minerals. The analysis of the erionite from this standard was used as a compositional standard for comparison against fibrous mineral phases observed in the other 15 samples. The comparison was based on four criteria. These were (i) the concentration of Na+K+Ca, (ii) the concentration of Al, (iii) the concentration of Si and (iv) the presence of fibrous or acicular morphologies.
7. Based on the erionite standard and the analysis of fibrous mineral occurrences from the 15 submitted samples there were no unequivocal observations of erionite within the non-standard samples. This observation is backed up by the XRD analysis which did not detect any erionite in 13 of the 15 samples and only as traces in two of the samples (1446354 & 1446361).
8. Needle-like, acicular and fibrous grains were primarily observed within clay-rich textures, particularly in crusts. It is most likely these represent cross-sections of radial growth habits within botryoidal or mammillary textures, rather than asbestiform habits.

Recommendations

The principal recommendations from this report are as follows.

1. Erionite was not unequivocally observed by petrography or manual SEM in the 15 non-standard samples. Nevertheless, XRD did detect traces of the (K,Na) erionite species in two of the samples. It is recommended that these two samples (1446354 & 1446361) are submitted for a detailed automated SEM analysis based on the criteria used in this analysis to determine the potential presence and abundance of erionite in these two samples.

<ENDS>

Appendix 1 – X-ray diffraction analysis

The results of XRD analysis on 16 samples are provided overpage. In each case, analyses were undertaken on the whole sized fraction (whole rock).

Phase abundance from XRD analysis is regarded as semi-quantitative and interpretation of the results must take cognisance of that. Phases present in trace amounts are generally not identifiable.

- Size Fraction: Whole Rock (1 page)
- Diffractograms (16 pages)

Appendix D

Humidity Cell Test Results

Appendix D1

Tabulated Humidity Cell Test Data

Appendix D1
HCT Summary Table

HCT - 1
CAL-002 (86-95)
Arkosic Sandstone

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2+} mg/l	Fe^{3+} mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
Oregon Water Quality Guideline										*250*														
0	1.744	5.86	166	357	10.54	9.115	9.115	2.05	8.49	72	62.27	62.27	23.64	20.44	20.44	3.76	3.25	3.25	0	0.00	0.00	7	6.05	6.05
1	0.840	5.84	182	365	2.93	1.220	10.335	1.82	1.11	150	62.48	124.75	39.52	16.46	36.90	7.07	2.94	6.19	11	4.58	4.58	3	1.25	7.30
2	0.797	5.53	253	302	5.56	2.197	12.532	2.11	3.45	140	55.33	180.08	25.56	10.10	47.00	4.48	1.77	7.96	19	7.51	12.09	3	1.19	8.49
3	0.798	4.89	291	258	5.53	2.188	14.720	1.82	3.71	95	37.59	217.67	29.55	11.69	58.69	4.74	1.88	9.84	17	6.73	18.82	1	0.40	8.89
4	0.868	4.77	283	235	5.40	2.324	17.044	2.11	3.29	110	47.35	265.02	24.53	10.56	69.25	3.18	1.37	11.21	21	9.04	27.86	1	0.43	9.32
5	0.832	4.43	419	260	8.00	3.301	20.345	2.31	5.69	86	35.48	300.50	20.37	8.40	77.65	2.30	0.95	12.16	35	14.44	42.30	0	0.00	9.32
6	0.885	4.28	397	256	10.18	4.468	24.813	2.48	7.70	120	52.66	353.16	14.28	6.27	83.92	1.36	0.60	12.76	45	19.75	62.05	0	0.00	9.32
7	0.880	4.06	298	270	14.72	6.423	31.236	3.11	11.61	96	41.89	395.05	13.07	5.70	89.62	1.01	0.44	13.20	52	22.69	84.74	0	0.00	9.32
8	0.805	3.97	467	253	17.89	7.141	38.377	4.11	13.78	120	47.90	442.95	10.27	4.10	93.72	0.78	0.31	13.51	59	23.55	108.29	0	0.00	9.32
9	0.800	4.08	308	256	15.45	6.129	44.506	14.43	1.02	93	36.89	479.84	5.72	2.27	95.99	0.52	0.21	13.72	62	24.60	132.89	0	0.00	9.32
10	0.826	4.11	301	262	20.32	8.323	52.829	15.21	5.11	81	33.18	513.02	6.82	2.79	98.78	0.63	0.26	13.98	71	29.08	161.97	0	0.00	9.32
11	0.826	4.07	476	236	19.13	7.836	60.665	10.34	8.79	74	30.31	543.33	5.94	2.43	101.21	0.49	0.20	14.18	57	23.35	185.32	0	0.00	9.32
12	0.818	4.01	397	292	21.11	8.563	69.228	15.21	5.90	97	39.35	582.68	5.17	2.10	103.31	0.49	0.20	14.38	69	27.99	213.30	0	0.00	9.32
13	0.842	3.78	352	281	23.32	9.737	78.965	13.65	9.67	88	36.74	619.42	5.02	2.10	105.41	0.49	0.20	14.58	83	34.66	247.96	0	0.00	9.32
14	0.886	3.64	384	315	25.39	11.155	90.120	16.06	9.33	100	43.94	663.36	5.14	2.26	107.67	0.49	0.22	14.80	95	41.74	289.70	0	0.00	9.32
15	0.811	3.36	431	281	24.50	9.853	99.973	15.73	8.77	81	32.58	695.94	3.84	1.54	109.21	0.49	0.20	15.00	86	34.59	324.28	0	0.00	9.32
16	0.818	3.57	391	281	21.76	8.827	108.800	12.87	8.89	76	30.83	726.77	3.29	1.33	110.54	0.49	0.20	15.20	85	34.48	358.76	0	0.00	9.32
17	0.768	3.65	349	298	24.27	9.243	118.043	14.95	9.32	86	32.75	759.52	3.05	1.16	111.70	0.49	0.19	15.39	88	33.51	392.28	0	0.00	9.32
18	0.785	3.62	370	268	23.32	9.078	127.121	14.36	8.96	81	31.53	791.05	2.47	0.96	112.66	0.49	0.19	15.58	80	31.14	423.42	0	0.00	9.32
19	0.859	3.55	377	312	26.10	11.118	138.239	16.12	9.98	96	40.89	831.94	3.23	1.38	114.04	0.49	0.21	15.79	90	38.34	461.76	0	0.00	9.32
20	0.809	3.49	384	282	18.93	7.594	145.833	13.72	5.21	70	28.08	860.02	2.08	0.83	114.87	0.49	0.20	15.99	71	28.48	490.24	0	0.00	9.32
21	0.822	3.41	410	309	19.94	8.128	153.961	12.48	7.46	88	35.87	895.89	2.47	1.01	115.88	0.49	0.20	16.19	88	35.87	526.11	0	0.00	9.32
22	0.949	3.32	387	379	23.50	11.059	165.020	10.85	12.65	110	51.77	947.66	3.17	1.49	117.37	0.49	0.23	16.42	104	48.94	575.05	0	0.00	9.32
23	0.958	3.24	443	401	23.27	11.055	176.075	11.83	11.44	110	52.26	999.92	2.67	1.27	118.64	0.49	0.23	16.65	103	48.93	623.98	0	0.00	9.32
24	0.802	3.25	416	350	20.72	8.240	184.315	10.66	10.06	98	38.97	1038.89	2.13	0.85	119.49	0.49	0.19	16.84	94	37.38	661.37	0	0.00	9.32
25	0.805	3.29	400	336	18.68	7.457	191.772	12.15	6.53	94	37.52	1076.41	1.39	0.55	120.04	0.49	0.20	17.04	88	35.13	696.49	0	0.00	9.32
26	0.814	3.29	401	296	20.80	8.396	200.168	11.05	9.75	86	34.71	1111.12	1.31	0.53	120.57	0.49	0.20	17.24	80	32.29	728.79	0	0.00	9.32
27	0.910	3.32	407	311	20.77	9.373	209.541	10.98	9.79	76	34.30	1145.42	1.44	0.65	121.22	0.49	0.22	17.46	91	41.06	769.85	0	0.00	9.32
28	0.871	3.25	410	310	16.88	7.291	216.832	10.53	6.35	86	37.14	1182.56	1.19	0.51	121.73	0.49	0.21	17.67	96	41.46	811.31	0	0.00	9.32
29	0.855	3.16	426	353	17.72	7.513	224.345	10.34	7.38	92	39.01	1221.57	1.36	0.58	122.31	0.49	0.21	17.88	116	49.18	860.50	0	0.00	9.32
30	0.816	3.19	419	340	20.54	8.311	232.656	10.20	10.34	91	36.82	1258.39	1.34	0.54	122.85	0.49	0.20	18.08	196	79.31	939.81	0	0.00	9.32
31	0.889	3.14	414	360	21.49	9.474	242.130	11.64	9.85	74	32.62	1291.01	1.17	0.52	123.37	0.49	0.22	18.30	115	50.70	990.50	0	0.00	9.32
32	0.818	3.17	412	307	19.39	7.865	249.995	10.73	8.66	77	31.23	1322.24	0.95	0.39	123.76	0.49	0.20	18.50	83	33.67	1024.17	0	0.00	9.32
33	0.824	3.16	379	283	17.34	7.085	257.080	9.36	7.98	75	30.65	1352.89	0.84	0.34	124.10	0.49	0.20	18.70	113	46.17	1070.34	0	0.00	9.32
34	0.979	3.34	397	342	17.09	8.297	265.377	13.65	3.44	67	32.53	1385.42	1.17	0.57	124.67	0.49	0.24	18.94	104	50.49	1120.83	0	0.00	9.32
35	0.809	3.34	416	297	15.20	6.098	271.475	9.43	5.77	56	22.47	1407.89	0.91	0.37	125.04	0.49	0.20	19.14	94	37.71	1158.54	0	0.00	9.32
36	0.765	3.33	408	326	18.68	7.086	278.561	12.81	5.87	67	25.42	1433.31	1.00	0.38	125.42	0.49	0.19	19.33	97	36.80	1195.34	0	0.00	9.32
37	0.835	3.36	404	310	21.40	8.861	287.422	13.78	7.62	89	36.85	1470.16	1.15	0.48	125.90	0.49	0.20	19.53	99	40.99	1236.33	0	0.00	9.32
38	0.909	3.23	432	363	19.64	8.853	296.275	13.39	6.25	90	40.57	1510.73	1.25	0.56	126.46	0.49	0.22	19.75	83	37.41	1273.75	0	0.00	9.32
39	0.813	3.13	435	353	15.77	6.358	302.633	9.94	5.83	76	30.64	1541.37	1.28	0.52	126.98	0.49	0.20	19.95	95	38.30	1312.05	0	0.00	9.32
40	0.860	3.13	468	429	17.46	7.446	310.079	11.38	6.08	80	34.12	1575.49	1.33	0.57	127.55	0.49	0.21	20.16	101	43.07	1355.12	0	0.00	9.32
41	0.823	3.17	459	394	17.57	7.171	317.250	11.24	6.33	73	29.79	1605.28	1.09	0.44	127.99	0.49	0.20	20.36	76	31.02	1386.13	0	0.00	9.32
42	0.830	2.86	497	494	20.13	8.285	325.535	8.06	12.07	93	38.11	1643.39	1.45	0.60	128.59	0.49	0.20	20.56	102	41.98	1428.12	0	0.00	9.32
43	0.820	2.91	491	497	20.61	8.381	333.916	8.52	12.09	86	34.97	1678.36	1.12	0.46	129.05	0.49	0.20	20.76	109	44.32	1472.44	0	0.00	9.32
44	0.811	3.06	491	487	21.96	8.831	342.747	8.52	13.44	84	33.78	1712.14	1.31	0.53	129.58	0.49	0.20	20.96	109	43.84	1516.27	0	0.00	9.32
45	0.875	3.00	506	569	24.96	10.830	353.577	7.34	17.62	121	52.50	1764.64	1.32	0.57	130.15	0.49	0.21	21.17	134	58.14	1574.42	0	0.00	9.32

Exceeds Oregon
GW Quality Guideline

HCT - 1
CAL-002 (86-95)
Arkosic Sandstone

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2+} mg/l	Fe^{3+} mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.829	3.08	512	462	20.04	8.238	361.815	8.39	11.65	72	29.60	1794.24	0.94	0.39	130.54	0.49	0.20	21.37	109	44.81	1619.23	0	0.00	9.32
47	0.855	3.07	518	442	15.45	6.551	368.366	15.27	0.18	59	25.01	1819.25	0.93	0.39	130.93	0.49	0.21	21.58	98	41.55	1660.78	0	0.00	9.32
48	0.823	3.13	486	417	12.45	5.081	373.447	5.91	6.54	49	20.00	1839.25	0.83	0.34	131.27	0.49	0.20	21.78	80	32.65	1693.42	0	0.00	9.32
49	0.830	3.12	493	392	13.23	5.445	378.892	5.72	7.51	50	20.58	1859.83	0.68	0.28	131.55	0.49	0.20	21.98	96	39.51	1732.94	0	0.00	9.32
50	0.816	3.12	508	415	14.43	5.839	384.731	14.03	0.40	57	23.06	1882.89	0.63	0.25	131.80	0.49	0.20	22.18	99	40.06	1773.00	0	0.00	9.32
51	0.804	3.14	490	421	14.65	5.841	390.572	6.76	7.89	61	24.32	1907.21	0.61	0.24	132.04	0.49	0.20	22.38	83	33.09	1806.09	0	0.00	9.32
52	0.809	3.22	491	357	10.49	4.208	394.780	4.29	6.20	43	17.25	1924.46	0.51	0.20	132.24	0.49	0.20	22.58	68	27.28	1833.37	0	0.00	9.32
53	0.826	3.15	490	348	11.28	4.620	399.400	4.94	6.34	57	23.35	1947.81	0.74	0.30	132.54	0.49	0.20	22.78	69	28.26	1861.63	0	0.00	9.32
54	0.819	3.11	509	362	9.53	3.870	403.270	3.25	6.28	59	23.96	1971.77	0.64	0.26	132.80	0.49	0.20	22.98	94	38.18	1899.81	0	0.00	9.32
55	0.882	3.04	517	437	11.59	5.069	408.339	3.38	8.21	87	38.05	2009.82	0.88	0.38	133.18	0.49	0.21	23.19	84	36.74	1936.54	0	0.00	9.32
56	0.856	3.10	512	388	10.15	4.308	412.647	2.96	7.19	62	26.32	2036.14	1.36	0.58	133.76	0.49	0.21	23.40	73	30.99	1967.53	0	0.00	9.32
57	0.811	3.19	498	310	7.04	2.831	415.478	2.77	4.27	45	18.10	2054.24	0.52	0.21	133.97	0.49	0.20	23.60	91	36.60	2004.13	0	0.00	9.32
58	0.903	3.13	517	350	8.41	3.766	419.244	2.66	5.75	58	25.97	2080.21	0.55	0.25	134.22	0.49	0.22	23.82	70	31.35	2035.47	0	0.00	9.32
59	0.848	3.15	526	336	7.95	3.343	422.587	1.98	5.97	53	22.29	2102.50	0.77	0.32	134.54	0.49	0.21	24.03	62	26.07	2061.55	0	0.00	9.32
60	0.904	3.16	504	338	8.08	3.622	426.209	3.22	4.86	57	25.55	2128.05	0.65	0.29	134.83	0.49	0.22	24.25	65	29.14	2090.68	0	0.00	9.32
61	0.889	3.15	529	339	6.47	2.852	429.061	1.78	4.69	54	23.81	2151.86	0.49	0.22	135.05	0.49	0.22	24.47	86	37.91	2128.60	0	0.00	9.32
62	0.841	3.19	510	296	5.63	2.348	431.409	2.46	3.17	52	21.69	2173.55	0.49	0.20	135.25	0.49	0.20	24.67	93	38.79	2167.38	0	0.00	9.32
63	0.839	3.16	522	306	6.46	2.688	434.097	1.87	4.59	48	19.87	2193.42	0.52	0.22	135.47	0.49	0.20	24.87	94	39.11	2206.49	0	0.00	9.32
64	0.844	3.12	519	342	6.37	2.666	436.763	1.94	4.43	65	27.33	2220.75	0.94	0.39	135.86	0.49	0.21	25.08	92	38.50	2244.99	0	0.00	9.32
65	0.842	3.16	515	327	5.43	2.267	439.030	1.68	3.75	59	24.64	2245.39	0.49	0.20	136.06	0.49	0.20	25.28	57	23.80	2268.79	0	0.00	9.32
66	0.887	3.19	525	302	4.84	2.129	441.159	1.48	3.36	54	23.84	2269.23	0.51	0.22	136.28	0.49	0.22	25.50	52	22.99	2291.78	0	0.00	9.32
67	0.820	3.25	489	278	5.03	2.045	443.204	2.40	2.63	52	21.14	2290.37	0.49	0.20	136.48	0.49	0.20	25.70	94	38.22	2330.00	0	0.00	9.32
68	0.825	3.20	515	278	4.67	1.911	445.115	1.88	2.79	48	19.58	2309.95	0.49	0.20	136.68	0.49	0.20	25.90	89	36.41	2366.41	0	0.00	9.32
69	0.823	3.23	501	286	4.97	2.028	447.143	2.61	2.36	47	19.18	2329.13	0.60	0.24	136.92	0.49	0.20	26.10	82	33.47	2399.88	0	0.00	9.32
70	0.796	3.23	481	271	5.29	2.088	449.231	3.17	2.12	47	18.55	2347.68	0.55	0.22	137.14	0.49	0.19	26.29	88	34.74	2434.61	0	0.00	9.32
71	0.812	3.25	484	226	5.31	2.138	451.369	3.21	2.10	45	18.12	2365.80	0.65	0.26	137.40	0.49	0.20	26.49	51	20.54	2455.15	0	0.00	9.32
72	0.822	3.28	478	239	4.19	1.708	453.077	2.99	1.20	41	16.71	2382.51	0.49	0.20	137.60	0.49	0.20	26.69	48	19.57	2474.71	0	0.00	9.32
73	0.808	3.31	450	228	4.21	1.687	454.764	3.16	1.05	42	16.83	2399.34	0.64	0.26	137.86	0.49	0.20	26.89	44	17.63	2492.34	0	0.00	9.32
74	0.817	3.32	454	218	3.96	1.604	456.368	3.20	0.76	35	14.18	2413.52	0.54	0.22	138.08	0.49	0.20	27.09	42	17.02	2509.36	0	0.00	9.32
75	0.819	3.33	459	242	4.27	1.734	458.102	3.33	0.94	38	15.43	2428.95	0.76	0.31	138.39	0.49	0.20	27.29	44	17.87	2527.23	0	0.00	9.32
76	0.825	3.33	455	247	4.88	1.996	460.098	3.38	1.50	35	14.32	2443.27	0.82	0.34	138.73	0.49	0.20	27.49	44	18.00	2545.23	0	0.00	9.32
77	0.833	3.34	459	245	4.76	1.966	462.064	3.60	1.16	35	14.46	2457.73	0.49	0.20	138.93	0.49	0.20	27.69	43	17.76	2562.99	0	0.00	9.32
78	0.822	3.31	453	243	5.41	2.205	464.269	3.98	1.43	34	13.86	2471.59	0.65	0.26	139.19	0.49	0.20	27.89	44	17.94	2580.93	0	0.00	9.32
79	0.832	3.31	449	253	4.90	2.022	466.291	3.47	1.43	38	15.68	2487.27	0.57	0.24	139.43	0.49	0.20	28.09	43	17.74	2598.67	0	0.00	9.32
80	0.846	3.33	441	238	4.97	2.085	468.376	2.73	2.24	40	16.78	2504.05	0.67	0.28	139.71	0.49	0.21	28.30	45	18.88	2617.55	0	0.00	9.32
81	0.833	3.32	438	260	4.66	1.925	470.301	3.29	1.37	37	15.28	2519.33	0.72	0.30	140.01	0.49	0.20	28.50	42	17.35	2634.90	0	0.00	9.32
82	0.847	3.28	433	234	4.62	1.940	472.241	2.51	2.11	43	18.06	2537.39	0.68	0.29	140.30	0.49	0.21	28.71	45	18.90	2653.80	0	0.00	9.32
83	0.847	3.31	440	238	3.98	1.672	473.913	2.35	1.63	42	17.64	2555.03	0.81	0.34	140.64	0.49	0.21	28.92	43	18.06	2671.86	0	0.00	9.32
84	0.809	3.27	427	248	4.18	1.677	475.590	2.87	1.31	42	16.97	2572.00	0.77	0.31	140.95	0.49	0.20	29.12	43	17.25	2689.11	0	0.00	9.32
85	0.821	3.31	416	241	4.52	1.840	477.430	2.77	1.75	44	17.91	2589.91	1.10	0.45	141.40	0.49	0.20	29.32	38	15.47	2704.58	0	0.00	9.32
86	0.819	3.24	431	253	5.29	2.148	479.578	2.98	2.31	43	17.63	2607.54	1.10	0.45	141.85	0.49	0.20	29.52	46	18.68	2723.26	0	0.00	9.32
87	0.818	3.37	417	207	6.14	2.491	482.069	3.16	2.98	41	16.70	2624.24	1.00	0.41	142.26	0.49	0.20	29.72	42	17.04	2740.30	0	0.00	9.32

Exceeds Oregon
GW Quality Guideline

Appendix D1
HCT Summary Table

HCT - 1
CAL-002 (86-95)
Arkosic Sandstone

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
Oregon Water Quality Guideline							*0.05*	*1*				*0.01*		*250*	*0.05*		*1*	*4*				*0.3*	*0.05*			*0.05*	*0.002*		
0	1.744	<2	<2	<2	<0.03	0.0174	0.084	0.095	0.00008	<0.04	0.07	0.0007	26.9	4.2	<0.01	0.20	0.02	0.1	<0.1	83.6	<2	14.7	0.001	0.040	4	0.202	0.002	<0.02	0.210
1	0.840	<2	<2	<2	0.28	0.0093	0.013	0.021	0.00035	<0.04	0.02	0.0006	37.8	5.9	<0.01	0.18	0.03	0.1	<0.1	123	<2	2.9	0.001	0.042	6.9	0.557	<0.0002	<0.02	1.110
2	0.797	<2	<2	<2	0.42	0.0096	0.018	0.022	0.00044	<0.04	0.01	0.0008	31	2.4	<0.01	0.21	0.04	0.2	<0.1	96.3	<2	6.2	0.001	0.021	4.6	0.544	<0.0002	<0.02	1.320
3	0.798																												
4	0.868	<2	<2	<2	1.22	0.0093	0.008	0.010	0.00122	<0.04	<0.01	0.0011	21.8	0.7	<0.01	0.20	0.05	0.5	<0.1	66	<2	4.8	0.001	<0.008	2.8	0.509	<0.0002	<0.02	1.180
5	0.832																												
6	0.885																												
7	0.880																												
8	0.805	<2	<2	<2	3.11	0.0130	0.017	0.015	0.00163	<0.04	0.18	0.0017	9.7	<0.5	<0.01	0.10	0.11	0.4	<0.1	27	<2	16.9	0.002	<0.008	0.7	0.166	0.000	<0.02	0.604
9	0.800																												
10	0.826																												
11	0.826																												
12	0.818	<2	<2	<2	3.10	0.0135	0.028	0.012	0.00117	<0.04	<0.01	0.0015	5.7	<0.5	0.03	0.05	0.09	10.0	<0.1	16	<2	22.7	0.001	<0.008	0.4	0.085	<0.0002	<0.02	0.330
13	0.842																												
14	0.886																												
15	0.811																												
16	0.818	<2	<2	<2	2.14	0.0160	0.042	0.009	0.00067	<0.04	<0.01	0.0012	3.2	0.7	0.03	0.06	0.10	0.1	<0.1	9.2	<2	22.7	0.001	0.008	0.3	0.054	0.000	<0.02	0.245
17	0.768																												
18	0.785																												
19	0.859																												
20	0.809	<2	<2	<2	1.54	0.0184	0.076	0.011	0.00053	<0.04	<0.01	0.0007	2.3	0.8	0.02	0.03	0.09	<2	<0.1	6.6	<2	20.4	0.003	0.008	0.2	0.028	<0.0002	<0.02	0.140
21	0.822																												
22	0.949																												
23	0.958																												
24	0.802	<2	<2	<2	2.11	0.0218	0.050	0.006	0.00032	<0.04	<0.01	0.0011	1.9	0.8	0.05	0.03	0.09	10.0	<0.1	4.7	<2	22.3	0.002	<0.008	<0.2	0.032	<0.0002	<0.02	0.078
25	0.805																												
26	0.814																												
27	0.910																												
28	0.871	<2	<2	<2	1.63	0.0200	0.073	0.010	0.00035	<0.04	<0.01	0.0007	1.4	1.3	0.04	0.02	0.05	<10	<0.1	4.7	<2	18.7	0.000	<0.008	0.3	0.023	<0.0002	<0.02	0.051
29	0.855																												
30	0.816																												
31	0.889																												
32	0.818	<2	<2	<2	1.35	0.0206	0.057	0.005	0.00021	<0.04	<0.01	0.0004	0.9	0.6	0.04	0.01	0.04	<0.05	<0.1	2.3	<2	19.9	0.000	<0.008	<0.2	0.015	<0.0002	<0.02	0.046
33	0.824																												
34	0.979																												
35	0.809																												
36	0.765	<2	<2	<2	1.42	0.0231	0.074	0.008	0.00027	<0.04	<0.01	0.0004	0.9	1.1	0.04	0.01	0.03	<0.05	<0.1	2.3	<2	22.6	0.001	<0.008	<0.2	0.014	<0.0002	<0.02	0.050
37	0.835																												
38	0.909																												
39	0.813																												
40	0.860	<2	<2	<2	2.79	0.0203	0.074	<0.003	0.00032	<0.04	<0.01	0.0006	1.1	1.0	0.08	<0.01	0.05	<2	<0.1	4	<2	17.7	0.001	<0.008	0.3	0.018	<0.0002	<0.02	0.058
41	0.823																												
42	0.830																												
43	0.820																												
44	0.811	<2	<2	<2	2.76	0.0224	0.167	0.006	0.00025	<0.04	<0.01	0.0007	1	0.9	0.09	<0.01	0.06	<2	<0.1	2.5	<2	22.2	0.001	<0.008	<0.2	0.028	<0.0002	<0.02	0.045
45	0.875																												

Exceeds Oregon
GW Quality Guideline

Appendix D1
HCT Summary Table

HCT - 1
CAL-002 (86-95)
Arkosic Sandstone

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
46	0.829																												
47	0.855																												
48	0.823	<2	<2	<2	1.37	0.0209	0.091	0.006	0.00032	<0.04	<0.01	0.0004	0.4	<0.5	0.04	0.02	0.03	<2	<0.1	0.999	<2	13.9	0.002	<0.008	<0.2	0.008	<0.0002	<0.02	0.028
49	0.830																												
50	0.816																												
51	0.804																												
52	0.809	<2	<2	<2	1.1	0.0158	0.076	<0.003	0.00019	<0.04	<0.01	0.0003	0.4	<0.5	<0.01	<0.01	0.03	<2	<0.1	0.999	<2	11.2	0.001	<0.008	<0.2	<0.005	<0.0002	<0.02	0.017
53	0.826																												
54	0.819																												
55	0.882																												
56	0.856	<2	<2	<2	1.31	0.0138	0.069	0.004	0.00014	<0.04	<0.01	0.0003	0.4	<0.5	0.02	<0.01	0.02	<2	<0.1	0.999	<2	10.4	0.001	<0.008	<0.2	<0.005	<0.0002	<0.02	0.013
57	0.811																												
58	0.903																												
59	0.848																												
60	0.904	<2	<2	<2	0.94	0.0128	0.046	0.003	0.00014	<0.04	<0.01	0.0003	0.5	<0.5	0.02	<0.01	0.03	<2	<0.1	1.3	<2	8.4	0.001	<0.008	<0.2	0.017	<0.0002	<0.02	0.008
61	0.889																												
62	0.841																												
63	0.839																												
64	0.844	<2	<2	<2	0.97	0.010	0.043	0.067	0.00014	<0.04	0.06	0.0003	0.8	<0.5	0.02	<0.01	0.03	<4	<0.1	2.0	<2	6.2	0.002	<0.008	<0.2	0.006	<0.0002	<0.02	0.009
65	0.842																												
66	0.887																												
67	0.820																												
68	0.825	<2	<2	<2	0.77	0.0119	0.044	<0.003	0.00011	<0.04	<0.01	0.0002	0.4	<0.5	<0.01	<0.01	0.03	<5	<0.1	0.999	<2	5.2	0.005	<0.008	<0.2	<0.005	<0.0002	<0.02	0.009
69	0.823																												
70	0.796																												
71	0.812																												
72	0.822	<2	<2	<2	0.73	0.0102	0.044	<0.003	0.00012	<0.04	<0.01	0.0002	0.2	<0.5	<0.01	<0.01	0.02	<2	<0.1	0.499	<2	4.8	0.001	<0.008	<0.2	<0.005	<0.0002	<0.02	0.012
73	0.808																												
74	0.817																												
75	0.819																												
76	0.825	<2	<2	<2	0.65	0.0098	0.043	0.008	0.00011	<0.04	<0.01	0.0001	0.2	<0.5	<0.01	0.01	0.01	<4	<0.1	0.499	<2	5.3	0.001	<0.008	<0.2	<0.005	<0.0002	<0.02	0.014
77	0.833																												
78	0.822																												
79	0.832																												
80	0.846	<2	<2	<2	0.79	0.0089	0.040	0.005	0.00013	<0.04	<0.01	0.0001	0.2	0.5	<0.01	<0.01	0.01	<10	<0.1	0.499	<2	5.4	0.000	<0.008	<0.2	<0.005	<0.0002	<0.02	0.014
81	0.833																												
82	0.847																												
83	0.847																												
84	0.809	<2	<2	<2	0.68	0.0079	0.041	<0.003	0.00015	<0.04	<0.01	0.0001	0.2	0.6	<0.01	<0.01	0.01	<10	<0.1	0.499	<2	4.3	0.001	<0.008	<0.2	<0.005	0.0002	<0.02	0.015
85	0.821																												
86	0.819																												
87	0.818																												

Exceeds Oregon
GW Quality Guideline

Appendix D1
HCT Summary Table

HCT - 1
CAL-002 (86-95)
Arkosic Sandstone

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
Oregon Water Quality Guideline		*10*		*6.5 - 8.5*				*0.01*	*0.05*			*250*				*500*			*5*					
0	1.744	0.070	0.30	5.8	0.02	12.6	<0.1	0.0062	<0.01	4.5	0.180	120.0	0.0097	<0.04	<0.005	188	0.0001	<0.005	0.14	307	3.0	2.6	7.1	L27933
1	0.840	<0.02	0.06	5.5	<0.02	11.5	<0.1	0.0123	<0.01	4.8	0.235	155.0	0.0114	<0.04	<0.005	276	0.0004	<0.005	0.11	334	3.2	3.4	-3.0	L28023
2	0.797	<0.02	<0.05	5.1	<0.02	7.5	<0.1	0.0090	0.0100	2.2	0.181	120.0	0.0104	<0.04	<0.005	196	0.0008	<0.005	0.14	304	2.6	2.6	0.0	L28126
3	0.798																							
4	0.868	0.030	<0.05	4.6	<0.02	4.8	<0.1	0.0071	<0.01	0.8	0.129	83.2	0.0106	<0.04	<0.005	154	0.0014	<0.005	0.31	216	1.9	1.8	2.7	L28324
5	0.832																							
6	0.885																							
7	0.880																							
8	0.805	0.060	<0.05	3.8	0.03	2.1	<0.1	0.0030	<0.01	0.3	0.063	73.5	0.0102	<0.04	<0.005	212	0.0054	<0.005	0.43	253	1.9	1.6	8.6	L28657
9	0.800																							
10	0.826																							
11	0.826																							
12	0.818	0.030	<0.05	3.7	0.02	1.2	<0.1	0.0028	<0.01	<0.2	0.034	80.5	0.0094	<0.04	<0.005	132	0.0062	<0.005	0.25	289	1.9	2.2	-7.3	L29021
13	0.842																							
14	0.886																							
15	0.811																							
16	0.818	0.030	<0.05	3.6	0.02	0.8	<0.1	0.0018	<0.01	<0.2	0.021	69.8	0.0094	<0.04	<0.005	100	0.0044	<0.005	0.16	269	1.7	1.5	6.3	L29484
17	0.768																							
18	0.785																							
19	0.859																							
20	0.809	0.100	<0.05	3.5	0.03	1	<0.1	0.0015	<0.01	<0.2	0.019	54.6	0.0091	<0.04	<0.005	94	0.0025	<0.005	0.10	261	1.4	1.2	7.7	L29914
21	0.822																							
22	0.949																							
23	0.958																							
24	0.802	<0.02	<0.05	3.4	0.02	0.7	<0.1	0.0011	<0.01	<0.2	0.018	58.6	0.0083	<0.04	<0.005	118	0.0028	<0.005	0.17	319	1.5	1.8	-9.1	L30419
25	0.805																							
26	0.814																							
27	0.910																							
28	0.871	0.080	<0.05	3.5	<0.02	0.8	<0.1	0.0011	<0.01	<0.2	0.016	62.8	0.0063	<0.04	<0.005	102	0.0018	0.005	0.10	268	1.3	1.4	-3.7	L30908
29	0.855																							
30	0.816																							
31	0.889																							
32	0.818	0.020	<0.05	3.3	<0.02	0.5	<0.1	0.0008	<0.01	<0.2	0.009	57.9	0.0061	<0.04	<0.005	84	0.0013	<0.005	0.06	293	1.3	1.2	4.0	L31481
33	0.824																							
34	0.979																							
35	0.809																							
36	0.765	<0.02	<0.05	3.2	<0.02	0.5	<0.1	0.0008	<0.01	<0.2	0.012	60.0	0.0064	<0.04	<0.005	102	0.0013	<0.005	0.04	304	1.4	1.3	3.7	L32131
37	0.835																							
38	0.909																							
39	0.813																							
40	0.860	<0.02	<0.05	3.1	0.03	0.6	<0.1	0.0008	<0.01	<0.2	0.007	68.7	0.0061	<0.04	<0.005	106	0.0025	<0.005	0.07	402	1.4	1.5	-3.4	L32682
41	0.823																							
42	0.830																							
43	0.820																							
44	0.811	<0.02	<0.05	3.0	0.08	0.3	<0.1	0.0009	<0.01	<0.2	0.013	83.0	0.0042	<0.04	<0.005	128	0.0020	<0.005	0.07	452	1.6	1.8	-5.9	L33233
45	0.875																							

Exceeds Oregon
GW Quality Guideline

HCT - 1
CAL-002 (86-95)
Arkosic Sandstone

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
46	0.829																							
47	0.855																							
48	0.823	<0.02	0.14	3.1	0.03	<0.2	<0.1	0.0006	<0.01	<0.2	0.009	60.0	0.0044	<0.04	<0.005	96	0.0010	<0.005	0.03	369	0.921	1.3	-17.1	L33820
49	0.830																							
50	0.816																							
51	0.804																							
52	0.809	0.030	<0.05	3.1	0.02	<0.2	<0.1	0.0005	<0.01	<0.2	<0.005	48.6	0.0025	<0.04	<0.005	60	0.0007	<0.005	0.02	340	0.737	1.0	-15.1	L34366
53	0.826																							
54	0.819																							
55	0.882																							
56	0.856	0.030	<0.05	3.0	0.02	0.2	0.1	0.0004	<0.01	<0.2	<0.005	46.4	0.0027	<0.04	<0.005	58	0.0007	0.005	0.04	379	0.724	0.974	-14.7	L34779
57	0.811																							
58	0.903																							
59	0.848																							
60	0.904	0.040	<0.05	3.3	<0.02	0.3	<0.1	0.0003	<0.01	<0.2	0.006	43.7	0.003	<0.04	<0.005	96	0.0006	<0.005	0.03	333	0.588	0.918	-21.9	L35145
61	0.889																							
62	0.841																							
63	0.839																							
64	0.844	0.050	<0.05	3.1	<0.02	0.5	<0.1	0.0003	<0.01	1.5	0.016	39.3	0.0022	<0.04	<0.005	70	0.0005	<0.005	0.07	327	0.559	0.825	-19.2	L35597
65	0.842																							
66	0.887																							
67	0.820																							
68	0.825	<0.02	<0.05	3.2	<0.02	0.4	<0.1	0.0002	<0.01	0.3	<0.005	30.3	0.0031	<0.04	<0.005	72	0.0004	<0.005	0.02	270	0.406	0.636	-22.1	L36030
69	0.823																							
70	0.796																							
71	0.812																							
72	0.822	0.020	<0.05	3.3	<0.02	0.2	<0.1	0.0003	<0.01	<0.2	0.005	26.2	0.0026	<0.04	<0.005	40	0.0003	<0.005	0.01	244	0.354	0.6	-25.8	L36586
73	0.808																							
74	0.817																							
75	0.819																							
76	0.825	<0.02	<0.05	3.3	<0.02	0.4	<0.1	0.0003	<0.01	<0.2	<0.005	35.5	0.0028	<0.04	<0.005	44	0.0003	<0.005	0.01	232	0.372	0.745	-33.4	L37089
77	0.833																							
78	0.822																							
79	0.832																							
80	0.846	0.030	<0.05	3.4	<0.02	0.3	<0.1	0.0003	<0.01	<0.2	0.009	35.0	0.0029	<0.04	<0.005	38	0.0003	<0.005	0.01	216	0.4	0.749	-30.4	L37686
81	0.833																							
82	0.847																							
83	0.847																							
84	0.809	<0.02	<0.05	3.3	<0.02	0.5	<0.1	0.0003	<0.01	0.3	0.006	32.9	0.0033	<0.04	<0.005	48	0.0003	<0.005	0.01	225	0.339	0.708	-35.2	L38237
85	0.821																							
86	0.819																							
87	0.818																							

Exceeds Oregon
GW Quality Guideline

HCT - 2
CAL-004 (860-875)
Sandstone

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
Oregon Water Quality Guideline										*250*														
0	1.630	7.38	361	384	2.48	2.035	2.035	0.20	2.28	64	52.51	52.51	15.48	12.70	12.70	1.64	1.35	1.35	0	0.00	0.00	96	78.76	78.76
1	0.970	7.39	268	203	3.97	1.938	3.973	0.29	3.68	43	20.99	73.50	6.14	3.00	15.70	0.81	0.40	1.75	0	0.00	0.00	54	26.36	105.12
2	0.966	7.28	310	133	2.32	1.128	5.101	0.18	2.14	26	12.64	86.14	2.66	1.29	16.99	0.49	0.24	1.99	0	0.00	0.00	36	17.50	122.62
3	0.982	7.17	323	113	2.06	1.018	6.119	0.22	1.84	33	16.31	102.45	3.16	1.56	18.55	0.49	0.24	2.23	0	0.00	0.00	25	12.36	134.98
4	0.943	7.21	310	96	2.02	0.959	7.078	0.10	1.92	23	10.92	113.37	2.55	1.21	19.76	0.49	0.23	2.46	0	0.00	0.00	25	11.87	146.85
5	0.892	7.08	335	75	1.27	0.570	7.648	0.16	1.11	19	8.53	121.90	1.60	0.72	20.48	0.49	0.22	2.68	0	0.00	0.00	17	7.63	154.48
6	0.965	7.05	329	76	1.41	0.685	8.333	0.16	1.25	18	8.74	130.64	0.76	0.37	20.85	0.49	0.24	2.92	0	0.00	0.00	17	8.26	162.74
7	0.900	7.08	374	70	1.12	0.507	8.840	<0.10	<1.12	21	9.51	140.15	1.24	0.56	21.41	0.49	0.22	3.14	0	0.00	0.00	17	7.70	170.44
8	0.913	7.04	395	131	1.58	0.726	9.566	<0.10	<1.58	37	17.00	157.15	1.35	0.62	22.03	0.49	0.23	3.37	0	0.00	0.00	22	10.11	180.55
9	0.861	8.94	216	60	0.43	0.186	9.752	<0.10	<0.43	27	11.70	168.85	0.49	0.21	22.24	0.49	0.21	3.58	0	0.00	0.00	45	19.50	200.05
10	0.978	7.69	244	360	1.29	0.635	10.387	<0.10	<1.29	95	46.76	215.61	0.78	0.38	22.62	0.49	0.24	3.82	0	0.00	0.00	58	28.55	228.60
11	0.850	7.11	363	142	0.23	0.098	10.485	<0.10	<0.23	42	17.97	233.58	0.70	0.30	22.92	0.49	0.21	4.03	3	1.28	1.28	23	9.84	238.44
12	0.910	7.35	292	165	0.14	0.064	10.549	<0.10	<0.14	56	25.65	259.23	0.67	0.31	23.23	0.49	0.22	4.25	0	0.00	1.28	15	6.87	245.31
13	0.874	6.59	378	175	<0.10	0.000	10.549	<0.10	<0.10	65	28.59	287.82	2.64	1.16	24.39	0.49	0.22	4.47	3	1.32	2.60	6	2.64	247.95
14	0.898	6.48	410	190	<0.10	0.000	10.549	<0.10	<0.10	73	32.99	320.81	4.65	2.10	26.49	0.70	0.32	4.79	4	1.81	4.41	4	1.81	249.76
15	0.780	6.61	330	193	0.13	0.051	10.600	<0.10	<0.13	77	30.23	351.04	7.97	3.13	29.62	1.24	0.49	5.28	5	1.96	6.37	3	1.18	250.94
16	0.878	6.72	271	170	0.12	0.053	10.653	<0.10	<0.12	63	27.84	378.88	8.72	3.85	33.47	1.62	0.72	6.00	13	5.75	12.12	4	1.77	252.71
17	0.879	6.64	253	172	0.20	0.088	10.741	0.14	0.06	63	27.87	406.75	11.65	5.15	38.62	2.05	0.91	6.91	6	2.66	14.77	4	1.77	254.48
18	0.815	6.15	215	193	0.37	0.152	10.893	0.19	0.18	67	27.48	434.23	13.01	5.34	43.96	2.29	0.94	7.85	15	6.15	20.93	3	1.23	255.71
19	0.876	5.38	318	260	0.94	0.414	11.307	0.48	0.46	110	48.50	482.73	21.79	9.61	53.57	3.63	1.60	9.45	13	5.73	26.66	2	0.88	256.59
20	0.805	5.15	303	181	0.84	0.340	11.647	0.48	0.36	65	26.34	509.07	13.16	5.33	58.90	2.38	0.96	10.41	17	6.89	33.55	2	0.81	257.40
21	0.835	4.83	379	206	1.44	0.605	12.252	0.47	0.97	82	34.46	543.53	17.23	7.24	66.14	2.92	1.23	11.64	13	5.46	39.01	1	0.42	257.82
22	0.972	4.95	327	169	1.49	0.729	12.981	0.73	0.76	64	31.31	574.84	13.23	6.47	72.61	2.08	1.02	12.66	11	5.38	44.39	2	0.98	258.80
23	0.926	4.32	420	183	1.79	0.834	13.815	0.62	1.17	66	30.76	605.60	12.70	5.92	78.53	1.95	0.91	13.57	13	6.06	50.45	0	0.00	258.80
24	0.813	3.72	483	249	0.53	0.217	14.032	0.10	0.43	86	35.19	640.79	17.11	7.00	85.53	2.43	0.99	14.56	20	8.18	58.64	0	0.00	258.80
25	0.743	3.46	451	369	3.92	1.466	15.498	1.31	2.61	140	52.36	693.15	22.62	8.46	93.99	3.28	1.23	15.79	43	16.08	74.72	0	0.00	258.80
26	0.840	3.28	475	389	5.46	2.308	17.806	0.99	4.47	140	59.19	752.34	20.41	8.63	102.62	3.18	1.34	17.13	56	23.68	98.39	0	0.00	258.80
27	0.951	3.29	468	364	5.53	2.647	20.453	1.20	4.33	99	47.39	799.73	15.52	7.43	110.05	2.38	1.14	18.27	52	24.89	123.28	0	0.00	258.80
28	0.908	3.20	482	436	8.15	3.725	24.178	1.50	6.65	140	63.98	863.71	16.06	7.34	117.39	2.37	1.08	19.35	111	50.73	174.01	0	0.00	258.80
29	0.894	3.03	510	580	11.04	4.968	29.146	1.56	9.48	190	85.49	949.20	20.70	9.31	126.70	2.80	1.26	20.61	118	53.10	227.11	0	0.00	258.80
30	0.764	2.77	500	926	26.63	10.240	39.386	1.74	24.89	370	142.28	1091.48	33.23	12.78	139.48	3.99	1.53	22.14	381	146.51	373.62	0	0.00	258.80
31	0.856	2.64	491	1146	39.42	16.984	56.370	2.70	36.72	320	137.87	1229.35	24.87	10.72	150.20	3.17	1.37	23.51	307	132.27	505.89	0	0.00	258.80
32	0.810	2.56	495	1188	52.76	21.510	77.880	2.92	49.84	450	183.46	1412.81	21.06	8.59	158.79	2.54	1.04	24.55	328	133.72	639.61	0	0.00	258.80
33	0.817	2.42	496	1182	46.32	19.047	96.927	2.81	43.51	440	180.93	1593.74	12.60	5.18	163.97	1.48	0.61	25.16	351	144.34	783.95	0	0.00	258.80
34	0.920	2.74	498	1050	28.46	13.179	110.106	4.42	24.04	220	101.87	1695.61	5.95	2.76	166.73	0.67	0.31	25.47	277	128.27	912.21	0	0.00	258.80
35	0.747	2.61	508	1305	41.88	15.746	125.852	13.45	28.43	300	112.79	1808.40	8.32	3.13	169.86	0.85	0.32	25.79	315	118.43	1030.65	0	0.00	258.80
36	0.721	2.67	508	1125	30.54	11.083	136.935	11.83	18.71	230	83.47	1891.87	4.94	1.79	171.65	0.51	0.19	25.98	262	95.08	1125.73	0	0.00	258.80
37	0.910	2.86	513	729	24.11	11.043	147.978	7.93	16.18	200	91.60	1983.47	3.28	1.50	173.15	0.49	0.22	26.20	179	81.99	1207.71	0	0.00	258.80
38	0.892	2.71	517	982	26.90	12.077	160.055	9.36	17.54	230	103.26	2086.73	2.89	1.30	174.45	0.49	0.22	26.42	211	94.73	1302.44	0	0.00	258.80
39	0.797	2.69	523	790	17.94	7.197	167.252	5.01	12.93	130	52.15	2138.88	2.31	0.93	175.38	0.49	0.20	26.62	157	62.98	1365.42	0	0.00	258.80
40	0.879	2.76	524	831	17.27	7.641	174.893	5.01	12.26	151	66.81	2205.69	2.55	1.13	176.51	0.49	0.22	26.84	163	72.11	1437.54	0	0.00	258.80
41	0.899	2.95	524	546	7.76	3.511	178.404	2.02	5.74	63	28.51	2234.20	1.49	0.67	177.18	0.49	0.22	27.06	92	41.63	1479.17	0	0.00	258.80
42	0.876	2.66	533	692	9.25	4.078	182.482	2.21	7.04	84	37.04	2271.24	1.57	0.69	177.87	0.49	0.22	27.28	127	56.00	1535.16	0	0.00	258.80
43	0.816	2.93	523	548	5.68	2.333	184.815	1.30	4.38	72	29.57	2300.81	1.35	0.55	178.42	0.49	0.20	27.48	91	37.38	1572.54	0	0.00	258.80
44	0.788	2.98	524	499	3.96	1.571	186.386	1.04	2.92	52	20.62	2321.43	1.33	0.53	178.95	0.49	0.19	27.67	81	32.13	1604.66	0	0.00	258.80
45	0.889	3.03	528	444	3.51	1.571	187.957	0.71	2.80	77	34.45	2355.88	0.73	0.33	179.28	0.49	0.22	27.89	78	34.90	1639.56	0	0.00	258.80

Exceeds Oregon
GW Quality Guideline

HCT - 2
CAL-004 (860-875)
Sandstone

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.813	3.34	535	219	1.32	0.540	188.497	0.46	0.86	21	8.59	2364.47	0.49	0.20	179.48	0.49	0.20	28.09	89	36.42	1675.98	0	0.00	258.80
47	0.840	3.18	545	321	2.17	0.917	189.414	0.58	1.59	41	17.33	2381.80	0.67	0.28	179.76	0.49	0.21	28.30	79	33.40	1709.38	0	0.00	258.80
48	0.771	3.26	516	268	1.46	0.567	189.981	0.40	1.06	35	13.58	2395.38	0.90	0.35	180.11	0.49	0.19	28.49	44	17.08	1726.46	0	0.00	258.80
49	0.788	3.28	520	255	1.17	0.464	190.445	0.30	0.87	27	10.71	2406.09	0.49	0.19	180.30	0.49	0.19	28.68	55	21.81	1748.27	0	0.00	258.80
50	0.713	3.40	523	256	1.00	0.359	190.804	0.34	0.66	28	10.05	2416.14	0.49	0.18	180.48	0.49	0.18	28.86	49	17.59	1765.86	0	0.00	258.80
51	0.923	3.64	521	126	0.47	0.218	191.022	0.13	0.34	9	4.18	2420.32	0.49	0.23	180.71	0.49	0.23	29.09	17	7.90	1773.75	0	0.00	258.80
52	0.820	3.60	500	133	0.41	0.169	191.191	0.13	0.28	14	5.78	2426.10	0.49	0.20	180.91	0.49	0.20	29.29	19	7.84	1781.60	0	0.00	258.80
53	0.762	3.47	493	176	1.12	0.430	191.621	0.30	0.82	26	9.97	2436.07	0.57	0.22	181.13	0.49	0.19	29.48	27	10.36	1791.95	0	0.00	258.80
54	0.804	3.51	490	151	0.43	0.174	191.795	0.19	0.24	22	8.90	2444.97	0.49	0.20	181.33	0.49	0.20	29.68	75	30.35	1822.30	0	0.00	258.80
55	0.852	3.52	489	155	0.33	0.142	191.937	0.18	0.15	22	9.43	2454.40	0.55	0.24	181.57	0.49	0.21	29.89	22	9.43	1831.74	0	0.00	258.80
56	0.793	3.58	495	144	0.30	0.120	192.057	0.16	0.14	23	9.18	2463.58	0.68	0.27	181.84	0.49	0.20	30.09	21	8.38	1840.12	0	0.00	258.80
57	0.749	3.68	480	112	0.24	0.090	192.147	<0.10	<0.24	15	5.65	2469.23	0.49	0.18	182.02	0.49	0.18	30.27	83	31.29	1871.41	0	0.00	258.80
58	0.952	3.73	479	101	0.32	0.153	192.300	0.19	0.13	12	5.75	2474.98	0.49	0.23	182.25	0.49	0.23	30.50	17	8.15	1879.55	0	0.00	258.80
59	0.874	3.71	494	105	0.32	0.141	192.441	0.10	0.22	14	6.16	2481.14	0.62	0.27	182.52	0.49	0.22	30.72	17	7.48	1887.03	0	0.00	258.80
60	0.881	3.72	483	99	0.26	0.115	192.556	0.13	0.13	13	5.76	2486.90	0.49	0.22	182.74	0.49	0.22	30.94	17	7.54	1894.57	0	0.00	258.80
61	0.831	3.56	503	139	0.25	0.105	192.661	0.13	0.12	21	8.78	2495.68	0.55	0.23	182.97	0.49	0.20	31.14	82	34.30	1928.87	0	0.00	258.80
62	0.824	3.53	489	147	0.25	0.104	192.765	0.14	0.11	22	9.12	2504.80	0.49	0.20	183.17	0.49	0.20	31.34	88	36.50	1965.36	0	0.00	258.80
63	0.778	3.38	502	200	0.30	0.117	192.882	0.16	0.14	32	12.53	2517.33	0.49	0.19	183.36	0.49	0.19	31.53	59	23.10	1988.47	0	0.00	258.80
64	0.826	3.47	495	169	0.25	0.104	192.986	0.13	0.12	28	11.47	2528.80	0.86	0.36	183.72	0.49	0.20	31.73	90	37.42	2025.88	0	0.00	258.80
65	0.880	3.53	489	150	0.14	0.062	193.048	0.10	0.04	26	11.54	2540.34	0.86	0.38	184.10	0.49	0.22	31.95	20	8.86	2034.74	0	0.00	258.80
66	0.854	3.59	505	137	0.15	0.064	193.112	0.12	0.03	20	8.50	2548.84	0.49	0.21	184.31	0.49	0.21	32.16	20	8.60	2043.34	0	0.00	258.80
67	0.852	3.67	477	118	0.52	0.223	193.335	<0.10	<0.52	18	7.72	2556.56	0.49	0.21	184.52	0.49	0.21	32.37	87	37.31	2080.65	0	0.00	258.80
68	0.818	3.61	487	123	<0.10	0.000	193.335	<0.10	<0.10	19	7.82	2564.38	0.65	0.27	184.79	0.49	0.20	32.57	90	37.06	2117.70	0	0.00	258.80
69	0.789	3.60	493	123	0.12	0.048	193.383	<0.10	<0.12	17	6.75	2571.13	0.49	0.19	184.98	0.49	0.19	32.76	79	31.37	2149.07	0	0.00	258.80
70	0.805	3.62	466	123	0.13	0.053	193.436	<0.10	<0.13	16	6.48	2577.61	0.49	0.20	185.18	0.49	0.20	32.96	62	25.12	2174.20	0	0.00	258.80
71	0.781	3.66	480	98	0.13	0.051	193.487	0.12	0.01	14	5.50	2583.11	0.53	0.21	185.39	0.49	0.19	33.15	18	7.08	2181.27	0	0.00	258.80
72	0.753	3.64	469	116	0.11	0.042	193.529	0.10	0.01	18	6.90	2590.01	0.79	0.30	185.69	0.49	0.19	33.34	19	7.20	2188.47	0	0.00	258.80
73	0.713	3.72	459	110	0.18	0.065	193.594	0.16	0.02	19	6.82	2596.83	0.68	0.24	185.93	0.49	0.18	33.52	18	6.46	2194.93	0	0.00	258.80
74	0.727	3.76	456	100	0.11	0.040	193.634	0.12	-0.01	16	5.85	2602.68	0.58	0.21	186.14	0.49	0.18	33.70	17	6.22	2201.15	0	0.00	258.80
75	0.748	3.83	456	96	<0.10	0.000	193.634	<0.10	<0.10	19	7.15	2609.83	1.38	0.52	186.66	0.49	0.18	33.88	15	5.65	2206.80	0	0.00	258.80
76	0.710	3.80	460	97	<0.10	0.000	193.634	<0.10	<0.10	15	5.36	2615.19	0.92	0.33	186.99	0.49	0.18	34.06	15	5.36	2212.16	0	0.00	258.80
77	0.827	3.79	479	95	0.18	0.075	193.709	0.10	0.08	12	4.99	2620.18	0.54	0.22	187.21	0.49	0.20	34.26	15	6.24	2218.40	0	0.00	258.80
78	0.805	3.77	467	95	0.13	0.053	193.762	<0.10	<0.13	11	4.46	2624.64	0.58	0.24	187.45	0.49	0.20	34.46	15	6.08	2224.48	0	0.00	258.80
79	0.749	3.75	484	97	<0.10	0.000	193.762	<0.10	<0.10	13	4.90	2629.54	0.81	0.31	187.76	0.49	0.18	34.64	15	5.66	2230.14	0	0.00	258.80
80	0.781	3.84	478	85	<0.10	0.000	193.762	<0.10	<0.10	12	4.72	2634.26	0.49	0.19	187.95	0.49	0.19	34.83	15	5.90	2236.03	0	0.00	258.80
81	0.857	3.85	465	83	<0.10	0.000	193.762	<0.10	<0.10	11	4.74	2639.00	0.58	0.25	188.20	0.49	0.21	35.04	12	5.18	2241.21	0	0.00	258.80
82	0.760	3.84	462	75	<0.10	0.000	193.762	<0.10	<0.10	11	4.21	2643.21	0.53	0.20	188.40	0.49	0.19	35.23	14	5.36	2246.56	0	0.00	258.80
83	0.744	3.81	437	92	0.12	0.045	193.807	<0.10	<0.12	15	5.62	2648.83	0.56	0.21	188.61	0.49	0.18	35.41	15	5.62	2252.18	0	0.00	258.80
84	0.734	3.74	435	93	0.10	0.037	193.844	<0.10	<0.1	15	5.69	2654.52	0.55	0.20	188.81	0.49	0.18	35.59	15	5.52	2257.70	0	0.00	258.80
85	0.770	3.80	417	94	0.11	0.043	193.887	<0.10	<0.11	16	6.20	2660.72	0.92	0.36	189.17	0.49	0.19	35.78	18	6.98	2264.68	0	0.00	258.80
86	0.774	3.68	429	89	0.10	0.039	193.926	<0.10	<0.1	16	6.26	2666.98	0.54	0.21	189.38	0.49	0.19	35.97	17	6.68	2271.36	0	0.00	258.80
87	0.753	3.82	459	83	0.11	0.042	193.968	<0.10	<0.11	17	6.34	2673.32	0.49	0.19	189.57	0.49	0.19	36.16	15	5.69	2277.04	0	0.00	258.80

Exceeds Oregon
GW Quality Guideline

Appendix D1
HCT Summary Table

HCT - 2
CAL-004 (860-875)
Sandstone

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
Oregon Water Quality Guideline							*0.05*	*1*				*0.01*		*250*	*0.05*		*1*	*4*				*0.3*	*0.05*			*0.05*	*0.002*		
0	1.630	108	<2	108	0.45	0.0237	0.112	0.841	0.00008	<0.04	0.21	0.0005	15.2	6.6	0.01	<0.01	0.06	2.0	<0.1	43.7	<2	2.6	0.009	0.013	1.4	0.164	0.008	0.14	0.023
1	0.970	56.2	<2	56.2	2.78	0.043	0.108	0.752	0.00031	<0.04	0.17	0.0005	5.3	3.0	<0.01	<0.01	0.05	1.3	<0.1	16.9	<2	1.8	0.003	0.009	0.9	0.104	0.003	0.12	0.011
2	0.966	31.3	<2	31.3	0.34	0.041	0.100	0.516	<0.00005	<0.04	0.14	0.0001	2.9	2.0	<0.01	<0.01	0.04	1.0	<0.1	8.48	<2	1.3	0.003	0.008	0.3	0.066	0.002	0.08	0.013
3	0.982																												
4	0.943	22.9	<2	22.9	0.25	0.043	0.090	0.316	<0.0003	<0.04	0.14	0.0003	2	1.0	<0.01	<0.01	0.04	1.2	<0.1	6.23	<2	1.3	0.004	<0.008	0.3	0.054	0.002	0.09	0.009
5	0.892																												
6	0.965																												
7	0.900																												
8	0.913	23	<2	23	0.81	0.0380	0.048	0.089	<0.00005	<0.04	0.45	<0.0001	0.9	0.7	<0.01	<0.01	0.02	0.8	<0.1	3.5	<2	0.8	0.002	<0.008	0.3	0.006	0.003	0.05	<0.008
9	0.861																												
10	0.978																												
11	0.850																												
12	0.910	10.2	<2	10.2	0.16	0.0274	0.020	0.040	<0.00005	<0.04	0.22	<0.0001	0.5	<0.5	<0.01	<0.01	<0.01	<10	<0.1	1.3	<2	0.1	0.000	0.009	<0.2	<0.005	<0.0002	<0.02	<0.008
13	0.874																												
14	0.898																												
15	0.780																												
16	0.878	<2	<2	<2	<0.03	0.0098	0.008	0.085	<0.00005	<0.04	0.08	<0.0001	9.3	0.6	<0.01	0.04	<0.01	0.1	<0.1	29	<2	0.0	0.000	0.011	1.5	0.429	0.000	<0.02	0.033
17	0.879																												
18	0.815																												
19	0.876																												
20	0.805	<2	<2	<2	0.07	0.0053	0.008	0.015	0.00138	<0.04	0.02	0.0004	15.5	<0.5	<0.01	0.1	0.09	<2	<0.1	48	<2	0.8	0.000	<0.008	2.3	1.050	<0.0002	<0.02	0.073
21	0.835																												
22	0.972																												
23	0.926																												
24	0.813	<2	<2	<2	0.35	0.0016	0.010	0.023	0.00326	<0.04	0.02	0.0009	17.1	0.7	<0.01	0.15	0.19	<10	<0.1	52	<2	0.5	0.001	0.014	2.3	1.370	<0.0002	<0.02	0.111
25	0.743																												
26	0.840																												
27	0.951																												
28	0.908	<2	<2	<2	1.46	0.0027	0.014	0.038	0.00746	<0.04	<0.01	0.0025	18.2	0.6	<0.01	0.28	0.40	<10	<0.1	55	<2	8.9	0.000	0.017	2.4	2.180	<0.0002	<0.02	0.166
29	0.894																												
30	0.764																												
31	0.856																												
32	0.810	<2	<2	<2	9.8	0.003	0.035	0.009	0.01308	<0.04	<0.01	0.0079	21.8	0.5	0.12	1.38	1.03	<5	<0.1	64	<2	54.4	0.001	0.106	2.4	9.030	<0.0002	<0.02	0.401
33	0.817																												
34	0.920																												
35	0.747																												
36	0.721	<2	<2	<2	6.37	0.0028	0.018	0.007	0.00485	<0.04	<0.01	0.0030	5.4	0.6	0.11	0.59	0.45	<5	<0.1	16	<2	36.5	0.001	0.033	0.5	3.510	0.001	<0.02	0.161
37	0.910																												
38	0.892																												
39	0.797																												
40	0.879	<2	<2	<2	4.02	0.0016	0.012	0.061	0.00263	<0.04	0.08	0.0015	2.3	<0.5	0.05	0.24	0.23	<2	<0.1	7.4	<2	17.3	0.001	0.011	0.4	1.450	<0.0002	<0.02	0.07
41	0.899																												
42	0.876																												
43	0.816																												
44	0.788	<2	<2	<2	1.45	0.001	0.003	0.071	0.00103	<0.04	0.12	0.0006	1	<0.5	0.01	0.05	0.09	<2	<0.1	2.5	<2	4.3	0.005	<0.008	<0.2	0.325	<0.0002	<0.02	0.015
45	0.889																												

Exceeds Oregon GW Quality Guideline

HCT - 2
CAL-004 (860-875)
Sandstone

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
46	0.813																												
47	0.840																												
48	0.771	<2	<2	<2	0.65	0.0009	0.003	0.083	0.00067	<0.04	0.07	0.0005	0.6	<0.5	0.01	0.02	0.05	<2	<0.1	1.5	<2	1.5	0.002	<0.008	<0.2	0.117	<0.0002	<0.02	0.01
49	0.788																												
50	0.713																												
51	0.923																												
52	0.820	<2	<2	<2	0.19	<0.0004	0.001	<0.003	0.00035	<0.04	<0.01	0.0001	0.2	<0.5	<0.01	<0.01	<0.01	<2	<0.1	0.499	<2	<0.02	0.001	<0.008	<0.2	0.036	<0.0002	<0.02	<0.008
53	0.762																												
54	0.804																												
55	0.852																												
56	0.793	<2	<2	<2	0.2	0.0004	0.001	0.092	0.00036	<0.04	0.05	0.0002	0.5	<0.5	<0.01	<0.01	0.01	<2	<0.1	1.3	<2	0.3	0.001	<0.008	<0.2	0.042	<0.0002	<0.02	<0.008
57	0.749																												
58	0.952																												
59	0.874																												
60	0.881	<2	<2	<2	0.12	0.0005	0.001	0.003	0.00028	<0.04	0.01	0.0001	0.2	<0.5	<0.01	0.01	0.01	<2	<0.1	0.499	<2	0.2	0.002	<0.008	<0.2	0.031	<0.0002	<0.02	<0.008
61	0.831																												
62	0.824																												
63	0.778																												
64	0.826	<2	<2	<2	0.16	0.000	0.001	0.088	0.00041	<0.04	0.08	0.0001	0.6	<0.5	<0.01	<0.01	0.01	<4	<0.1	1.5	<2	0.2	0.001	<0.008	<0.2	0.036	<0.0002	<0.02	<0.008
65	0.880																												
66	0.854																												
67	0.852																												
68	0.818	<2	<2	<2	0.03	0.0004	0.001	0.086	0.00023	<0.04	0.06	<0.0001	0.6	<0.5	<0.01	<0.01	<0.01	10.0	<0.1	1.5	<2	0.1	0.001	<0.008	<0.2	0.018	<0.0002	<0.02	<0.008
69	0.789																												
70	0.805																												
71	0.781																												
72	0.753	<2	<2	<2	0.05	0.0005	0.001	0.091	0.0003	<0.04	0.05	<0.0001	0.5	<0.5	<0.01	<0.01	0.01	<2	<0.1	1.3	<2	0.1	0.001	<0.008	<0.2	0.021	<0.0002	<0.02	<0.008
73	0.713																												
74	0.727																												
75	0.748																												
76	0.710	<2	<2	<2	0.11	0.0004	0.002	0.107	0.00033	<0.04	0.06	0.0001	0.6	<0.5	<0.01	<0.01	0.01	<4	<0.1	1.5	<2	0.1	0.001	<0.008	<0.2	0.025	0.000	<0.02	<0.008
77	0.827																												
78	0.805																												
79	0.749																												
80	0.781	<2	<2	<2	0.07	0.0004	0.002	0.010	0.00027	<0.04	0.02	<0.0001	0.1	<0.5	<0.01	<0.01	<0.01	<10	<0.1	0.3	<2	0.1	0.000	<0.008	<0.2	0.018	<0.0002	<0.02	<0.008
81	0.857																												
82	0.760																												
83	0.744																												
84	0.734	<2	<2	<2	0.09	<0.0004	0.001	0.006	0.0003	<0.04	0.02	0.0001	0.1	<0.5	<0.01	<0.01	<0.01	<10	<0.1	0.3	<2	0.1	0.000	<0.008	<0.2	0.016	<0.0002	<0.02	<0.008
85	0.770																												
86	0.774																												
87	0.753																												

Exceeds Oregon
GW Quality Guideline

Appendix D1
HCT Summary Table

HCT - 2
CAL-004 (860-875)
Sandstone

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
Oregon Water Quality Guideline		*10*		*6.5 - 8.5*				*0.01*	*0.05*			*250*				*500*			*5*					
0	1.630	0.710	0.08	7.8	0.19	6.8	<0.1	0.0247	<0.01	82.2	0.086	84.0	0.0002	<0.04	0.009	460	0.0014	0.008	0.28	406	4.9	4.2	7.7	L27933
1	0.970	0.130	0.2	7.9	0.07	4.2	<0.1	0.0113	<0.01	48.4	0.039	50.2	0.0004	<0.04	0.01	334	0.0016	<0.005	0.18	215	3	2.3	13.2	L28023
2	0.966	0.030	0.19	7.6	0.06	2.1	<0.1	0.0098	<0.01	26.8	0.024	2.4	<0.0001	<0.04	<0.005	192	0.0011	<0.005	0.21	146	1.5	0.784	31.3	L28126
3	0.982																							
4	0.943	0.210	0.16	7.5	0.09	1.6	<0.1	0.0079	<0.01	21.5	0.012	26.8	0.0003	<0.04	<0.005	138	0.0016	<0.005	0.17	110	1.2	1.1	4.3	L28324
5	0.892																							
6	0.965																							
7	0.900																							
8	0.913	0.240	0.06	7.8	0.06	1.6	<0.1	0.0051	<0.01	21.5	<0.005	30.9	<0.0001	<0.04	<0.005	150	0.0003	<0.005	0.03	117	1.2	1.2	0.0	L28697
9	0.861																							
10	0.978																							
11	0.850																							
12	0.910	0.060	<0.05	7.5	<0.02	3.2	<0.1	0.0054	<0.01	29.1	<0.005	65.2	0.0003	<0.04	<0.005	106	<0.0001	<0.005	<0.01	177	1.4	1.6	-6.7	L29021
13	0.874																							
14	0.898																							
15	0.780																							
16	0.878	0.150	<0.05	6.7	<0.02	11.7	<0.1	0.0068	<0.01	11.1	0.095	72.4	0.0009	<0.04	<0.005	110	<0.0001	<0.005	0.03	178	1.4	1.5	-3.4	L29484
17	0.879																							
18	0.815																							
19	0.876																							
20	0.805	<0.02	<0.05	4.5	<0.02	9.5	<0.1	0.0049	<0.01	1.2	0.172	64.0	0.0021	<0.04	<0.005	116	0.0005	<0.005	0.18	178	1.4	1.3	3.7	L29914
21	0.835																							
22	0.972																							
23	0.926																							
24	0.813	0.020	<0.05	3.7	<0.02	5.9	<0.1	0.0039	<0.01	0.7	0.203	67.5	0.0023	<0.04	<0.005	142	0.0032	<0.005	0.30	244	1.4	1.4	0.0	L30419
25	0.743																							
26	0.840																							
27	0.951																							
28	0.908	<0.02	<0.05	3.3	<0.02	4.3	<0.1	0.0018	<0.01	0.5	0.244	118.0	0.0026	<0.04	<0.005	194	0.0128	<0.005	0.45	409	2.1	2.5	-8.7	L30908
29	0.894																							
30	0.764																							
31	0.856																							
32	0.810	0.020	<0.05	2.7	<0.02	2.9	<0.1	0.0013	<0.01	0.8	0.291	331.0	0.0042	<0.04	<0.005	526	0.0521	<0.005	0.86	1140	6.1	7	-6.9	L31481
33	0.817																							
34	0.920																							
35	0.747																							
36	0.721	0.030	<0.05	2.6	<0.02	1.7	<0.1	0.0009	<0.01	0.8	0.101	201.0	0.0036	<0.04	<0.005	284	0.0211	<0.005	0.33	1080	3.3	4.2	-12	L32131
37	0.910																							
38	0.892																							
39	0.797																							
40	0.879	<0.02	0.06	2.8	<0.02	1.6	<0.1	0.0006	<0.01	3.1	0.049	145.0	0.0028	<0.04	<0.005	174	0.0103	<0.005	0.25	782	1.8	3.1	-26.5	L32682
41	0.899																							
42	0.876																							
43	0.816																							
44	0.788	0.040	<0.05	3.0	<0.02	1.5	<0.1	0.0004	<0.01	3.1	0.029	61.0	0.0021	<0.04	<0.005	62	0.0031	<0.005	0.19	450	0.6	1.3	-33.7	L33233
45	0.889																							

Exceeds Oregon
GW Quality Guideline

HCT - 2
CAL-004 (860-875)
Sandstone

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
46	0.813																							
47	0.840																							
48	0.771	0.080	0.12	3.3	<0.02	1	<0.1	0.0002	<0.01	3	0.019	35.5	0.0018	<0.04	<0.005	56	0.0018	<0.005	0.12	246	0.363	0.745	-34.5	L33820
49	0.788																							
50	0.713																							
51	0.923																							
52	0.820	0.050	<0.05	3.5	<0.02	0.6	<0.1	0.0002	<0.01	0.5	<0.005	13.8	0.0012	<0.04	<0.005	18	0.0008	<0.005	<0.01	128	---	0.0	N/A	L34366
53	0.762																							
54	0.804																							
55	0.852																							
56	0.793	0.030	<0.05	3.6	<0.02	1.2	<0.1	0.0002	<0.01	2.9	<0.005	20.9	0.0011	<0.04	<0.005	28	<0.0008	<0.005	0.07	117	0.225	0.439	-32.2	L34779
57	0.749																							
58	0.952																							
59	0.874																							
60	0.881	0.160	<0.05	3.8	<0.02	0.9	<0.01	0.0002	<0.01	0.5	0.006	12.3	0.0015	<0.04	<0.005	44	0.0006	<0.005	0.01	99.2	---	0.258	N/A	L35145
61	0.831																							
62	0.824																							
63	0.778																							
64	0.826	<0.02	<0.05	3.5	<0.02	1.7	<0.1	0.0003	<0.01	1.9	0.018	20.9	0.0022	<0.04	<0.005	62	0.0007	<0.005	0.05	163	0.191	0.439	N/A	L35597
65	0.880																							
66	0.854																							
67	0.852																							
68	0.818	0.060	<0.05	3.6	<0.02	1.7	<0.1	0.0002	<0.01	1.8	0.008	16.6	0.0017	<0.04	<0.005	44	0.0003	<0.005	0.05	114	0.164	0.879	N/A	L36030
69	0.789																							
70	0.805																							
71	0.781																							
72	0.753	0.030	<0.05	3.7	<0.02	1.8	<0.1	0.0003	<0.01	1.8	0.012	16.1	0.0018	<0.04	<0.005	26	0.0003	<0.005	0.05	115	0.167	0.338	N/A	L36586
73	0.713																							
74	0.727																							
75	0.748																							
76	0.710	0.060	<0.05	3.8	<0.02	2.7	<0.1	0.0003	<0.01	1.8	0.011	17.7	0.002	<0.04	<0.005	24	0.0002	<0.005	0.06	100	0.201	0.372	-29.8	L37089
77	0.827																							
78	0.805																							
79	0.749																							
80	0.781	<0.02	0.09	3.8	<0.02	2	<0.1	0.0004	<0.01	0.5	0.011	10.7	0.0021	<0.04	<0.005	16	0.0002	<0.005	0.02	83.4	---	0.225	N/A	L37686
81	0.857																							
82	0.760																							
83	0.744																							
84	0.734	<0.02	<0.05	3.8	<0.02	2	<0.1	0.0004	<0.01	0.6	0.009	14.2	0.0021	<0.04	<0.005	28	0.0003	<0.005	0.02	86.4	---	0.312	N/A	L38237
85	0.770																							
86	0.774																							
87	0.753																							

Exceeds Oregon
GW Quality Guideline

HCT - 3
CAL-003 (675-685)
Mudstone

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
Oregon Water Quality Guideline										*250*														
0	1.010	2.17	440	9220	1292.50	661.846	661.846	167.00	1125.50	7870	4029.96	4029.96	495.44	253.70	253.70	249.15	127.58	127.58	4383	2244.39	2244.39	0	0.00	0.00
1	0.932	2.41	392	7880	1409.00	665.782	1327.628	315.00	1094.00	7800	3685.66	7715.62	534.92	252.76	506.46	258.44	122.12	249.70	3645	1722.34	3966.73	0	0.00	0.00
2	0.560	2.62	464	6300	932.00	264.612	1592.240	322.00	610.00	4600	1306.02	9021.64	464.37	131.84	638.30	158.65	45.04	294.74	2270	644.49	4611.22	0	0.00	0.00
3	0.847	3.60	466	686	54.92	23.584	1615.824	28.60	26.32	250	107.36	9129.00	75.53	32.43	670.73	8.43	3.62	298.36	105	45.09	4656.31	0	0.00	0.00
4	0.884	3.43	442	786	56.04	25.116	1640.940	31.20	24.84	370	165.83	9294.83	65.95	29.56	700.29	8.72	3.91	302.27	127	56.92	4713.23	0	0.00	0.00
5	0.857	3.42	507	749	42.78	18.588	1659.528	27.30	15.48	250	108.62	9403.45	52.93	23.00	723.29	6.84	2.97	305.24	117	50.84	4764.07	0	0.00	0.00
6	0.855	3.32	505	818	46.51	20.161	1679.689	29.90	16.61	400	173.39	9576.84	47.68	20.67	743.96	6.09	2.64	307.88	128	55.49	4819.55	0	0.00	0.00
7	0.866	3.21	376	905	45.28	19.881	1699.570	36.40	8.88	320	140.50	9717.34	44.73	19.64	763.60	6.13	2.69	310.57	161	70.69	4890.24	0	0.00	0.00
8	0.829	3.14	527	848	48.01	20.179	1719.749	28.60	19.41	300	126.09	9843.43	48.54	20.40	784.00	6.35	2.67	313.24	158	66.41	4956.65	0	0.00	0.00
9	0.797	3.19	405	949	49.66	20.066	1739.815	33.80	15.86	390	157.59	10001.02	42.43	17.14	801.14	6.12	2.47	315.71	185	74.75	5031.40	0	0.00	0.00
10	0.828	2.99	439	1093	64.01	26.871	1766.686	48.75	15.26	380	159.52	10160.54	47.47	19.93	821.07	8.03	3.37	319.08	234	98.23	5129.63	0	0.00	0.00
11	0.821	2.80	521	1126	67.17	27.959	1794.645	42.25	24.92	400	166.50	10327.04	48.83	20.33	841.40	7.99	3.33	322.41	240	99.90	5229.53	0	0.00	0.00
12	0.828	2.74	527	1319	74.07	31.094	1825.739	29.25	44.82	620	260.27	10587.31	43.18	18.13	859.53	8.11	3.40	325.81	293	123.00	5352.53	0	0.00	0.00
13	0.824	2.48	521	2220	148.41	62.001	1887.740	35.10	113.31	1000	417.77	11005.08	58.55	24.46	883.99	11.51	4.81	330.62	644	269.04	5621.57	0	0.00	0.00
14	0.838	2.44	517	2840	193.00	81.999	1969.739	45.50	147.50	1200	509.84	11514.92	50.57	21.49	905.48	12.10	5.14	335.76	1021	433.79	6055.36	0	0.00	0.00
15	0.797	2.10	512	2780	232.00	93.746	2063.485	50.70	181.30	1100	444.48	11959.40	54.04	21.84	927.32	11.02	4.45	340.21	1072	433.17	6488.53	0	0.00	0.00
16	0.800	2.20	512	3240	274.84	111.474	2174.959	62.40	212.44	1400	567.84	12527.24	45.38	18.41	945.73	12.06	4.89	345.10	1350	547.56	7036.08	0	0.00	0.00
17	0.797	2.26	504	3390	584.41	236.146	2411.105	72.80	511.61	1500	606.11	13133.35	202.84	81.96	1027.69	7.76	3.14	348.24	1422	574.60	7610.68	0	0.00	0.00
18	0.760	2.24	510	3730	472.00	181.870	2592.975	77.35	394.65	1900	732.10	13865.45	45.46	17.52	1045.21	13.43	5.17	353.41	1634	629.61	8240.29	0	0.00	0.00
19	0.807	2.06	510	4590	495.00	202.527	2795.502	95.55	399.45	2100	859.21	14724.66	45.79	18.73	1063.94	12.33	5.04	358.45	2170	887.85	9128.14	0	0.00	0.00
20	0.852	2.31	512	2111	192.93	83.338	2878.840	37.70	155.23	740	319.65	15044.31	14.21	6.14	1070.08	4.55	1.97	360.42	726	313.60	9441.74	0	0.00	0.00
21	0.784	1.97	503	6590	826.05	328.343	3207.183	137.80	688.25	3400	1351.45	16395.76	66.05	26.25	1096.33	17.23	6.85	367.27	3357	1334.36	10776.10	0	0.00	0.00
22	0.870	1.85	511	6710	986.63	435.190	3642.373	126.10	860.53	3900	1720.24	18116.00	64.67	28.53	1124.86	20.22	8.92	376.19	3966	1749.35	12525.45	0	0.00	0.00
23	0.884	1.89	515	6990	1099.65	492.847	4135.220	133.25	966.40	4300	1927.20	20043.20	68.49	30.70	1155.56	18.92	8.48	384.67	4152	1860.86	14386.31	0	0.00	0.00
24	0.788	1.95	504	5530	636.88	254.442	4389.662	126.10	510.78	3500	1398.30	21441.50	51.04	20.39	1175.95	10.51	4.20	388.87	3055	1220.51	15606.83	0	0.00	0.00
25	0.790	1.93	500	5730	657.43	263.319	4652.981	135.20	522.23	3600	1441.90	22883.40	44.17	17.69	1193.64	10.22	4.09	392.96	3174	1271.27	16878.10	0	0.00	0.00
26	0.787	2.01	498	5060	700.36	279.448	4932.429	134.55	565.81	3200	1276.82	24160.22	43.86	17.50	1211.14	11.59	4.62	397.58	2774	1106.84	17984.94	0	0.00	0.00
27	0.845	1.97	506	6070	655.20	280.696	5213.125	124.80	530.40	3100	1328.08	25488.30	35.66	15.28	1226.42	10.42	4.46	402.04	3389	1451.89	19436.83	0	0.00	0.00
28	0.885	1.89	509	7210	1000.00	448.692	5661.817	165.10	834.90	5100	2288.33	27776.63	52.24	23.44	1249.86	14.49	6.50	408.54	4595	2061.74	21498.57	0	0.00	0.00
29	0.949	1.95	508	6040	1010.00	485.951	6147.768	148.85	861.15	4200	2020.79	29797.42	60.29	29.01	1278.87	13.49	6.49	415.03	3634	1748.46	23247.03	0	0.00	0.00
30	0.825	1.97	508	5520	636.83	266.368	6414.136	108.55	528.28	3500	1463.95	31261.37	41.09	17.19	1296.06	8.02	3.35	418.38	3413	1427.56	24674.60	0	0.00	0.00
31	0.844	1.87	508	6590	1049.52	449.095	6863.231	150.15	899.37	3500	1497.67	32759.04	59.75	25.57	1321.63	13.83	5.92	424.30	4147	1774.52	26449.12	0	0.00	0.00
32	0.783	1.76	509	6890	1330.16	528.045	7391.276	166.40	1163.76	4300	1707.01	34466.05	80.82	32.08	1353.71	16.58	6.58	430.88	4568	1813.40	28262.52	0	0.00	0.00
33	0.797	1.67	509	6530	1225.37	495.143	7886.419	183.95	1041.42	4300	1737.53	36203.58	82.94	33.51	1387.22	16.17	6.53	437.41	4088	1651.86	29914.38	0	0.00	0.00
34	0.910	1.96	517	7370	1232.21	568.501	8454.920	226.20	1006.01	4800	2214.56	38418.14	84.85	39.15	1426.37	17.57	8.11	445.52	5414	2497.84	32412.22	0	0.00	0.00
35	0.796	2.16	521	4080	669.00	269.988	8724.908	78.00	591.00	2000	807.14	39225.28	56.47	22.79	1449.16	7.67	3.10	448.62	2101	847.90	33260.12	0	0.00	0.00
36	0.753	2.07	520	5040	475.00	181.340	8906.248	101.40	373.60	2600	992.60	40217.88	44.16	16.86	1466.02	7.41	2.83	451.45	2516	960.53	34220.65	0	0.00	0.00
37	0.803	2.14	525	4250	632.59	257.539	9163.787	76.70	555.89	2600	1058.51	41276.39	45.57	18.55	1484.57	7.09	2.89	454.34	2086	849.25	35069.90	0	0.00	0.00
38	0.811	1.93	525	6730	1390.69	571.816	9735.603	188.50	1202.19	2840	1167.73	42444.12	87.72	36.07	1520.64	15.61	6.42	460.76	4303	1769.28	36839.18	0	0.00	0.00
39	0.769	1.87	530	5910	861.76	335.983	10071.586	143.00	718.76	3210	1251.52	43695.64	55.32	21.57	1542.21	8.76	3.42	464.18	3380	1317.80	38156.98	0	0.00	0.00
40	0.771	2.06	534	4940	848.82	331.799	10403.385	100.10	748.72	2560	1000.69	44696.33	59.06	23.09	1565.30	9.09	3.55	467.73	2711	1059.72	39216.69	0	0.00	0.00
41	0.728	2.05	527	4900	844.00	311.515	10714.900	94.90	749.10	1970	727.11	45423.44	68.48	25.28	1590.58	9.35	3.45	471.18	2567	947.46	40164.15	0	0.00	0.00
42	0.745	1.77	528	5760	895.63	338.291	11053.191	120.90	774.73	3450	1303.11	46726.55	62.23	23.51	1614.09	9.89	3.74	474.92	3492	1318.97	41483.13	0	0.00	0.00
43	0.746	1.79	526	5640	1203.41	455.153	11508.344	118.30	1085.11	2920	1104.40	47830.95	75.85	28.69	1642.78	11.67	4.41	479.33	3497	1322.63	42805.76	0	0.00	0.00
44	0.700	2.06	528	5000	954.62	338.792	11847.136	97.50	857.12	2330	826.91	48657.86	62.75	22.27	1665.05	9.54	3.39	482.72	2967	1052.98	43858.74	0	0.00	0.00
45	0.769	2.27	533	5150	1047.00	408.205	12255.341	87.10	959.90	2914	1136.11	49793.97	68.61	26.75	1691.80	10.02	3.91	486.63	3167	1234.75	45093.49	0	0.00	0.00

Exceeds Oregon
GW Quality Guideline

Appendix D1
HCT Summary Table

HCT - 3
CAL-003 (675-685)
Mudstone

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.761	2.05	541	5030	1026.00	395.856	12651.197	75.40	950.60	3029	1168.66	50962.63	63.14	24.36	1716.16	8.71	3.36	489.99	3218	1241.58	46335.07	0	0.00	0.00
47	0.796	2.05	552	5270	1259.00	508.094	13159.291	70.20	1188.80	3897	1572.71	52535.34	83.80	33.82	1749.98	11.00	4.44	494.43	3387	1366.89	47701.96	0	0.00	0.00
48	0.761	2.14	534	4300	693.00	267.376	13426.667	53.00	640.00	2325	897.04	53432.38	61.16	23.60	1773.58	5.95	2.30	496.73	2413	930.99	48632.96	0	0.00	0.00
49	0.761	2.09	537	4860	854.15	329.552	13756.219	55.90	798.25	3541	1366.20	54798.58	62.73	24.20	1797.78	6.94	2.68	499.41	2808	1083.40	49716.35	0	0.00	0.00
50	0.765	2.37	552	4550	679.16	263.414	14019.633	54.60	624.56	2808	1089.09	55887.67	52.55	20.38	1818.16	5.73	2.22	501.63	2584	1002.21	50718.56	0	0.00	0.00
51	0.756	2.11	543	4870	893.98	342.653	14362.286	53.30	840.68	2665	1021.47	56909.14	75.09	28.78	1846.94	7.16	2.74	504.37	2625	1006.14	51724.70	0	0.00	0.00
52	0.775	2.11	548	4660	1011.12	397.292	14759.578	71.50	939.62	2388	938.30	57847.44	92.20	36.23	1883.17	7.88	3.10	507.47	2662	1045.96	52770.66	0	0.00	0.00
53	0.712	2.12	540	4490	938.03	338.612	15098.190	71.50	866.53	2757	995.23	58842.67	93.03	33.58	1916.75	7.25	2.62	510.09	2367	854.44	53625.10	0	0.00	0.00
54	0.772	2.11	556	4330	802.75	314.197	15412.387	50.70	752.05	2855	1117.45	59960.12	77.67	30.40	1947.15	6.38	2.50	512.59	2409	942.89	54567.99	0	0.00	0.00
55	0.804	2.12	561	4420	772.85	315.033	15727.420	50.05	722.80	1940	790.79	60750.91	78.72	32.09	1979.24	5.51	2.25	514.84	2326	948.14	55516.12	0	0.00	0.00
56	0.808	2.13	563	4350	799.15	327.374	16054.794	49.40	749.75	2623	1074.52	61825.43	83.78	34.32	2013.56	5.33	2.18	517.02	2287	936.88	56453.00	0	0.00	0.00
57	0.751	2.16	565	3970	641.30	244.178	16298.972	40.95	600.35	2544	968.64	62794.07	67.55	25.72	2039.28	5.02	1.91	518.93	1994	759.22	57212.22	0	0.00	0.00
58	0.805	2.17	571	3700	517.24	211.102	16510.074	34.45	482.79	2001	816.67	63610.74	62.70	25.59	2064.87	3.85	1.57	520.50	1765	720.35	57932.58	0	0.00	0.00
59	0.809	2.21	573	3460	554.12	227.278	16737.352	25.35	528.77	1687	691.94	64302.68	69.71	28.59	2093.46	3.91	1.60	522.10	1569	643.54	58576.12	0	0.00	0.00
60	0.817	2.16	572	3740	570.44	236.285	16973.637	33.15	537.29	2158	893.88	65196.56	71.75	29.72	2123.18	4.10	1.70	523.80	1773	734.41	59310.52	0	0.00	0.00
61	0.817	2.17	576	3620	462.55	191.596	17165.233	25.35	437.20	2032	841.69	66038.25	64.16	26.58	2149.76	3.33	1.38	525.18	1648	682.63	59993.15	0	0.00	0.00
62	0.759	2.19	575	3540	435.94	167.754	17332.987	24.70	411.24	1704	655.72	66693.97	60.52	23.29	2173.05	2.98	1.15	526.33	1534	590.30	60583.45	0	0.00	0.00
63	0.815	2.17	577	3570	491.86	203.238	17536.225	23.40	468.46	1636	676.00	67369.97	63.00	26.03	2199.08	3.19	1.32	527.65	1587	655.75	61239.20	0	0.00	0.00
64	0.805	2.18	573	3470	561.42	229.134	17765.359	22.75	538.67	1509	615.87	67985.84	81.91	33.43	2232.51	3.15	1.29	528.94	1463	597.10	61836.30	0	0.00	0.00
65	0.767	2.20	572	3410	344.22	133.856	17899.215	18.85	325.37	1496	581.74	68567.58	58.47	22.74	2255.25	2.10	0.82	529.76	1376	535.08	62371.38	0	0.00	0.00
66	0.807	2.25	580	3050	310.60	127.081	18026.296	14.95	295.65	1310	535.98	69103.56	54.30	22.22	2277.47	2.27	0.93	530.69	1135	464.38	62835.76	0	0.00	0.00
67	0.775	2.26	573	3000	297.31	116.820	18143.116	14.56	282.75	1227	482.12	69585.68	49.24	19.35	2296.82	1.99	0.78	531.47	1112	436.93	63272.69	0	0.00	0.00
68	0.758	2.25	575	2970	252.37	96.987	18240.103	13.13	239.24	1164	447.33	70033.01	49.53	19.03	2315.85	1.61	0.62	532.09	1097	421.58	63694.27	0	0.00	0.00
69	0.765	2.27	579	2850	279.08	108.242	18348.345	11.83	267.25	1107	429.35	70462.36	58.16	22.56	2338.41	1.85	0.72	532.81	1029	399.10	64093.37	0	0.00	0.00
70	0.733	2.32	573	2490	203.47	75.615	18423.960	15.99	187.48	906	336.70	70799.06	39.23	14.58	2352.99	1.28	0.48	533.29	875	325.18	64418.54	0	0.00	0.00
71	0.737	2.29	574	2600	232.94	87.040	18511.000	14.69	218.25	913	340.96	71140.02	48.86	18.26	2371.25	1.52	0.57	533.86	883	329.94	64748.48	0	0.00	0.00
72	0.752	2.30	578	2600	190.71	72.710	18583.710	8.97	181.74	936	356.86	71496.88	52.54	20.03	2391.28	1.47	0.56	534.42	873	332.84	65081.32	0	0.00	0.00
73	0.581	2.34	555	2410	270.21	79.594	18663.304	23.92	246.29	1103	324.91	71821.79	65.45	19.28	2410.56	1.91	0.56	534.98	952	280.43	65361.75	0	0.00	0.00
74	0.607	2.26	562	2760	307.23	94.549	18757.853	21.71	285.52	1304	401.30	72223.09	62.77	19.32	2429.88	2.11	0.65	535.63	1107	340.68	65702.43	0	0.00	0.00
75	0.712	2.28	579	2770	234.00	84.470	18842.323	13.52	220.48	1033	372.89	72595.98	59.77	21.58	2451.46	1.81	0.65	536.28	927	334.63	66037.06	0	0.00	0.00
76	0.675	2.34	583	2470	219.09	74.978	18917.301	11.31	207.78	804	275.15	72871.13	53.00	18.14	2469.60	1.67	0.57	536.85	777	265.91	66302.96	0	0.00	0.00
77	0.765	2.28	585	2920	223.67	86.751	19004.052	7.28	216.39	959	371.95	73243.08	54.10	20.98	2490.58	1.50	0.58	537.43	922	357.60	66660.56	0	0.00	0.00
78	0.723	2.24	586	3010	212.95	78.059	19082.111	10.66	202.29	1770	648.81	73891.89	48.32	17.71	2508.29	1.49	0.55	537.98	954	349.70	67010.26	0	0.00	0.00
79	0.701	2.24	575	3080	203.80	72.431	19154.542	6.76	197.04	964	342.61	74234.50	50.29	17.87	2526.16	1.36	0.48	538.46	931	330.88	67341.14	0	0.00	0.00
80	0.772	2.33	585	2570	139.00	54.405	19208.947	6.37	132.63	779	304.90	74539.40	39.04	15.28	2541.44	0.49	0.19	538.65	731	286.11	67627.26	0	0.00	0.00
81	0.786	2.30	586	2730	143.44	57.161	19266.108	7.15	136.29	837	333.54	74872.94	39.19	15.62	2557.06	1.05	0.42	539.07	771	307.24	67934.50	0	0.00	0.00
82	0.732	2.30	575	2640	153.36	56.915	19323.023	5.07	148.29	898	333.27	75206.21	42.91	15.92	2572.98	1.14	0.42	539.49	740	274.63	68209.13	0	0.00	0.00
83	0.705	2.32	574	2640	120.49	43.067	19366.090	4.30	116.19	984	351.71	75557.92	36.10	12.90	2585.88	1.00	0.36	539.85	685	244.84	68453.97	0	0.00	0.00
84	0.672	2.30	564	2620	141.10	48.073	19414.163	8.45	132.65	911	310.21	75868.13	39.00	13.29	2599.17	1.10	0.37	540.22	711	242.24	68696.21	0	0.00	0.00
85	0.684	2.30	566	2620	132.82	46.060	19460.223	5.07	127.75	894	309.85	76177.98	42.00	14.56	2613.73	1.20	0.42	540.64	690	239.42	68935.63	0	0.00	0.00
86	0.714	2.31	571	2580	124.49	45.065	19505.288	4.55	119.94	835	302.09	76480.07	37.00	13.39	2627.12	1.20	0.43	541.07	659	238.71	69174.34	0	0.00	0.00
87	0.671	2.29	545	2520	132.86	45.198	19550.486	13.00	119.86	834	283.55	76763.62	40.00	13.61	2640.73	1.30	0.44	541.51	660	224.53	69398.87	0	0.00	0.00

Exceeds Oregon
GW Quality Guideline

Appendix D1
HCT Summary Table

HCT - 3
CAL-003 (675-685)
Mudstone

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
Oregon Water Quality Guideline							*0.05*	*1*				*0.01*		*250*	*0.05*		*1*	*4*				*0.3*	*0.05*			*0.05*	*0.002*		
0	1.010	<2	<2	<2	262	0.105	7.25	<0.03	0.1208	<0.4	<0.1	0.0690	509	4.5	<0.1	7.90	5.60	20.0	<1	2370	<2	1250.0	1.740	0.390	266	1.360	<0.0002	0.8	7.310
1	0.932	42.1	<3	42.1	214	0.015	2.27	0.040	0.0625	<0.2	<0.05	0.0565	481	0.5	0.08	5.88	2.06	15.0	<0.5	2030	<3	1240.0	0.349	0.27	201	1.080	<0.0002	0.2	5.520
2	0.560	<2	<2	<2	126	0.009	2.82	0.034	0.0309	0.07	<0.01	0.0344	408	0.6	0.08	3.54	0.74	10.0	0.1	1540	<2	865.0	0.181	0.131	126	0.634	<0.0002	0.12	3.240
3	0.847																												
4	0.884	<2	<2	<2	3.64	0.0014	0.08	<0.003	0.00164	<0.04	<0.01	0.0015	56.2	<0.5	<0.01	0.18	0.10	0.5	<0.1	167	<2	41.5	0.008	<0.008	6.4	0.034	<0.0002	<0.02	0.164
5	0.857																												
6	0.855																												
7	0.866																												
8	0.829	<2	<2	<2	4.12	0.0013	0.11	0.005	0.00226	<0.04	0.12	0.0016	46.3	<0.5	<0.01	0.17	0.12	0.5	<0.1	139	<2	46.4	0.003	<0.008	5.7	0.039	0.000	0.03	0.159
9	0.797																												
10	0.828																												
11	0.821																												
12	0.828	<2	<2	<2	8.78	0.002	0.19	<0.003	0.0046	<0.04	<0.01	0.0024	48.2	<0.5	<0.01	0.25	0.30	<20	<0.1	152	<2	79.3	0.001	<0.008	7.8	0.067	<0.0002	0.04	0.243
13	0.824																												
14	0.838																												
15	0.797																												
16	0.800	<2	<2	<2	26.4	0.0031	1.79	<0.003	0.00755	<0.04	<0.01	0.0043	48.1	<0.5	<0.01	0.42	0.81	10.0	<0.1	164	<2	294.0	0.003	<0.008	10.7	0.208	0.000	0.25	0.4
17	0.797																												
18	0.760																												
19	0.807																												
20	0.852	<2	<2	<2	12.7	0.001	1.65	<0.003	0.0023	<0.04	<0.01	0.0017	13.7	<0.5	<0.01	0.17	0.36	<20	<0.1	50	<2	178.0	0.003	<0.008	3.9	0.109	<0.0002	0.16	0.168
21	0.784																												
22	0.870																												
23	0.884																												
24	0.788	<2	<2	<2	41.9	0.0042	7.19	<0.006	0.0077	<0.08	<0.02	0.0053	55.1	1.0	<0.02	0.50	1.21	<10	0.2	181	<2	749.0	0.002	<0.02	10.6	0.420	<0.0002	0.62	0.530
25	0.790																												
26	0.787																												
27	0.845																												
28	0.885	<2	<2	<2	59.5	0.0060	9.99	<0.02	0.0107	<0.2	<0.05	0.0072	63.2	0.6	<0.05	0.74	1.73	<20	<0.5	220	<2	1170.0	0.001	<0.04	15	0.650	<0.0002	0.8	0.690
29	0.949																												
30	0.825																												
31	0.844																												
32	0.783	<2	<2	<2	56.9	0.005	9.64	<0.02	0.01062	<0.2	<0.05	0.0068	71.4	0.6	<0.05	0.64	1.61	<40	<0.5	232	<2	1170.0	0.001	<0.04	13	0.650	<0.0002	0.7	0.670
33	0.797																												
34	0.910																												
35	0.796																												
36	0.753	<2	<2	<2	33.2	0.0041	5.18	0.007	0.007	<0.08	<0.02	0.0039	53.1	0.8	<0.02	0.36	0.95	<20	<0.2	163	<2	718.0	0.001	<0.02	7.4	0.420	0.0002	0.41	0.390
37	0.803																												
38	0.811																												
39	0.769																												
40	0.771	<2	<2	<2	34.5	0.0044	5.16	<0.006	0.005	<0.08	<0.02	0.0038	54.2	0.7	<0.02	0.37	0.91	<10	<0.2	164	<2	749.0	0.001	<0.02	7	0.440	<0.0002	0.41	0.36
41	0.728																												
42	0.745																												
43	0.746																												
44	0.700	<2	<2	<2	39.70	<0.02	6.30	<0.006	0.0055	0.1	<0.02	0.0042	60.8	<0.5	<0.02	0.38	0.97	<20	<0.2	181	<2	872.0	0.001	<0.02	7.2	0.490	0.001	0.47	0.340
45	0.769																												

Exceeds Oregon GW Quality Guideline

HCT - 3
CAL-003 (675-685)
Mudstone

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
46	0.761																												
47	0.796																												
48	0.761	<2	<2	<2	32.3	0.0047	4.00	<0.006	0.005	0.08	<0.02	0.0034	58.5	<0.5	<0.02	0.29	0.74	<10	<0.2	165	<2	709.0	0.002	<0.02	4.7	0.390	<0.0002	0.39	0.24
49	0.761																												
50	0.765																												
51	0.756																												
52	0.775	<2	<2	<2	35.8	0.0044	4.61	<0.006	0.0056	<0.08	<0.02	0.0035	65	0.7	0.04	0.26	0.74	<20	<0.2	183	<2	753.0	0.001	<0.02	5.1	0.410	0.001	0.41	0.230
53	0.712																												
54	0.772																												
55	0.804																												
56	0.808	<2	<2	<2	33.2	0.0045	3.35	<0.006	0.0047	<0.08	<0.02	0.0030	71.1	0.8	0.04	0.22	0.62	<20	<0.2	195	<2	631.0	0.001	<0.02	4.3	0.380	0.001	0.41	0.240
57	0.751																												
58	0.805																												
59	0.809																												
60	0.817	<2	<2	<2	24.3	0.0042	1.92	<0.006	0.0032	<0.08	<0.02	0.0023	62.2	<0.5	<0.02	0.17	0.44	<20	<0.2	168	<2	500.0	0.001	<0.02	3	0.280	0.001	0.35	0.170
61	0.817																												
62	0.759																												
63	0.815																												
64	0.805	<2	<2	<2	18	0.003	1.03	0.005	0.00325	<0.04	<0.02	0.0017	52.3	0.5	<0.02	0.11	0.30	<4	<0.2	139.0	<2	344.0	0.001	<0.02	2	0.200	0.001	0.27	0.110
65	0.767																												
66	0.807																												
67	0.775																												
68	0.758	<2	<2	<2	14.8	0.0035	0.69	<0.003	0.00226	<0.04	<0.01	0.0014	49.8	<0.5	<0.01	0.08	0.24	<10	<0.1	131	<2	267.0	0.001	<0.008	1.7	0.167	0.001	0.21	0.082
69	0.765																												
70	0.733																												
71	0.737																												
72	0.752	<2	<2	<2	12.8	0.0030	0.48	<0.003	0.00238	<0.04	<0.01	0.0012	46.5	<0.5	<0.01	0.07	0.19	<2	<0.1	121	<2	192.0	0.001	<0.008	1.2	0.134	0.001	0.16	0.061
73	0.581																												
74	0.607																												
75	0.712																												
76	0.675	<2	<2	<2	13.90	0.0026	0.42	0.004	0.00269	<0.04	<0.01	0.0011	43	<0.5	<0.01	0.05	0.16	<4	<0.1	112	<2	162.0	0.001	<0.008	1.2	0.128	0.0004	0.15	0.058
77	0.765																												
78	0.723																												
79	0.701																												
80	0.772	<2	<2	<2	12.2	0.0026	0.27	<0.003	0.00257	<0.04	<0.01	0.0010	39.6	<0.5	<0.01	0.04	0.13	<10	<0.1	103	<2	137.0	0.001	<0.008	1	0.105	0.003	0.15	0.046
81	0.786																												
82	0.732																												
83	0.705																												
84	0.672	<2	<2	<2	12.8	0.0027	0.24	<0.003	0.00233	<0.04	<0.01	0.0010	37.1	<0.5	<0.01	0.04	0.11	<10	<0.1	96	<2	127.0	0.001	<0.008	0.8	0.094	0.001	0.14	0.040
85	0.684																												
86	0.714																												
87	0.671																												

Exceeds Oregon
GW Quality Guideline

Appendix D1
HCT Summary Table

HCT - 3
CAL-003 (675-685)
Mudstone

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
Oregon Water Quality Guideline		*10*		*6.5 - 8.5*				*0.01*	*0.05*			*250*				*500*			*5*					
0	1.010	0.100	1.25	2.2	14.5	106	<1	0.2190	<0.1	135	10.000	6420.0	0.071	<0.4	0.07	10700	0.191	0.09	7.00	8250	152.0	136	5.6	L27933
1	0.932	0.110	0.86	2.6	2.8	76	<0.5	0.1044	<0.05	95	8.19	5010.0	0.0485	<0.2	0.03	9230	0.0591	0.11	5.88	6630	137	107	12.3	L28066
2	0.560	0.100	0.29	2.7	2.1	55.7	<0.1	0.0378	0.0300	56.3	5.59	3970.0	0.0375	<0.04	<0.005	6730	0.0305	0.091	3.93	5080	95	84	6.1	L28230
3	0.847																							
4	0.884	0.180	0.14	3.2	0.04	6.3	<0.1	0.0014	<0.01	2.9	0.48	278.0	0.004	<0.04	0.005	444	0.0013	<0.005	0.27	697	6.3	5.9	3.3	L28324
5	0.857																							
6	0.855																							
7	0.866																							
8	0.829	0.060	0.07	3	0.07	5.3	<0.1	0.0007	<0.01	2.4	0.471	271.0	0.0036	<0.04	0.007	504	0.0019	0.008	0.27	852	6	5.7	2.6	L28657
9	0.797																							
10	0.828																							
11	0.821																							
12	0.828	0.050	<0.05	2.6	0.13	5.1	<0.1	0.0006	<0.01	2.2	0.505	452.0	0.0043	<0.04	<0.005	1240	0.0056	<0.005	0.35	1410	8.5	9.5	-5.6	L29021
13	0.824																							
14	0.838																							
15	0.797																							
16	0.800	0.040	<0.05	2.3	2.1	3.3	<0.1	0.0038	<0.01	2	0.668	1160.0	0.0049	<0.04	<0.005	1680	0.0144	0.011	0.57	3210	22	25	-6.4	L29484
17	0.797																							
18	0.760																							
19	0.807																							
20	0.852	<0.02	<0.05	2.4	1.64	0.8	<0.1	0.0033	<0.01	0.7	0.197	464.0	0.0012	<0.04	<0.005	824	0.0043	<0.005	0.24	2030	12	9.7	10.6	L29914
21	0.784																							
22	0.870																							
23	0.884																							
24	0.788	0.100	<0.05	2	6.3	0.9	<0.2	0.0162	<0.02	1.5	0.630	2040.0	0.0026	<0.08	<0.01	3770	0.0136	0.02	0.74	5540	48.0	43	5.5	L30419
25	0.790																							
26	0.787																							
27	0.845																							
28	0.885	<0.02	<0.05	1.9	8.5	2	<0.5	0.0200	<0.05	2	0.75	3950.0	0.002	<0.2	<0.03	5060	0.0173	0.06	1.03	6760	73	83	-6.4	L30908
29	0.949																							
30	0.825																							
31	0.844																							
32	0.783	0.040	<0.05	1.9	6.5	<1	<0.5	0.0181	<0.05	2	0.69	3680.0	0.0015	<0.2	<0.03	4860	0.0145	0.04	0.98	6760	73	77	-2.7	L31481
33	0.797																							
34	0.910																							
35	0.796																							
36	0.753	<0.02	<0.05	2	3.6	0.5	<0.2	0.0131	0.0200	0.7	0.41	2040.0	0.0011	<0.08	<0.01	3160	0.0083	0.02	0.61	5000	45	43	2.3	L32131
37	0.803																							
38	0.811																							
39	0.769																							
40	0.771	0.020	0.1	2.1	3.7	<0.4	<0.2	0.0127	<0.02	<0.4	0.35	2270.0	0.0006	<0.08	<0.01	3490	0.0081	0.02	0.61	4840	47	48	-1.1	L32682
41	0.728																							
42	0.745																							
43	0.746																							
44	0.700	0.020	0.06	2.0	4.6	<0.4	<0.2	0.0165	<0.02	<0.4	0.39	2510.0	0.0008	<0.08	<0.01	3920	0.0086	<0.01	0.68	4800	54.0	53	0.9	L33233
45	0.769																							

Exceeds Oregon
GW Quality Guideline

HCT - 3
CAL-003 (675-685)
Mudstone

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
46	0.761																							
47	0.796																							
48	0.761	0.520	0.19	2.1	3.1	<0.4	<0.2	0.0125	0.0300	<0.4	0.26	2130.0	0.0007	<0.08	<0.01	3250	0.0073	<0.01	0.58	4170	45	45	0	L33820
49	0.761																							
50	0.765																							
51	0.756																							
52	0.775	0.050	<0.05	2.1	2.9	<0.4	<0.2	0.0113	<0.02	<0.4	0.22	2190.0	0.0004	<0.08	<0.01	3540	0.0073	<0.01	0.59	4470	48	46.0	2.1	L34366
53	0.712																							
54	0.772																							
55	0.804																							
56	0.808	0.030	<0.05	2.0	2.2	<0.4	<0.2	0.0092	<0.02	<0.4	0.160	1950.0	0.0003	<0.08	<0.01	2990	0.0069	<0.01	0.60	4150	41.000	41	0.0	L34779
57	0.751																							
58	0.805																							
59	0.809																							
60	0.817	0.050	<0.05	2.3	1.2	<0.4	<0.2	0.0065	<0.02	<0.4	0.11	1570.0	<0.0002	<0.08	<0.01	2270	0.0061	<0.01	0.47	3610	33	33	0.0	L35145
61	0.817																							
62	0.759																							
63	0.815																							
64	0.805	0.070	<0.05	2.2	0.83	<0.4	<0.2	0.0044	0.0400	<0.4	0.09	1300.0	<0.0002	<0.08	<0.01	1830	0.005	0.01	0.39	3300	23	27	-8.0	L35597
65	0.767																							
66	0.807																							
67	0.775																							
68	0.758	<0.02	<0.05	2.2	0.45	0.2	<0.1	0.0031	0.0300	<0.2	0.055	976.0	0.0002	<0.04	<0.005	1320	0.0038	<0.005	0.35	2800	19	21	-5	L36030
69	0.765																							
70	0.733																							
71	0.737																							
72	0.752	0.050	<0.05	2.2	0.28	<0.2	<0.1	0.0024	<0.01	<0.2	0.039	783.0	0.0003	<0.04	<0.005	1070	0.0035	<0.005	0.30	2530	14	16	-6.7	L36586
73	0.581																							
74	0.607																							
75	0.712																							
76	0.675	0.020	<0.05	2.3	0.26	0.3	<0.1	0.0022	<0.01	<0.2	0.033	626.0	0.0002	<0.04	<0.005	988	0.0043	0.008	0.31	2450	12	13	-4	L37089
77	0.765																							
78	0.723																							
79	0.701																							
80	0.772	0.020	<0.05	2.3	0.18	<0.2	<0.1	0.0017	<0.01	<0.2	0.029	633.0	0.0001	<0.04	<0.005	852	0.0042	0.006	0.29	2260	11	13	-8.3	L37686
81	0.786																							
82	0.732																							
83	0.705																							
84	0.672	0.030	<0.05	2.3	0.14	0.2	<0.1	0.0015	<0.01	<0.2	0.021	599.0	0.0002	<0.04	<0.005	844	0.0044	<0.005	0.29	2210	10	13	-13.0	L38237
85	0.684																							
86	0.714																							
87	0.671																							

Exceeds Oregon
GW Quality Guideline

HCT - 4
GMC-012 (832-851)
Mudstone

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCI)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2+} mg/l	Fe^{3+} mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
Oregon Water Quality Guideline										*250*														
0	0.988	2.14	468	5100	350.68	233.881	233.881	112.00	238.68	2936	1958.13	1958.13	214.17	142.84	142.84	53.69	35.81	35.81	2811	1874.76	1874.76	0	0.00	0.00
1	0.656	2.25	427	4770	209.30	92.683	326.564	34.64	174.66	3600	1594.17	3552.30	156.50	69.30	212.14	42.60	18.86	54.67	2303	1019.82	2894.58	0	0.00	0.00
2	0.566	2.37	436	3910	141.70	54.139	380.703	28.82	112.88	2900	1108.01	4660.31	182.10	69.58	281.72	34.00	12.99	67.66	1576	602.14	3496.73	0	0.00	0.00
3	0.606	2.52	485	2700	74.10	30.312	411.015	20.66	53.44	1400	572.70	5233.01	177.80	72.73	354.45	24.50	10.02	77.68	800	327.26	3823.99	0	0.00	0.00
4	0.622	2.74	504	1607	62.40	26.200	437.215	8.77	53.63	540	226.73	5459.74	103.70	43.54	397.99	8.70	3.65	81.33	384	161.23	3985.22	0	0.00	0.00
5	0.614	2.77	535	1554	62.40	25.863	463.078	35.10	27.30	580	240.39	5700.13	95.59	39.62	437.61	6.04	2.50	83.83	298	123.51	4108.73	0	0.00	0.00
6	0.640	2.78	531	1318	59.27	25.606	488.684	32.50	26.77	640	276.50	5976.63	64.67	27.94	465.55	3.20	1.38	85.21	230	99.37	4208.09	0	0.00	0.00
7	0.647	2.70	436	1446	41.65	18.191	506.875	35.75	5.90	460	200.90	6177.53	58.75	25.66	491.21	2.62	1.14	86.35	257	112.24	4320.34	0	0.00	0.00
8	0.585	2.63	546	1373	61.47	24.274	531.149	30.55	30.92	650	256.68	6434.21	89.19	35.22	526.43	3.27	1.29	87.64	272	107.41	4427.75	0	0.00	0.00
9	0.556	2.79	469	1339	39.00	14.638	545.787	34.54	4.46	450	168.89	6603.10	55.60	20.87	547.30	1.52	0.57	88.21	236	88.58	4516.33	0	0.00	0.00
10	0.614	2.72	421	1248	37.35	15.481	561.268	28.60	8.75	310	128.49	6731.59	42.58	17.65	564.95	1.39	0.58	88.79	231	95.74	4612.07	0	0.00	0.00
11	0.567	2.58	540	1113	37.57	14.380	575.648	26.00	11.57	280	107.17	6838.76	31.67	12.12	577.07	1.17	0.45	89.24	216	82.67	4694.74	0	0.00	0.00
12	0.608	2.71	459	1205	37.56	15.415	591.063	29.25	8.31	350	143.65	6982.41	24.89	10.22	587.29	0.99	0.41	89.65	226	92.76	4787.50	0	0.00	0.00
13	0.617	2.70	437	1192	47.37	19.730	610.793	27.95	19.42	370	154.10	7136.51	27.52	11.46	598.75	1.01	0.42	90.07	241	100.38	4887.87	0	0.00	0.00
14	0.604	2.72	437	1524	49.80	20.305	631.098	29.90	19.90	400	163.09	7299.60	25.11	10.24	608.99	0.99	0.40	90.47	331	134.96	5022.83	0	0.00	0.00
15	0.541	2.37	487	1440	54.49	19.899	650.997	29.90	24.59	350	127.82	7427.42	33.56	12.26	621.25	0.93	0.34	90.81	329	120.15	5142.98	0	0.00	0.00
16	0.580	2.56	453	1398	52.30	20.477	671.474	34.45	17.85	330	129.20	7556.62	21.94	8.59	629.84	0.82	0.32	91.13	330	129.20	5272.18	0	0.00	0.00
17	0.546	2.65	442	1453	33.64	12.399	683.873	38.35	-4.71	370	136.37	7692.99	4.22	1.56	631.40	1.14	0.42	91.55	339	124.95	5397.13	0	0.00	0.00
18	0.527	2.46	451	1928	85.21	30.313	714.186	52.00	33.21	560	199.22	7892.21	24.96	8.88	640.28	1.06	0.38	91.93	480	170.76	5567.88	0	0.00	0.00
19	0.599	2.37	464	2240	87.40	35.340	749.526	53.30	34.10	640	258.78	8150.99	21.06	8.52	648.80	0.91	0.37	92.30	590	238.57	5806.45	0	0.00	0.00
20	0.569	2.20	468	2830	120.94	46.453	795.979	67.60	53.34	750	288.07	8439.06	21.66	8.32	657.12	0.96	0.37	92.67	763	293.07	6099.51	0	0.00	0.00
21	0.583	2.18	473	3010	163.04	64.164	860.143	59.80	103.24	920	362.06	8801.12	21.35	8.40	665.52	0.99	0.39	93.06	910	358.13	6457.64	0	0.00	0.00
22	0.679	2.12	487	3390	204.03	93.517	953.660	68.25	135.78	1100	504.19	9305.31	16.96	7.77	673.29	0.83	0.38	93.44	1138	521.60	6979.24	0	0.00	0.00
23	0.677	2.15	499	3690	248.00	113.336	1066.996	76.05	171.95	1400	639.80	9945.11	14.49	6.62	679.91	0.65	0.30	93.74	1248	570.34	7549.58	0	0.00	0.00
24	0.524	2.17	482	3130	126.73	44.827	1111.823	73.45	53.28	1300	459.84	10404.95	7.94	2.81	682.72	0.49	0.17	93.91	971	343.46	7893.04	0	0.00	0.00
25	0.541	2.21	477	3100	145.79	53.242	1165.065	63.70	82.09	1200	438.23	10843.18	5.58	2.04	684.76	0.49	0.18	94.09	995	363.37	8256.41	0	0.00	0.00
26	0.567	2.21	477	2690	173.79	66.517	1231.582	65.00	108.79	1000	382.75	11225.93	5.56	2.13	686.89	0.49	0.19	94.28	879	336.43	8592.84	0	0.00	0.00
27	0.650	2.32	486	2570	108.00	47.388	1278.970	54.60	53.40	680	298.37	11524.30	2.96	1.30	688.19	0.49	0.21	94.49	778	341.37	8934.21	0	0.00	0.00
28	0.678	2.28	500	2520	127.76	58.473	1337.443	39.65	88.11	920	421.06	11945.36	2.54	1.16	689.35	0.49	0.22	94.71	820	375.29	9309.50	0	0.00	0.00
29	0.648	2.23	499	2730	175.62	76.820	1414.263	40.75	134.87	1100	481.17	12426.53	3.30	1.44	690.79	0.49	0.21	94.92	904	395.43	9704.94	0	0.00	0.00
30	0.603	2.23	495	2610	129.05	52.529	1466.792	41.60	87.45	910	370.41	12796.94	2.46	1.00	691.79	0.49	0.20	95.12	1002	407.86	10112.80	0	0.00	0.00
31	0.902	2.31	497	2060	118.01	71.854	1538.646	28.60	89.41	470	286.18	13083.12	1.56	0.95	692.74	0.49	0.30	95.42	660	401.86	10514.66	0	0.00	0.00
32	0.577	2.17	492	2360	165.78	64.571	1603.217	50.05	115.73	1100	428.45	13511.57	1.62	0.63	693.37	0.49	0.19	95.61	744	289.79	10804.44	0	0.00	0.00
33	0.553	2.00	483	2710	153.29	57.222	1660.439	60.45	92.84	960	358.36	13869.93	2.05	0.77	694.14	0.49	0.18	95.79	855	319.17	11123.61	0	0.00	0.00
34	0.716	2.31	498	2650	144.38	69.783	1730.222	52.65	91.73	720	348.00	14217.93	1.42	0.69	694.83	0.49	0.24	96.03	775	374.58	11498.19	0	0.00	0.00
35	0.591	2.48	490	1649	62.73	25.026	1755.248	25.35	37.38	310	123.67	14341.60	3.45	1.38	696.21	0.49	0.20	96.23	358	142.82	11641.01	0	0.00	0.00
36	0.553	2.41	489	2010	65.87	24.589	1779.837	36.40	29.47	400	149.32	14490.92	1.20	0.45	696.66	0.49	0.18	96.41	469	175.08	11816.09	0	0.00	0.00
37	0.621	2.43	488	1861	69.63	29.189	1809.026	38.35	31.28	580	243.13	14734.05	1.00	0.42	697.08	0.49	0.21	96.62	443	185.71	12001.79	0	0.00	0.00
38	0.650	2.40	499	1993	89.83	39.415	1848.441	37.05	52.78	511	224.21	14958.26	0.92	0.40	697.48	0.49	0.21	96.83	476	208.86	12210.65	0	0.00	0.00
39	0.615	2.25	498	2070	73.09	30.343	1878.784	31.20	41.89	451	187.23	15145.49	0.84	0.35	697.83	0.49	0.20	97.03	474	196.78	12407.43	0	0.00	0.00
40	0.603	2.49	491	1561	51.63	21.016	1899.800	26.00	25.63	280	113.97	15259.46	1.02	0.42	698.25	0.49	0.20	97.23	335	136.36	12543.79	0	0.00	0.00
41	0.625	2.49	483	1565	47.23	19.926	1919.726	27.30	19.93	345	145.55	15405.01	0.55	0.23	698.48	0.49	0.21	97.44	330	139.23	12683.02	0	0.00	0.00
42	0.627	2.33	483	1446	39.12	16.557	1936.283	20.80	18.32	184	77.96	15482.97	0.89	0.38	698.86	0.49	0.21	97.65	286	121.05	12804.07	0	0.00	0.00
43	0.637	2.41	485	1212	29.47	12.672	1948.955	15.60	13.87	182	78.26	15561.23	1.04	0.45	699.31	0.49	0.21	97.86	236	101.48	12905.55	0	0.00	0.00
44	0.574	2.66	481	1052	23.61	9.148	1958.103	15.60	8.01	123	47.66	15608.89	0.61	0.24	699.55	0.49	0.19	98.05	201	77.88	12983.43	0	0.00	0.00
45	0.626	2.72	477	1183	28.29	11.955	1970.058	18.20	10.09	156	65.92	15674.81	0.49	0.21	699.76	0.49	0.21	98.26	230	97.19	13080.62	0	0.00	0.00

Exceeds Oregon
GW Quality Guideline

HCT - 4
GMC-012 (832-851)
Mudstone

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2+} mg/l	Fe^{3+} mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.604	2.59	485	1170	25.03	10.205	1980.263	16.90	8.13	155	63.20	15738.01	0.49	0.20	699.96	0.49	0.20	98.46	231	94.18	13174.80	0	0.00	0.00
47	0.688	2.62	504	1115	23.80	11.053	1991.316	13.65	10.15	199	92.42	15830.43	0.57	0.26	700.22	0.49	0.23	98.69	218	101.25	13276.05	0	0.00	0.00
48	0.640	2.65	477	1057	17.20	7.431	1998.747	11.70	5.50	160	69.12	15899.55	0.58	0.25	700.47	0.49	0.21	98.90	183	79.06	13355.11	0	0.00	0.00
49	0.630	2.76	477	838	12.74	5.418	2004.165	9.75	2.99	115	48.91	15948.46	0.49	0.21	700.68	0.49	0.21	99.11	151	64.22	13419.33	0	0.00	0.00
50	0.601	2.87	477	654	11.70	4.747	2008.912	9.39	2.31	81	32.86	15981.32	0.49	0.20	700.88	0.49	0.20	99.31	117	47.47	13466.79	0	0.00	0.00
51	0.605	2.84	476	728	11.18	4.566	2013.478	9.36	1.82	87	35.53	16016.85	0.49	0.20	701.08	0.49	0.20	99.51	115	46.97	13513.76	0	0.00	0.00
52	0.578	2.94	471	559	8.11	3.164	2016.642	6.50	1.61	54	21.07	16037.92	0.49	0.19	701.27	0.49	0.19	99.70	91	35.51	13549.26	0	0.00	0.00
53	0.455	2.86	461	666	10.05	3.087	2019.729	7.41	2.64	94	28.87	16066.79	0.49	0.15	701.42	0.49	0.15	99.85	106	32.56	13581.82	0	0.00	0.00
54	0.678	2.99	462	481	6.06	2.774	2022.503	5.33	0.73	60	27.46	16094.25	0.49	0.22	701.64	0.49	0.22	100.07	96	43.94	13625.76	0	0.00	0.00
55	0.646	3.01	463	481	5.31	2.316	2024.819	4.81	0.50	52	22.68	16116.93	0.49	0.21	701.85	0.49	0.21	100.28	74	32.27	13658.03	0	0.00	0.00
56	0.655	3.09	476	427	5.37	2.374	2027.193	4.16	1.21	48	21.22	16138.15	0.49	0.22	702.07	0.49	0.22	100.50	67	29.62	13687.65	0	0.00	0.00
57	0.619	3.00	470	495	5.47	2.286	2029.479	4.94	0.53	61	25.49	16163.64	0.49	0.20	702.27	0.49	0.20	100.70	96	40.11	13727.76	0	0.00	0.00
58	0.692	2.88	478	627	7.31	3.415	2032.894	5.98	1.33	85	39.71	16203.35	0.49	0.23	702.50	0.49	0.23	100.93	98	45.78	13773.54	0	0.00	0.00
59	0.679	2.91	479	582	6.25	2.865	2035.759	5.20	1.05	81	37.13	16240.48	0.49	0.22	702.72	0.49	0.22	101.15	91	41.71	13815.25	0	0.00	0.00
60	0.690	2.92	475	550	5.82	2.711	2038.470	4.68	1.14	75	34.93	16275.41	0.49	0.23	702.95	0.49	0.23	101.38	83	38.66	13853.91	0	0.00	0.00
61	0.649	2.95	476	526	5.46	2.392	2040.862	4.81	0.65	72	31.54	16306.95	0.49	0.21	703.16	0.49	0.21	101.59	99	43.37	13897.28	0	0.00	0.00
62	0.623	3.10	468	395	4.30	1.808	2042.670	4.29	0.01	56	23.55	16330.50	0.49	0.21	703.37	0.49	0.21	101.80	93	39.11	13936.39	0	0.00	0.00
63	0.638	3.07	469	417	5.38	2.317	2044.987	4.94	0.44	51	21.96	16352.46	0.49	0.21	703.58	0.49	0.21	102.01	95	40.91	13977.31	0	0.00	0.00
64	0.695	2.89	473	611	7.65	3.589	2048.576	6.76	0.89	44	20.44	16372.90	0.49	0.23	703.81	0.49	0.23	102.24	93	43.63	14020.94	0	0.00	0.00
65	0.596	3.15	467	344	3.25	1.308	2049.884	3.08	0.17	50	20.00	16392.90	0.49	0.20	704.01	0.49	0.20	102.44	51	20.52	14041.46	0	0.00	0.00
66	0.630	3.07	466	431	4.82	2.050	2051.934	4.81	0.01	64	27.40	16420.30	0.49	0.21	704.22	0.49	0.21	102.65	65	27.64	14069.10	0	0.00	0.00
67	0.713	3.03	471	472	4.54	2.185	2054.119	4.42	0.12	70	33.69	16453.99	0.49	0.24	704.46	0.49	0.24	102.89	72	34.65	14103.75	0	0.00	0.00
68	0.531	3.11	463	386	3.77	1.351	2055.470	3.22	0.55	56	20.07	16474.06	0.49	0.18	704.64	0.49	0.18	103.07	95	34.05	14137.81	0	0.00	0.00
69	0.661	3.07	460	426	4.81	2.146	2057.616	4.65	0.16	61	27.22	16501.28	0.49	0.22	704.86	0.49	0.22	103.29	93	41.50	14179.30	0	0.00	0.00
70	0.660	3.00	458	489	5.80	2.584	2060.200	5.20	0.60	57	25.39	16526.67	0.49	0.22	705.08	0.49	0.22	103.51	95	42.33	14221.63	0	0.00	0.00
71	0.700	3.08	467	407	3.96	1.871	2062.071	3.77	0.19	60	28.35	16555.02	0.49	0.23	705.31	0.49	0.23	103.74	66	31.19	14252.82	0	0.00	0.00
72	0.640	3.06	458	427	4.55	1.966	2064.037	4.12	0.43	63	27.22	16582.24	0.49	0.21	705.52	0.49	0.21	103.95	69	29.81	14282.63	0	0.00	0.00
73	0.632	3.00	469	482	5.93	2.530	2066.567	5.46	0.47	63	26.88	16609.12	0.49	0.21	705.73	0.49	0.21	104.16	81	34.56	14317.18	0	0.00	0.00
74	0.680	3.09	468	385	4.41	2.024	2068.591	3.64	0.77	59	27.08	16636.20	0.49	0.22	705.95	0.49	0.22	104.38	66	30.30	14347.48	0	0.00	0.00
75	0.686	3.40	482	202	0.88	0.408	2068.999	0.74	0.14	28	12.97	16649.17	1.70	0.79	706.74	0.49	0.23	104.61	32	14.82	14362.30	0	0.00	0.00
76	0.761	3.28	488	264	1.63	0.837	2069.836	1.12	0.51	33	16.95	16666.12	0.83	0.43	707.17	0.49	0.25	104.86	42	21.58	14383.87	0	0.00	0.00
77	0.737	3.24	499	292	1.71	0.851	2070.687	0.99	0.72	34	16.92	16683.04	0.57	0.28	707.45	0.49	0.24	105.10	44	21.89	14405.76	0	0.00	0.00
78	0.740	3.11	498	390	2.69	1.344	2072.031	1.57	1.12	44	21.98	16705.02	0.49	0.24	707.69	0.49	0.24	105.34	58	28.97	14434.74	0	0.00	0.00
79	0.732	3.13	494	369	2.51	1.240	2073.271	1.59	0.92	49	24.21	16729.23	0.50	0.25	707.94	0.49	0.24	105.58	55	27.18	14461.91	0	0.00	0.00
80	0.744	3.18	502	341	1.98	0.994	2074.265	1.46	0.52	46	23.10	16752.33	0.49	0.25	708.19	0.49	0.25	105.83	53	26.62	14488.53	0	0.00	0.00
81	0.741	3.22	500	307	1.62	0.810	2075.075	1.07	0.55	40	20.01	16772.34	0.49	0.25	708.44	0.49	0.25	106.08	49	24.51	14513.04	0	0.00	0.00
82	0.770	3.30	488	246	1.21	0.629	2075.704	0.85	0.36	36	18.71	16791.05	0.49	0.25	708.69	0.49	0.25	106.33	38	19.75	14532.79	0	0.00	0.00
83	0.715	3.36	506	231	0.74	0.357	2076.061	0.27	0.47	31	14.96	16806.01	0.49	0.24	708.93	0.49	0.24	106.57	34	16.41	14549.20	0	0.00	0.00
84	0.742	3.30	500	254	0.90	0.451	2076.512	0.47	0.43	48	24.04	16830.05	0.49	0.25	709.18	0.49	0.25	106.82	38	18.82	14568.03	0	0.00	0.00
85	0.740	3.19	509	302	1.09	0.544	2077.056	0.52	0.57	44	22.09	16852.14	0.49	0.24	709.42	0.49	0.24	107.06	61	30.47	14598.50	0	0.00	0.00
86	0.740	3.11	511	360	2.24	1.119	2078.175	0.65	1.59	52	25.98	16878.12	0.49	0.24	709.66	0.49	0.24	107.30	54	26.79	14625.29	0	0.00	0.00
87	0.742	3.18	507	298	0.90	0.451	2078.626	0.46	0.44	44	22.04	16900.16	0.49	0.25	709.91	0.49	0.25	107.55	45	22.54	14647.83	0	0.00	0.00

Exceeds Oregon
GW Quality Guideline

Appendix D1
HCT Summary Table

HCT - 4
GMC-012 (832-851)
Mudstone

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
Oregon Water Quality Guideline							*0.05*	*1*				*0.01*		*250*	*0.05*		*1*	*4*				*0.3*	*0.05*			*0.05*	*0.002*		
0	0.988	<2	<2	<2	185	0.0147	1.980	0.040	0.0146	<0.4	0.1	0.0195	205	0.6	0.30	1.80	8.50	<10	<1	710	<2	323	0.014	0.110	48	1.950	<0.0002	0.2	2.200
1	0.656	<2	<2	<2	202	0.0022	0.906	<0.03	0.0159	<0.4	<0.1	0.0197	189	1.5	0.30	1.9	7.20	<10	<1	661	<2	417	0.005	0.15	46	2.170	<0.0002	<0.2	2.350
2	0.566	<2	<2	<2	129	0.0015	0.574	0.040	0.0106	<0.4	<0.1	0.0152	188	1.7	0.30	1.2	4.60	0.1	<1	597	<2	270	0.002	0.12	31	1.470	<0.0002	<0.2	1.590
3	0.606																												
4	0.622	<2	<2	<2	29.6	0.0009	0.139	<0.003	0.0026	<0.04	<0.01	0.0035	93.8	1.4	0.03	0.29	1.06	0.4	<0.1	265	<2	75.5	0.001	<0.008	7.5	0.374	<0.0002	<0.02	0.387
5	0.614																												
6	0.640																												
7	0.647																												
8	0.585	<2	<2	<2	10.2	0.0011	0.128	0.004	0.00095	<0.04	0.12	0.0013	61.2	5.6	0.02	0.09	0.42	<0.5	<0.1	162	<2	44.2	0.002	<0.008	2.2	0.159	0.000	<0.02	0.135
9	0.556																												
10	0.614																												
11	0.567																												
12	0.608	<2	<2	<2	4.69	0.0009	0.121	<0.003	0.00055	<0.04	<0.01	0.0007	26.9	3.0	0.01	0.05	0.23	<10	<0.1	71	<2	38.7	0.001	<0.008	0.9	0.097	<0.0002	<0.02	0.074
13	0.617																												
14	0.604																												
15	0.541																												
16	0.580	<2	<2	<2	6.19	0.0009	0.115	<0.003	0.00063	<0.04	<0.01	0.0008	22.3	1.3	0.01	0.05	0.26	0.2	<0.1	59	<2	51.5	0.001	<0.008	0.8	0.142	0.000	<0.02	0.082
17	0.546																												
18	0.527																												
19	0.599																												
20	0.569	<2	<2	<2	18.6	0.0013	0.214	<0.003	0.00106	<0.04	<0.01	0.0016	22.9	<0.5	0.03	0.09	0.54	<20	<0.1	61	<2	124.0	0.004	<0.008	0.9	0.369	<0.0002	0.03	0.169
21	0.583																												
22	0.679																												
23	0.677																												
24	0.524	<2	<2	<2	19.7	0.0014	0.319	<0.003	0.00132	<0.04	0.02	0.0015	9.5	0.7	0.05	0.07	0.46	<10	<0.1	25	<2	166.0	0.003	<0.008	0.3	0.460	<0.0002	0.03	0.163
25	0.541																												
26	0.567																												
27	0.650																												
28	0.678	<2	<2	<2	15.9	0.0012	0.228	0.004	0.00112	<0.04	<0.01	0.0011	2.9	0.7	0.04	0.05	0.28	<10	<0.1	8.1	<2	146.0	0.001	<0.008	0.2	0.375	<0.0002	<0.02	0.103
29	0.648																												
30	0.603																												
31	0.902																												
32	0.577	<2	<2	<2	15.1	0.0009	0.261	<0.003	0.00126	<0.04	<0.01	0.0007	1.6	0.6	0.04	0.04	0.24	20.0	<0.1	4	<2	149.0	0.001	<0.008	<0.2	0.367	<0.0002	<0.02	0.096
33	0.553																												
34	0.716																												
35	0.591																												
36	0.553	<2	<2	<2	7.32	0.0011	0.075	0.004	0.00078	<0.04	<0.01	0.0004	0.8	0.9	0.02	0.02	0.13	<5	<0.1	2	<2	77.8	0.001	<0.008	<0.2	0.219	<0.0002	<0.02	0.059
37	0.621																												
38	0.650																												
39	0.615																												
40	0.603	<2	<2	<2	6.22	0.0011	0.072	<0.003	0.00063	<0.04	<0.01	0.0003	0.5	<0.5	<0.01	0.02	0.10	<2	<0.1	1.3	<2	54.4	0.001	<0.008	<0.2	0.152	<0.0002	<0.02	0.04
41	0.625																												
42	0.627																												
43	0.637																												
44	0.574	<2	<2	<2	2.91	0.001	0.028	<0.003	0.00041	<0.04	0.02	0.0002	0.3	<0.5	<0.01	<0.01	0.06	<2	<0.1	0.749	<2	25.8	0.001	<0.008	<0.2	0.077	<0.0002	<0.02	0.019
45	0.626																												

Exceeds Oregon GW Quality Guideline

HCT - 4
GMC-012 (832-851)
Mudstone

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
46	0.604																												
47	0.688																												
48	0.640	<2	<2	<2	1.43	0.0012	0.019	0.003	0.00025	<0.04	<0.01	0.0002	0.2	<0.5	<0.01	<0.01	0.04	<2	<0.1	0.499	<2	14.1	0.002	<0.008	<0.2	0.049	<0.0002	<0.02	0.011
49	0.630																												
50	0.601																												
51	0.605																												
52	0.578	<3	<3	<3	0.77	0.0011	0.015	<0.003	0.00021	<0.04	<0.01	0.0002	0.1	<0.5	<0.01	<0.01	0.01	<2	<0.1	0.03	<3	9.0	0.001	<0.008	<0.2	0.022	<0.0002	<0.02	<0.008
53	0.455																												
54	0.678																												
55	0.646																												
56	0.655	<2	<2	<2	0.47	0.001	0.010	<0.003	0.00013	<0.04	<0.01	<0.0001	0.1	<0.5	<0.01	<0.01	<0.01	<2	<0.1	0.03	<2	5.4	0.001	<0.008	<0.2	0.013	<0.0002	<0.02	<0.008
57	0.619																												
58	0.692																												
59	0.679																												
60	0.690	<2	<2	<2	0.72	0.0012	0.006	<0.003	0.00014	<0.04	0.01	<0.0001	0.1	<0.5	<0.01	0.01	0.02	<2	<0.1	0.03	<2	6.1	0.002	<0.008	<0.2	0.027	<0.0002	<0.02	<0.008
61	0.649																												
62	0.623																												
63	0.638																												
64	0.695	<2	<2	<2	0.86	0.001	0.006	0.004	0.00016	<0.04	<0.01	<0.0001	0.2	<0.5	<0.01	<0.01	0.02	<4	<0.1	0.5	<2	7.3	0.002	<0.008	<0.2	0.026	<0.0002	<0.02	<0.008
65	0.596																												
66	0.630																												
67	0.713																												
68	0.531	<2	<2	<2	0.23	0.0014	0.005	0.072	0.0007	<0.04	0.08	<0.0001	0.7	<0.5	<0.01	<0.01	<0.01	<10	<0.1	1.8	<2	3.6	0.002	<0.008	<0.2	0.009	<0.0002	<0.02	<0.008
69	0.661																												
70	0.660																												
71	0.700																												
72	0.640	<2	<2	<2	0.45	0.0014	0.003	<0.003	0.00009	<0.04	<0.01	<0.0001	<0.1	<0.5	<0.01	<0.01	0.01	5.0	<0.1	<0.2	<2	5.0	0.001	<0.008	<0.2	0.010	<0.0002	<0.02	<0.008
73	0.632																												
74	0.680																												
75	0.686																												
76	0.761	<2	<2	<2	0.26	0.001	0.002	0.138	<0.00005	<0.04	0.11	0.0001	0.5	<0.5	<0.01	<0.01	<0.01	<4	<0.1	1.3	<2	1.8	0.001	<0.008	<0.2	0.007	<0.0002	<0.02	<0.008
77	0.737																												
78	0.740																												
79	0.732																												
80	0.744	<2	<2	<2	0.23	0.0015	0.004	0.004	<0.00005	<0.04	0.01	<0.0001	<0.1	<0.5	<0.01	<0.01	<0.01	<10	<0.1	0.3	<2	2.4	0.002	<0.008	<0.2	0.006	<0.0002	<0.02	<0.008
81	0.741																												
82	0.770																												
83	0.715																												
84	0.742	<2	<2	<2	0.13	0.0011	0.001	<0.003	0.00005	<0.04	<0.01	<0.0001	<0.1	0.5	<0.01	<0.01	<0.01	20.0	<0.1	<0.2	<2	1.0	0.001	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
85	0.740																												
86	0.740																												
87	0.742																												

Exceeds Oregon
GW Quality Guideline

HCT - 4
GMC-012 (832-851)
Mudstone

Week	Vol. L	$NO_3 + NO_2$ mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
Oregon Water Quality Guideline		*10*		*6.5 - 8.5*				*0.01*	*0.05*			*250*				*500*			*5*					
0	0.988	0.320	0.64	2.2	5.9	19	<1	0.0498	<0.1	17	0.160	2330	0.0149	<0.4	<0.05	3980	0.483	<0.05	6.00	4910	54.0	49	4.9	L27933
1	0.656	0.130	0.45	2.3	3	10	<1	0.0294	<0.1	16	0.18	2420	0.008	<0.4	<0.05	4360	0.4554	0.13	5.80	4140	59	51	7.3	L28023
2	0.566	0.110	0.56	2.3	1.5	7	<1	0.0209	<0.1	10	0.16	1880	0.0062	<0.4	0.06	3120	0.3182	0.1	3.90	3950	42	40	2.4	L28126
3	0.606																							
4	0.622	0.110	0.08	2.7	0.18	2.5	<0.1	0.0062	<0.01	1.7	0.049	648	0.0023	<0.04	0.007	980	0.0654	0.012	0.92	1610	13	14	-3.7	L28324
5	0.614																							
6	0.640																							
7	0.647																							
8	0.585	0.110	<0.05	2.7	0.1	2.5	<0.1	0.0040	<0.01	0.5	0.04	360	0.0018	<0.04	0.009	602	0.03	0.009	0.33	1390	6.8	7.7	-6.2	L28657
9	0.556																							
10	0.614																							
11	0.567																							
12	0.608	0.060	<0.05	2.7	0.08	2	<0.1	0.0028	<0.01	<0.2	0.018	249	0.0012	<0.04	<0.005	308	0.0199	<0.005	0.20	1230	4.1	5.3	-12.8	L29021
13	0.617																							
14	0.604																							
15	0.541																							
16	0.580	0.060	<0.05	2.6	0.07	2.1	<0.1	0.0024	<0.01	<0.2	0.021	266	0.0013	<0.04	<0.005	342	0.025	<0.005	0.23	1390	4.7	5.6	-8.7	L29484
17	0.546																							
18	0.527																							
19	0.599																							
20	0.569	0.030	<0.05	2.3	0.22	1.7	<0.1	0.0026	<0.01	<0.2	0.024	581	0.001	<0.04	0.005	708	0.0453	0.006	0.42	2780	10	12	-9.1	L29914
21	0.583																							
22	0.679																							
23	0.677																							
24	0.524	0.040	<0.05	2.2	0.43	1	<0.1	0.0030	<0.01	<0.2	0.020	652	0.0009	<0.04	<0.005	1160	0.0295	<0.005	0.35	3180	12.0	14	-7.7	L30419
25	0.541																							
26	0.567																							
27	0.650																							
28	0.678	0.020	<0.05	2.3	0.26	0.4	<0.1	0.0024	<0.01	<0.2	0.009	637	0.0004	<0.04	<0.005	700	0.0176	0.012	0.20	2470	9.7	13	-14.5	L30908
29	0.648																							
30	0.603																							
31	0.902																							
32	0.577	0.040	<0.05	2.3	0.36	0.3	<0.1	0.0017	<0.01	<0.2	0.008	625	0.0002	<0.04	<0.005	790	0.0153	0.007	0.16	2480	9.7	14	-18.1	L31481
33	0.553																							
34	0.716																							
35	0.591																							
36	0.553	<0.02	<0.05	2.3	0.08	0.3	<0.1	0.0012	<0.01	<0.2	0.01	368	0.0002	<0.04	<0.005	372	0.0148	<0.005	0.09	2040	5	7.8	-21.9	L32131
37	0.621																							
38	0.650																							
39	0.615																							
40	0.603	<0.02	0.13	2.5	0.07	0.2	<0.1	0.0009	<0.01	<0.2	<0.005	298	0.0003	<0.04	<0.005	290	0.0128	<0.005	0.06	1650	3.6	6.3	-27.3	L32682
41	0.625																							
42	0.627																							
43	0.637																							
44	0.574	0.180	<0.05	2.6	0.02	0.2	<0.1	0.0006	<0.01	<0.2	0.007	158	0.0001	<0.04	<0.005	168	0.0078	<0.005	0.04	1080	1.7	3.3	-32	L33233
45	0.626																							

Exceeds Oregon
GW Quality Guideline

HCT - 4
GMC-012 (832-851)
Mudstone

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
46	0.604																							
47	0.688																							
48	0.640	0.030	0.07	2.7	<0.02	<0.2	<0.1	0.0006	<0.01	<0.2	<0.005	95.5	0.0003	<0.04	<0.005	132	0.0058	<0.005	0.03	735	0.927	2	-36.7	L33928
49	0.630																							
50	0.601																							
51	0.605																							
52	0.578	<0.02	<0.05	3	0.02	0.3	<0.1	0.0005	<0.01	<0.2	<0.005	62.2	0.0001	<0.04	<0.005	<100	0.0036	<0.005	<0.01	505	0.576	1.3	-38.6	L34366
53	0.455																							
54	0.678																							
55	0.646																							
56	0.655	<0.02	<0.05	3.0	<0.02	0.5	<0.1	0.0005	<0.01	<0.2	<0.005	34.6	0.0001	<0.04	<0.005	40	0.0026	<0.005	<0.01	444	0.356	0.727	-34.3	L34779
57	0.619																							
58	0.692																							
59	0.679																							
60	0.690	0.060	<0.05	3	<0.02	0.5	<0.1	0.0003	<0.01	<0.2	<0.005	50.9	0.0002	<0.04	<0.005	108	0.0036	<0.005	0.01	652	0.424	1.1	-44.4	L35145
61	0.649																							
62	0.623																							
63	0.638																							
64	0.695	0.030	<0.05	3	<0.02	0.6	<0.1	0.0004	<0.01	0.2	0.01	61.8	0.0001	<0.04	<0.005	96	0.004	<0.005	0.02	564	0.522	1.3	-42.7	L35597
65	0.596																							
66	0.630																							
67	0.713																							
68	0.531	0.280	0.1	3.1	<0.02	0.9	<0.1	0.0003	<0.01	2.3	<0.005	39.3	0.0001	<0.04	<0.005	68	0.0016	<0.005	0.08	415	0.387	0.825	-36.1	L36030
69	0.661																							
70	0.660																							
71	0.700																							
72	0.640	0.020	<0.05	3	<0.02	0.7	<0.1	0.0003	<0.01	<0.2	<0.005	43.2	0.0002	<0.04	<0.005	60	0.002	<0.005	<0.01	475	0.335	1.2	-56.4	L36586
73	0.632																							
74	0.680																							
75	0.686																							
76	0.761	0.060	<0.05	3.2	<0.02	0.6	<0.1	0.0001	<0.01	1.8	<0.005	34.6	<0.0001	<0.04	<0.005	46	0.0012	<0.005	0.10	339	0.247	0.727	-49.3	L37089
77	0.737																							
78	0.740																							
79	0.732																							
80	0.744	0.030	<0.05	3.1	<0.02	0.5	<0.1	0.0002	<0.01	<0.2	<0.005	30.9	0.0002	<0.04	<0.005	50	0.0014	<0.005	0.01	334	0.2	0.649	-52.9	L37686
81	0.741																							
82	0.770																							
83	0.715																							
84	0.742	<0.02	<0.05	3.3	<0.02	0.4	<0.1	<0.0001	<0.01	<0.2	<0.005	37.6	0.0002	<0.04	<0.005	66	0.001	<0.005	<0.01	242	---	1.9	N/A	L38237
85	0.740																							
86	0.740																							
87	0.742																							

Exceeds Oregon
GW Quality Guideline

Appendix D1
HCT Summary Table

HCT - 5
CAL-004 (295-315)
Mud/Clay

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCI)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
Oregon Water Quality Guideline										*250*														
0	1.559	3.84	364	2320	1.44	1.135	1.135	0.13	1.31	1300	1024.88	1024.88	122.40	96.50	96.50	28.40	22.39	22.39	131	103.28	103.28	0	0.00	0.00
1	0.980	3.80	406	262	0.40	0.198	1.333	0.19	0.21	110	54.51	1079.39	10.71	5.31	101.81	2.40	1.19	23.58	57	28.25	131.52	0	0.00	0.00
2	0.979	3.91	470	329	0.33	0.163	1.496	0.29	0.04	150	74.26	1153.65	19.16	9.49	111.30	4.34	2.15	25.73	45	22.28	153.80	0	0.00	0.00
3	0.934	3.96	495	442	0.96	0.453	1.949	0.26	0.70	190	89.74	1243.39	41.30	19.51	130.81	9.51	4.49	30.22	31	14.64	168.44	0	0.00	0.00
4	0.995	4.16	474	402	1.10	0.553	2.502	0.70	0.40	180	90.57	1333.96	40.82	20.54	151.35	9.02	4.54	34.76	20	10.06	178.51	0	0.00	0.00
5	0.957	4.27	467	348	1.02	0.494	2.996	0.74	0.28	140	67.75	1401.71	34.43	16.66	168.01	7.94	3.84	38.60	21	10.16	188.67	0	0.00	0.00
6	0.965	4.22	471	351	1.21	0.590	3.586	0.94	0.27	150	73.20	1474.91	31.29	15.27	183.28	6.44	3.14	41.74	20	9.76	198.43	0	0.00	0.00
7	0.991	4.16	398	395	1.86	0.932	4.518	1.37	0.49	170	85.19	1560.10	37.10	18.59	201.87	7.88	3.95	45.69	27	13.53	211.96	0	0.00	0.00
8	0.898	4.12	472	278	1.75	0.795	5.313	1.14	0.61	110	49.95	1610.05	26.21	11.90	213.77	5.87	2.67	48.36	25	11.35	223.31	0	0.00	0.00
9	0.999	4.19	432	266	1.56	0.788	6.101	1.56	<0.1	110	55.57	1665.62	20.30	10.26	224.03	4.49	2.27	50.63	24	12.12	235.44	0	0.00	0.00
10	0.830	4.07	389	271	1.99	0.835	6.936	1.51	0.48	100	41.97	1707.59	25.03	10.51	234.54	5.29	2.22	52.85	27	11.33	246.77	0	0.00	0.00
11	0.920	4.11	479	253	2.37	1.103	8.039	1.66	0.71	410	190.75	1898.34	25.95	12.07	246.61	5.54	2.58	55.43	24	11.17	257.94	0	0.00	0.00
12	1.018	4.02	461	246	1.93	0.994	9.033	1.52	0.41	95	48.91	1947.25	19.40	9.99	256.60	4.25	2.19	57.62	24	12.36	270.29	0	0.00	0.00
13	0.987	3.95	421	258	2.74	1.368	10.401	1.91	0.83	100	49.91	1997.16	25.30	12.63	269.23	5.18	2.59	60.21	29	14.47	284.77	0	0.00	0.00
14	0.989	4.02	391	295	3.08	1.540	11.941	2.66	0.42	110	55.01	2052.17	24.17	12.09	281.32	5.33	2.67	62.88	28	14.00	298.77	0	0.00	0.00
15	0.956	3.70	490	263	3.68	1.779	13.720	2.55	1.13	94	45.44	2097.61	25.16	12.16	293.48	4.97	2.40	65.28	33	15.95	314.72	0	0.00	0.00
16	0.967	4.00	433	236	2.75	1.345	15.065	1.92	0.83	82	40.10	2137.71	17.60	8.61	302.09	4.09	2.00	67.28	33	16.14	330.86	0	0.00	0.00
17	1.009	3.91	383	297	4.09	2.087	17.152	2.70	1.39	110	56.13	2193.84	24.45	12.48	314.57	5.28	2.69	69.97	37	18.88	349.74	0	0.00	0.00
18	0.980	3.62	422	354	4.95	2.453	19.605	2.78	2.17	140	69.38	2263.22	25.58	12.68	327.25	5.66	2.80	72.77	49	24.28	374.02	0	0.00	0.00
19	0.988	3.53	429	372	5.37	2.683	22.288	3.56	1.81	140	69.95	2333.17	27.57	13.77	341.02	5.81	2.90	75.67	53	26.48	400.50	0	0.00	0.00
20	0.994	3.39	437	396	5.67	2.850	25.138	3.42	2.25	130	65.35	2398.52	26.48	13.31	354.33	5.42	2.72	78.39	52	26.14	426.64	0	0.00	0.00
21	0.980	3.43	490	383	5.09	2.522	27.660	3.09	2.00	130	64.42	2462.94	23.22	11.51	365.84	5.01	2.48	80.87	58	28.74	455.38	0	0.00	0.00
22	0.980	3.33	449	455	6.12	3.033	30.693	1.48	4.64	170	84.25	2547.19	30.65	15.19	381.03	7.00	3.47	84.34	70	34.69	490.07	0	0.00	0.00
23	0.981	3.33	538	427	5.69	2.823	33.516	1.56	4.13	150	74.41	2621.60	26.09	12.94	393.97	5.30	2.63	86.97	65	32.25	522.32	0	0.00	0.00
24	0.990	3.17	470	545	7.44	3.725	37.241	1.94	5.50	200	100.13	2721.73	35.34	17.69	411.66	6.56	3.28	90.25	84	42.05	564.37	0	0.00	0.00
25	0.980	3.08	474	606	7.56	3.747	40.988	2.03	5.53	240	118.94	2840.67	35.04	17.36	429.02	6.89	3.41	93.66	90	44.60	608.97	0	0.00	0.00
26	0.984	3.06	485	601	5.80	2.886	43.874	1.94	3.86	230	114.45	2955.12	29.68	14.77	443.79	6.55	3.26	96.92	87	43.29	652.26	0	0.00	0.00
27	0.994	3.10	485	530	4.86	2.443	46.317	1.81	3.05	130	65.35	3020.47	21.59	10.85	454.64	4.74	2.38	99.30	112	56.30	708.56	0	0.00	0.00
28	0.992	3.07	498	545	3.99	2.002	48.319	1.60	2.39	160	80.26	3100.73	20.21	10.14	464.78	4.25	2.13	101.43	113	56.69	765.25	0	0.00	0.00
29	0.976	3.00	490	587	4.60	2.270	50.589	1.99	2.61	120	59.23	3159.96	23.34	11.52	476.30	4.50	2.22	103.65	112	55.28	820.52	0	0.00	0.00
30	0.976	3.01	509	579	4.34	2.142	52.731	1.35	2.99	180	88.84	3248.80	24.91	12.29	488.59	4.05	2.00	105.65	202	99.70	920.22	0	0.00	0.00
31	1.004	2.96	502	492	3.84	1.950	54.681	1.51	2.33	100	50.77	3299.57	16.27	8.26	496.85	3.12	1.58	107.23	101	51.28	971.50	0	0.00	0.00
32	0.993	2.89	522	556	3.77	1.893	56.574	1.08	2.69	150	75.32	3374.89	19.54	9.81	506.66	3.70	1.86	109.09	115	57.75	1029.25	0	0.00	0.00
33	0.962	2.75	526	621	4.01	1.951	58.525	0.88	3.13	170	82.70	3457.59	19.53	9.50	516.16	3.86	1.88	110.97	124	60.32	1089.57	0	0.00	0.00
34	0.981	3.08	505	562	3.07	1.523	60.048	1.59	1.48	100	49.61	3507.20	14.04	6.96	523.12	2.70	1.34	112.31	114	56.55	1146.12	0	0.00	0.00
35	1.016	3.12	511	471	2.86	1.469	61.517	1.22	1.64	89	45.73	3552.93	12.87	6.61	529.73	2.26	1.16	113.47	99	50.86	1196.99	0	0.00	0.00
36	0.967	2.93	537	722	3.91	1.912	63.429	1.05	2.86	180	88.02	3640.95	18.01	8.81	538.54	3.62	1.77	115.24	110	53.79	1250.78	0	0.00	0.00
37	0.970	2.95	552	688	5.03	2.467	65.896	0.70	4.33	190	93.20	3734.15	20.30	9.96	548.50	3.80	1.86	117.10	112	54.94	1305.72	0	0.00	0.00
38	0.984	2.88	537	765	6.20	3.085	68.981	1.59	4.61	191	95.04	3829.19	21.07	10.48	558.98	4.00	1.99	119.09	100	49.76	1355.48	0	0.00	0.00
39	1.018	2.92	498	527	3.31	1.704	70.685	2.04	1.27	95	48.91	3878.10	9.89	5.09	564.07	1.72	0.89	119.98	99	50.96	1406.44	0	0.00	0.00
40	0.990	3.01	547	541	2.05	1.026	71.711	0.36	1.69	98	49.06	3927.16	12.15	6.08	570.15	2.52	1.26	121.24	98	49.06	1455.50	0	0.00	0.00
41	0.986	3.01	538	557	2.44	1.217	72.928	0.46	1.98	97	48.37	3975.53	12.73	6.35	576.50	2.43	1.21	122.45	99	49.36	1504.86	0	0.00	0.00
42	0.981	2.79	549	610	2.75	1.364	74.292	0.44	2.31	141	69.95	4045.48	14.87	7.38	583.88	2.79	1.38	123.83	96	47.62	1552.49	0	0.00	0.00
43	0.986	2.74	532	683	3.93	1.960	76.252	0.65	3.28	121	60.33	4105.81	16.55	8.25	592.13	3.26	1.63	125.46	93	46.37	1598.86	0	0.00	0.00
44	0.970	2.96	548	608	2.80	1.373	77.625	0.38	2.42	98	48.07	4153.88	13.02	6.39	598.52	2.60	1.28	126.74	86	42.19	1641.04	0	0.00	0.00
45	1.005	2.99	521	633	4.22	2.145	79.770	1.29	2.93	116	58.95	4212.83	14.11	7.17	605.69	2.84	1.44	128.18	99	50.31	1691.36	0	0.00	0.00

Exceeds Oregon
GW Quality Guideline

HCT - 5
CAL-004 (295-315)
Mud/Clay

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCI)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.972	3.01	571	502	1.68	0.826	80.596	0.22	1.46	68	33.42	4246.25	9.01	4.43	610.12	1.76	0.87	129.05	86	42.27	1733.63	0	0.00	0.00
47	0.992	2.98	562	548	2.28	1.144	81.740	0.49	1.79	85	42.64	4288.89	10.17	5.10	615.22	2.19	1.10	130.15	99	49.66	1783.29	0	0.00	0.00
48	0.989	3.03	548	506	1.37	0.685	82.425	0.16	1.21	64	32.01	4320.90	8.58	4.29	619.51	1.54	0.77	130.92	68	34.01	1817.30	0	0.00	0.00
49	0.993	3.08	546	446	1.17	0.588	83.013	0.17	1.00	49	24.61	4345.51	7.23	3.63	623.14	1.40	0.70	131.62	87	43.69	1860.99	0	0.00	0.00
50	0.991	3.21	562	384	1.19	0.596	83.609	<0.10	<1.19	66	33.08	4378.59	5.78	2.90	626.04	1.23	0.62	132.24	136	68.16	1929.14	0	0.00	0.00
51	0.978	3.11	533	445	1.42	0.702	84.311	0.13	1.29	76	37.59	4416.18	6.11	3.02	629.06	1.19	0.59	132.83	55	27.20	1956.35	0	0.00	0.00
52	0.966	3.14	556	374	0.88	0.430	84.741	<0.10	<0.88	37	18.07	4434.25	5.55	2.71	631.77	0.98	0.48	133.31	50	24.43	1980.77	0	0.00	0.00
53	1.007	3.06	544	456	1.25	0.637	85.378	0.23	1.02	70	35.65	4469.90	6.49	3.30	635.07	1.32	0.67	133.98	71	36.16	2016.93	0	0.00	0.00
54	0.983	3.09	568	416	0.99	0.492	85.870	<0.10	<0.99	62	30.82	4500.72	6.59	3.28	638.35	1.19	0.59	134.57	96	47.72	2064.65	0	0.00	0.00
55	0.995	3.15	559	374	0.72	0.362	86.232	<0.10	<0.72	48	24.15	4524.87	5.06	2.55	640.90	0.85	0.43	135.00	48	24.15	2088.80	0	0.00	0.00
56	0.955	3.22	524	332	0.65	0.314	86.546	<0.10	<0.65	42	20.28	4545.15	4.28	2.07	642.97	0.75	0.36	135.36	45	21.73	2110.53	0	0.00	0.00
57	1.019	3.16	557	360	0.72	0.371	86.917	<0.10	<0.72	47	24.22	4569.37	4.23	2.18	645.15	0.85	0.44	135.80	91	46.89	2157.42	0	0.00	0.00
58	0.986	3.25	559	290	0.51	0.254	87.171	<0.10	<0.51	46	22.94	4592.31	3.22	1.61	646.76	0.60	0.30	136.10	39	19.45	2176.87	0	0.00	0.00
59	0.958	3.22	564	320	0.66	0.320	87.491	<0.10	<0.66	52	25.19	4617.50	4.04	1.96	648.72	0.72	0.35	136.45	42	20.35	2197.22	0	0.00	0.00
60	0.990	3.16	567	339	0.65	0.325	87.816	<0.10	<0.65	60	30.04	4647.54	4.27	2.14	650.86	0.79	0.40	136.85	48	24.03	2221.25	0	0.00	0.00
61	0.955	3.24	567	295	0.42	0.203	88.019	<0.10	<0.42	48	23.18	4670.72	3.15	1.52	652.38	0.59	0.28	137.13	91	43.95	2265.19	0	0.00	0.00
62	0.977	3.23	570	303	0.45	0.222	88.241	<0.10	<0.45	47	23.22	4693.94	3.16	1.56	653.94	0.60	0.30	137.43	89	43.97	2309.16	0	0.00	0.00
63	0.971	3.19	574	326	0.55	0.270	88.511	<0.10	<0.55	52	25.53	4719.47	3.27	1.61	655.55	0.65	0.32	137.75	92	45.17	2354.34	0	0.00	0.00
64	0.993	3.25	557	283	0.38	0.191	88.702	<0.10	<0.38	44	21.87	4741.34	2.90	1.46	657.01	0.52	0.26	138.01	93	46.70	2401.04	0	0.00	0.00
65	0.994	3.28	556	269	0.31	0.156	88.858	<0.10	<0.31	43	21.42	4762.76	2.40	1.21	658.22	0.49	0.25	138.26	36	18.10	2419.13	0	0.00	0.00
66	0.959	3.77	525	102	0.11	0.053	88.911	<0.10	<0.11	15	7.31	4770.07	1.04	0.50	658.72	0.49	0.24	138.50	17	8.24	2427.38	0	0.00	0.00
67	0.986	3.63	534	136	0.16	0.080	88.991	<0.10	<0.16	21	10.47	4780.54	1.32	0.66	659.38	0.49	0.24	138.74	85	42.38	2469.76	0	0.00	0.00
68	0.998	3.44	550	196	0.23	0.116	89.107	<0.10	<0.23	30	15.14	4795.68	2.04	1.03	660.41	0.49	0.25	138.99	90	45.42	2515.18	0	0.00	0.00
69	0.982	3.47	547	184	0.21	0.104	89.211	<0.10	<0.21	27	13.41	4809.09	1.92	0.95	661.36	0.49	0.24	139.23	85	42.21	2557.39	0	0.00	0.00
70	0.985	3.33	536	252	0.33	0.164	89.375	<0.10	<0.33	35	17.43	4826.52	2.50	1.25	662.61	0.49	0.24	139.47	91	45.33	2602.72	0	0.00	0.00
71	0.974	3.37	543	217	0.28	0.138	89.513	0.10	0.18	30	14.78	4841.30	2.47	1.22	663.83	0.49	0.24	139.71	33	16.25	2618.97	0	0.00	0.00
72	0.988	3.31	545	250	0.24	0.120	89.633	<0.10	<0.24	39	19.49	4860.79	2.95	1.47	665.30	0.49	0.24	139.95	37	18.49	2637.46	0	0.00	0.00
73	0.992	3.38	531	220	0.26	0.130	89.763	<0.10	<0.26	31	15.55	4876.34	2.56	1.28	666.58	0.49	0.25	140.20	33	16.55	2654.01	0	0.00	0.00
74	0.963	3.58	522	136	0.14	0.068	89.831	<0.10	<0.14	21	10.23	4886.57	1.35	0.66	667.24	0.49	0.24	140.44	22	10.71	2664.73	0	0.00	0.00
75	0.996	3.42	542	201	0.15	0.076	89.907	<0.10	<0.15	31	15.61	4902.18	2.76	1.39	668.63	0.49	0.25	140.69	30	15.11	2679.84	0	0.00	0.00
76	1.006	3.49	535	176	0.12	0.061	89.968	<0.10	<0.12	20	10.17	4912.35	1.82	0.93	669.56	0.49	0.25	140.94	26	13.23	2693.06	0	0.00	0.00
77	0.991	3.51	551	172	0.16	0.080	90.048	<0.10	<0.16	24	12.03	4924.38	1.58	0.79	670.35	0.49	0.25	141.19	24	12.03	2705.09	0	0.00	0.00
78	0.970	3.55	538	156	0.15	0.074	90.122	<0.10	<0.15	20	9.81	4934.19	1.30	0.64	670.99	0.49	0.24	141.43	23	11.28	2716.37	0	0.00	0.00
79	1.011	3.44	544	203	0.18	0.092	90.214	<0.10	<0.18	27	13.80	4947.99	1.60	0.82	671.81	0.49	0.25	141.68	27	13.80	2730.18	0	0.00	0.00
80	0.966	3.55	516	153	<0.10	0.000	90.214	<0.10	<0.10	22	10.75	4958.74	1.22	0.60	672.41	0.49	0.24	141.92	25	12.21	2742.39	0	0.00	0.00
81	1.008	3.28	556	273	0.24	0.122	90.336	<0.10	<0.24	42	21.41	4980.15	2.35	1.20	673.61	0.49	0.25	142.17	41	20.90	2763.29	0	0.00	0.00
82	0.960	3.40	550	198	0.15	0.073	90.409	<0.10	<0.15	31	15.05	4995.20	1.69	0.82	674.43	0.49	0.24	142.41	30	14.56	2777.85	0	0.00	0.00
83	0.996	3.31	549	270	0.21	0.106	90.515	<0.10	<0.21	42	21.15	5016.35	1.88	0.95	675.38	0.49	0.25	142.66	42	21.15	2799.00	38	19.14	19.14
84	1.004	3.33	549	245	0.14	0.071	90.586	<0.10	<0.14	41	20.82	5037.17	1.70	0.86	676.24	0.49	0.25	142.91	34	17.26	2816.27	0	0.00	19.14
85	0.983	3.46	535	193	0.12	0.060	90.646	<0.10	<0.12	31	15.22	5052.39	1.50	0.75	676.99	0.49	0.24	143.15	30	14.91	2831.18	0	0.00	19.14
86	0.986	3.38	539	203	1.88	0.937	91.583	<0.10	<1.88	30	15.17	5067.56	1.50	0.75	677.74	0.49	0.24	143.39	28	14.01	2845.19	0	0.00	19.14
87	0.977	3.41	539	192	<0.10	0.000	91.583	<0.10	<0.10	28	13.95	5081.51	1.20	0.59	678.33	0.49	0.24	143.63	28	13.88	2859.07	0	0.00	19.14

Exceeds Oregon
GW Quality Guideline

Appendix D1
HCT Summary Table

HCT - 5
CAL-004 (295-315)
Mud/Clay

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
Oregon Water Quality Guideline							*0.05*	*1*				*0.01*		*250*	*0.05*		*1*	*4*				*0.3*	*0.05*			*0.05*	*0.002*		
0	1.559	<2	<2	<2	3.65	0.0062	0.093	0.058	0.00383	<0.04	0.17	0.0012	214	51.6	0.01	0.10	0.15	1.5	<0.1	725	<2	4.3	0.004	0.156	46.3	1.980	<0.0002	<0.02	0.140
1	0.980	<2	<2	<2	0.27	0.0044	0.027	0.077	0.0005	<0.04	0.04	0.0001	9.9	3.3	<0.01	<0.01	0.01	0.2	<0.1	34.2	<2	0.2	0.001	0.028	2.3	0.102	<0.0002	<0.02	0.009
2	0.979	<2	<2	<2	0.51	0.0034	0.007	0.120	0.00076	<0.04	0.03	0.0001	21.8	0.8	<0.01	0.01	0.03	0.4	<0.1	73	<2	0.4	0.001	0.029	4.5	0.227	<0.0002	<0.02	0.022
3	0.934																												
4	0.995	<2	<2	<2	0.95	0.0023	0.006	0.038	0.00178	<0.04	0.01	0.0003	39.3	<0.5	<0.01	0.03	0.06	0.7	<0.1	131	<2	1.1	0.001	0.012	8.1	0.452	<0.0002	<0.02	0.050
5	0.957																												
6	0.965																												
7	0.991																												
8	0.898	<2	<2	<2	0.81	0.0019	0.007	0.027	0.00181	<0.04	0.2	0.0004	27.6	0.5	<0.01	0.02	0.06	0.6	<0.1	92	<2	1.7	0.001	<0.008	5.6	0.347	0.000	<0.02	0.042
9	0.999																												
10	0.830																												
11	0.920																												
12	1.018	<2	<2	<2	0.67	0.002	0.006	0.022	0.00174	<0.04	0.04	0.0003	22	<0.5	<0.01	0.02	0.05	<10	<0.1	73	<2	2.2	0.001	<0.008	4.3	0.279	<0.0002	<0.02	0.035
13	0.987																												
14	0.989																												
15	0.956																												
16	0.967	<2	<2	<2	0.73	0.0011	0.008	0.019	0.00192	<0.04	<0.01	0.0005	19.7	<0.5	<0.01	0.02	0.07	0.5	<0.1	65	<2	2.8	0.001	<0.008	3.9	0.275	0.000002	<0.02	0.043
17	1.009																												
18	0.980																												
19	0.988																												
20	0.994	<2	<2	<2	1.27	0.0013	0.028	0.021	0.00307	<0.04	0.01	0.0009	29.6	<0.5	<0.01	0.04	0.13	<2	<0.1	97	<2	6.2	0.001	<0.008	5.7	0.454	<0.0002	<0.02	0.063
21	0.980																												
22	0.980																												
23	0.981																												
24	0.990	<2	<2	<2	1.8	0.0013	0.076	0.023	0.00413	<0.04	0.02	0.0017	34.9	0.5	<0.01	0.05	0.19	<10	<0.1	114	<2	7.7	0.001	0.012	6.5	0.616	<0.0002	<0.02	0.082
25	0.980																												
26	0.984																												
27	0.994																												
28	0.992	<2	<2	<2	1.29	0.0012	0.079	0.025	0.00317	<0.04	<0.01	0.0014	22.5	<0.5	<0.01	0.04	0.13	<10	<0.1	74	<2	4.4	0.001	<0.008	4.3	0.472	<0.0002	<0.02	0.055
29	0.976																												
30	0.976																												
31	1.004																												
32	0.993	<2	<2	<2	1.4	0.0008	0.057	0.026	0.00294	<0.04	<0.01	0.0015	21.5	<0.5	<0.01	0.03	0.13	0.5	<0.1	68	<2	4.0	0.001	<0.008	3.8	0.473	<0.0002	<0.02	0.058
33	0.962																												
34	0.981																												
35	1.016																												
36	0.967	<2	<2	<2	1.91	0.001	0.021	0.026	0.00286	<0.04	<0.01	0.0016	21.3	<0.5	0.01	0.03	0.15	5.0	<0.1	69	<2	4.8	0.004	<0.008	3.8	0.554	0.000	<0.02	0.059
37	0.970																												
38	0.984																												
39	1.018																												
40	0.990	<2	<2	<2	1.05	0.0008	0.012	0.019	0.00184	<0.04	<0.01	0.0010	12.7	<0.5	<0.01	0.02	0.08	2.0	<0.1	42	<2	2.2	0.002	<0.008	2.4	0.371	<0.0002	<0.02	0.04
41	0.986																												
42	0.981																												
43	0.986																												
44	0.970	<2	<2	<2	1.61	0.0008	0.004	0.023	0.00214	<0.04	<0.01	0.0012	14.3	<0.5	<0.01	0.03	0.10	<2	<0.1	46	<2	3.0	0.003	<0.008	2.4	0.431	<0.0002	<0.02	0.040
45	1.005																												

Exceeds Oregon GW Quality Guideline

Appendix D1
HCT Summary Table

HCT - 5
CAL-004 (295-315)
Mud/Clay

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
46	0.972																												
47	0.992																												
48	0.989	<2	<2	<2	0.92	0.0008	0.003	0.020	0.0015	<0.04	<0.01	0.0008	9	<0.5	<0.01	0.02	0.07	<2	<0.1	28	<2	1.8	0.004	<0.008	1.4	0.279	<0.0002	<0.02	0.029
49	0.993																												
50	0.991																												
51	0.978																												
52	0.966	<2	<2	<2	0.59	0.0006	0.003	0.012	0.00111	<0.04	<0.01	0.0005	5.8	<0.5	<0.01	<0.01	0.04	<2	<0.1	19	<2	0.9	0.001	<0.008	1	0.181	<0.0002	<0.02	0.012
53	1.007																												
54	0.983																												
55	0.995																												
56	0.955	<2	<2	<2	0.42	0.0012	0.006	0.016	0.00069	<0.04	<0.01	0.0004	4.4	<0.5	<0.01	<0.01	0.03	<4	<0.1	14	<2	0.7	0.001	<0.008	0.7	0.142	<0.0002	<0.02	0.014
57	1.019																												
58	0.986																												
59	0.958																												
60	0.990	<2	<2	<2	0.46	0.0005	0.003	0.025	0.00068	<0.04	<0.01	0.0004	4.6	<0.5	<0.01	0.01	0.03	<4	<0.1	15	<2	0.6	0.002	<0.008	0.8	0.152	<0.0002	<0.02	0.015
61	0.955																												
62	0.977																												
63	0.971																												
64	0.993	<2	<2	<2	0.27	0.001	0.002	0.030	0.0005	<0.04	<0.01	0.0003	2.6	<0.5	<0.01	<0.01	0.02	<4	<0.1	8.6	<2	0.4	0.002	<0.008	0.5	0.089	<0.0002	<0.02	0.011
65	0.994																												
66	0.959																												
67	0.986																												
68	0.998	<2	<2	<2	0.21	<0.0004	0.002	0.017	0.00035	<0.04	<0.01	0.0002	2.1	<0.5	<0.01	<0.01	<0.01	<10	<0.1	7.3	<2	0.3	0.002	<0.008	0.5	0.067	<0.0002	<0.02	<.0008
69	0.982																												
70	0.985																												
71	0.974																												
72	0.988	<2	<2	<2	0.28	0.0006	0.002	0.096	0.00047	<0.04	0.05	0.0003	3	<0.5	<0.01	<0.01	0.03	3.0	<0.1	9.1	<2	0.3	0.002	<0.008	0.4	0.088	<0.0002	<0.02	0.01
73	0.992																												
74	0.963																												
75	0.996																												
76	1.006	<2	<2	<2	0.12	<0.0004	0.001	0.109	0.00022	<0.04	0.06	0.0002	1.7	<0.5	<0.01	<0.01	0.01	<4	<0.1	5.1	<2	0.1	0.002	<0.008	0.2	0.044	<0.0002	<0.02	<0.008
77	0.991																												
78	0.970																												
79	1.011																												
80	0.966	<2	<2	<2	0.09	0.0005	0.001	0.016	0.00022	<0.04	<0.01	<0.0001	1.1	<0.5	<0.01	<0.01	<0.01	<10	<0.1	2.8	<2	0.1	0.001	<0.008	<0.2	0.035	<0.0002	<0.02	<0.008
81	1.008																												
82	0.960																												
83	0.996																												
84	1.004	<2	<2	<2	0.13	0.0005	0.002	0.035	0.00028	<0.04	<0.01	0.0001	1.5	<0.5	<0.01	<0.01	<0.01	10.0	<0.1	4.6	<2	0.1	0.001	<0.008	0.2	0.044	<0.0002	<0.02	<0.008
85	0.983																												
86	0.986																												
87	0.977																												

Exceeds Oregon
GW Quality Guideline

HCT - 5
CAL-004 (295-315)
Mud/Clay

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
Oregon Water Quality Guideline		*10*		*6.5 - 8.5*				*0.01*	*0.05*			*250*				*500*			*5*					
0	1.559	1.370	1.22	4.4	0.05	60.9	<0.1	0.1115	<0.01	200	0.619	1130	0.0017	<0.04	0.015	1840	0.0023	<0.005	0.24	2210	26.0	25	2.0	L27933
1	0.980	0.030	0.18	4.4	<0.02	15	<0.1	0.0478	<0.01	21	0.033	105	0.0004	<0.04	<0.005	208	0.0002	<0.005	0.02	255	2.1	2.3	-4.5	L28023
2	0.979	0.040	0.22	4.5	<0.02	18.7	<0.1	0.0309	<0.01	13.6	0.07	128	0.0005	<0.04	<0.005	232	0.0003	<0.005	0.04	336	2.7	2.7	0.0	L28126
3	0.934																							
4	0.995	0.050	0.12	4.3	<0.02	19.7	<0.1	0.0161	<0.01	2.9	0.112	166.0	0.0005	<0.04	<0.005	288	0.0007	<0.005	0.08	369	3.5	3.5	0	L28324
5	0.957																							
6	0.965																							
7	0.991																							
8	0.898	<0.02	<0.05	4.1	0.03	9.5	<0.1	0.0062	<0.01	0.3	0.084	119.0	0.0005	<0.04	<0.005	250	0.0011	<0.005	0.07	294	2.3	2.5	-4.2	L28657
9	0.999																							
10	0.830																							
11	0.920																							
12	1.018	0.020	<0.05	4.0	<0.02	6.5	<0.1	0.0017	<0.01	<0.2	0.06	99.5	0.0003	<0.04	<0.005	166	0.0012	<0.005	0.05	268	1.8	2.1	-7.7	L29021
13	0.987																							
14	0.989																							
15	0.956																							
16	0.967	0.020	<0.05	3.9	<0.02	3	<0.1	0.0019	<0.01	<0.2	0.058	90.6	0.0005	<0.04	<0.005	142	0.0034	<0.005	0.07	248	1.6	1.9	-8.6	L29484
17	1.009																							
18	0.980																							
19	0.988																							
20	0.994	0.030	<0.05	2.4	<0.02	3.3	<0.1	0.0013	<0.01	<0.2	0.087	119.0	0.0005	<0.04	<0.005	208	0.0067	<0.005	0.09	2170	2.5	2.5	0.0	L29914
21	0.980																							
22	0.980																							
23	0.981																							
24	0.990	0.040	<0.05	3.2	<0.02	2.9	<0.1	0.0012	<0.01	<0.2	0.105	148.0	0.0005	<0.04	0.005	286	0.0142	<0.005	0.13	567	3.0	3.1	-1.6	L30419
25	0.980																							
26	0.984																							
27	0.994																							
28	0.992	<0.02	0.26	3.1	<0.02	2.3	<0.1	0.0007	<0.01	<0.2	0.072	132.0	0.0004	<0.04	<0.005	192	0.0106	<0.005	0.09	505	2	2.8	-16.7	L30908
29	0.976																							
30	0.976																							
31	1.004																							
32	0.993	<0.02	<0.05	3	<0.02	1.7	<0.1	0.0005	<0.01	<0.2	0.063	117.0	0.0003	<0.04	<0.005	186	0.0104	<0.005	0.10	592	1.8	2.5	-16.3	L31481
33	0.962																							
34	0.981																							
35	1.016																							
36	0.967	<0.02	<0.05	2.8	<0.02	1.8	<0.1	0.0005	<0.01	<0.2	0.069	139.0	0.0005	<0.04	<0.005	190	0.0143	<0.005	0.10	751	1.9	3.2	-25.5	L32131
37	0.970																							
38	0.984																							
39	1.018																							
40	0.990	<0.02	0.08	3	<0.02	1.3	<0.1	0.0004	<0.01	<0.2	0.035	99.1	0.0005	<0.04	<0.005	116	0.0075	<0.005	0.07	570	1.1	2.2	-33.3	L32682
41	0.986																							
42	0.981																							
43	0.986																							
44	0.970	<0.02	<0.05	2.9	<0.02	1.2	<0.1	0.0004	<0.01	<0.2	0.05	114.0	0.0006	<0.04	<0.005	138	0.0096	<0.005	0.09	634	1.3	2.4	-29.7	L33233
45	1.005																							

Exceeds Oregon
GW Quality Guideline

HCT - 5
CAL-004 (295-315)
Mud/Clay

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
46	0.972																							
47	0.992																							
48	0.989	0.020	<0.05	3	<0.02	0.9	<0.1	0.0003	<0.01	<0.2	0.032	75.2	0.0003	<0.04	<0.005	86	0.0062	<0.005	0.06	486	0.808	1.6	-32.9	L33820
49	0.993																							
50	0.991																							
51	0.978																							
52	0.966	<0.02	<0.05	3.1	<0.02	0.7	<0.1	0.0002	<0.01	<0.2	0.016	49.9	0.0002	<0.04	<0.005	82	0.004	<0.005	0.03	418	0.5	1.1	-37.5	L34366
53	1.007																							
54	0.983																							
55	0.995																							
56	0.955	<0.02	<0.05	3.1	<0.02	0.7	<0.1	0.0002	<0.01	<0.2	0.008	34.3	0.0002	<0.04	<0.005	50	0.0026	<0.005	0.02	357	0.389	0.7	-28.6	L34779
57	1.019																							
58	0.986																							
59	0.958																							
60	0.990	0.040	<0.05	3.3	<0.02	0.9	<0.1	0.0002	<0.01	<0.2	0.015	40.5	0.0002	<0.04	<0.005	102	0.003	<0.005	0.03	370	0.416	0.09	-36.8	L35145
61	0.955																							
62	0.977																							
63	0.971																							
64	0.993	2.690	<0.05	3.2	<0.02	0.7	<0.1	0.0001	<0.01	<0.2	0.015	32.7	0.0002	<0.04	<0.005	52	0.0021	<0.005	0.02	287	0.246	0.687	-47.3	L35597
65	0.994																							
66	0.959																							
67	0.986																							
68	0.998	<0.02	<0.05	3.4	<0.02	0.7	<0.1	<0.0001	<0.01	<0.2	0.006	33.7	0.0001	<0.04	<0.005	40	0.0014	<0.005	0.02	220	0.208	0.708	-54.6	L36030
69	0.982																							
70	0.985																							
71	0.974																							
72	0.988	0.030	<0.05	3.3	<0.02	0.8	<0.1	0.0001	<0.01	1.3	0.012	29.0	0.0003	<0.04	<0.005	50	0.0018	<0.005	0.08	272	0.317	0.768	-41.6	L36586
73	0.992																							
74	0.963																							
75	0.996																							
76	1.006	0.060	<0.05	3.5	<0.02	0.7	<0.1	0.0001	<0.01	1.2	0.007	22.3	0.0002	<0.04	<0.005	32	0.001	<0.005	0.07	185	0.198	0.468	N/A	L37089
77	0.991																							
78	0.970																							
79	1.011																							
80	0.966	0.020	<0.05	3.5	<0.02	0.6	<0.1	0.0001	<0.01	<0.2	0.006	24.7	0.0001	<0.04	<0.005	20	0.0008	<0.005	0.01	156	---	0.519	N/A	L37686
81	1.008																							
82	0.960																							
83	0.996																							
84	1.004	<0.02	<0.05	3.3	<0.02	1	<0.1	0.0002	<0.01	<0.2	0.006	34.6	0.0003	<0.04	<0.005	68	0.0011	<0.005	<0.01	225	0.142	1.3	N/A	L38237
85	0.983																							
86	0.986																							
87	0.977																							

Exceeds Oregon
GW Quality Guideline

HCT - 6
CAL-001 (750-762)
Siltstone

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCI)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
Oregon Water Quality Guideline										*250*														
0	1.685	5.96	253	219	0.22	0.182	0.182	0.10	0.12	56	46.31	46.31	7.00	5.79	5.79	1.30	1.08	1.08	0	0.00	0.00	9	7.44	7.44
1	0.820	6.00	276	262	0.27	0.109	0.291	<0.10	<0.27	110	44.27	90.58	19.71	7.93	13.72	3.16	1.27	2.35	7	2.82	2.82	4	1.61	9.05
2	0.778	6.16	304	141	<0.10	0.000	0.291	<0.10	<0.10	57	21.76	112.34	7.47	2.85	16.57	1.37	0.52	2.87	7	2.67	5.49	4	1.53	10.58
3	0.832	6.24	329	98	<0.10	0.000	0.291	<0.10	<0.10	39	15.92	128.26	6.60	2.69	19.26	1.04	0.42	3.29	5	2.04	7.53	3	1.22	11.80
4	0.863	6.10	331	72	<0.10	0.000	0.291	<0.10	<0.10	31	13.13	141.39	4.39	1.86	21.12	0.79	0.33	3.62	7	2.97	10.50	3	1.27	13.07
5	0.851	6.10	372	69	<0.10	0.000	0.291	<0.10	<0.10	20	8.35	149.74	3.87	1.62	22.74	0.68	0.28	3.90	8	3.34	13.84	4	1.67	14.74
6	0.880	6.03	382	58	<0.10	0.000	0.291	<0.10	<0.10	23	9.93	159.67	2.91	1.26	24.00	0.49	0.21	4.11	7	3.02	16.86	3	1.30	16.04
7	0.899	6.25	355	58	<0.10	0.000	0.291	<0.10	<0.10	19	8.38	168.05	3.01	1.33	25.33	0.52	0.23	4.34	9	3.97	20.83	4	1.76	17.80
8	0.813	6.16	402	50	<0.10	0.000	0.291	<0.10	<0.10	17	6.78	174.83	2.67	1.07	26.40	0.53	0.21	4.55	7	2.79	23.63	4	1.60	19.40
9	0.813	6.20	342	54	<0.10	0.000	0.291	<0.10	<0.10	20	7.98	182.81	2.65	1.06	27.46	0.49	0.20	4.75	9	3.59	27.22	4	1.60	21.00
10	0.837	5.83	356	56	<0.10	0.000	0.291	<0.10	<0.10	19	7.80	190.61	3.48	1.43	28.89	0.67	0.28	5.03	9	3.70	30.91	6	2.46	23.46
11	0.827	5.95	405	42	<0.10	0.000	0.291	<0.10	<0.10	13	5.28	195.89	2.61	1.06	29.95	0.49	0.20	5.23	5	2.03	32.94	4	1.62	25.08
12	0.851	6.06	361	52	<0.10	0.000	0.291	<0.10	<0.10	18	7.52	203.41	2.65	1.11	31.06	0.52	0.22	5.45	5	2.09	35.03	4	1.67	26.75
13	0.849	6.28	324	47	<0.10	0.000	0.291	<0.10	<0.10	15	6.25	209.66	3.06	1.28	32.34	0.52	0.22	5.67	5	2.08	37.11	5	2.08	28.83
14	0.850	5.82	370	53	<0.10	0.000	0.291	<0.10	<0.10	16	6.67	216.33	3.07	1.28	33.62	0.57	0.24	5.91	4	1.67	38.78	3	1.25	30.08
15	0.792	5.95	309	43	<0.10	0.000	0.291	<0.10	<0.10	15	5.83	222.16	3.49	1.36	34.98	0.55	0.21	6.12	5	1.94	40.73	2	0.78	30.86
16	0.804	6.48	243	49	<0.10	0.000	0.291	<0.10	<0.10	14	5.52	227.68	2.92	1.15	36.13	0.56	0.22	6.34	9	3.55	44.28	4	1.58	32.44
17	0.828	6.86	255	50	<0.10	0.000	0.291	<0.10	<0.10	16	6.50	234.18	3.03	1.23	37.36	0.57	0.23	6.57	4	1.63	45.90	4	1.63	34.07
18	0.762	6.52	230	38	<0.10	0.000	0.291	<0.10	<0.10	16	5.98	240.16	2.44	0.91	38.27	0.49	0.18	6.75	7	2.62	48.52	3	1.12	35.19
19	0.817	6.35	296	61	0.10	0.040	0.331	<0.10	<0.1	19	7.62	247.78	3.07	1.23	39.50	0.59	0.24	6.99	6	2.41	50.93	3	1.20	36.39
20	0.809	6.17	316	60	0.11	0.044	0.375	<0.10	<0.11	18	7.15	254.93	3.79	1.50	41.00	0.71	0.28	7.27	15	5.96	56.88	3	1.19	37.58
21	0.818	6.21	218	65	0.14	0.056	0.431	0.12	0.02	24	9.63	264.56	4.24	1.70	42.70	0.79	0.32	7.59	10	4.02	60.90	4	1.61	39.19
22	0.935	6.38	221	75	0.18	0.083	0.514	<0.10	<0.18	30	13.77	278.33	5.73	2.63	45.33	1.11	0.51	8.10	6	2.75	63.65	4	1.84	41.03
23	0.937	5.82	316	68	0.12	0.055	0.569	<0.10	<0.12	21	9.66	287.99	4.47	2.06	47.39	0.83	0.38	8.48	5	2.30	65.95	3	1.38	42.41
24	0.764	5.09	358	67	0.14	0.052	0.621	<0.10	<0.14	27	10.12	298.11	5.15	1.93	49.32	0.86	0.32	8.80	12	4.50	70.45	2	0.75	43.16
25	0.794	5.17	302	71	0.19	0.074	0.695	<0.10	<0.19	27	10.52	308.63	5.11	1.99	51.31	0.83	0.32	9.12	7	2.73	73.18	2	0.78	43.94
26	0.779	4.69	368	61	0.18	0.069	0.764	<0.10	<0.18	24	9.18	317.81	4.43	1.69	53.00	0.84	0.32	9.44	7	2.68	75.85	1	0.38	44.32
27	0.885	4.78	321	62	0.17	0.074	0.838	<0.10	<0.17	19	8.25	326.06	3.89	1.69	54.69	0.74	0.32	9.76	5	2.17	78.02	1	0.43	44.75
28	0.852	4.70	293	65	0.20	0.084	0.922	<0.10	<0.2	26	10.87	336.93	4.17	1.74	56.43	0.74	0.31	10.07	5	2.09	80.11	1	0.42	45.17
29	0.839	4.59	299	68	0.37	0.152	1.074	0.30	0.07	18	7.41	344.34	4.60	1.89	58.32	0.82	0.34	10.41	5	2.06	82.17	0	0.00	45.17
30	0.792	5.11	243	61	0.22	0.086	1.160	<0.10	<0.22	24	9.33	353.67	3.98	1.55	59.87	0.67	0.26	10.67	5	1.94	84.12	1	0.39	45.56
31	0.844	4.36	311	80	0.28	0.116	1.276	<0.10	<0.28	23	9.53	363.20	5.47	2.27	62.14	0.94	0.39	11.06	8	3.31	87.43	0	0.00	45.56
32	0.796	4.45	296	65	0.28	0.109	1.385	<0.10	<0.28	25	9.77	372.97	4.70	1.84	63.98	0.79	0.31	11.37	7	2.74	90.17	0	0.00	45.56
33	0.795	4.86	244	62	0.23	0.090	1.475	<0.10	<0.23	24	9.36	382.33	3.63	1.42	65.40	0.62	0.24	11.61	2	0.78	90.95	5	1.95	47.51
34	0.991	4.91	259	78	0.27	0.131	1.606	0.18	0.09	22	10.70	393.03	4.41	2.14	67.54	0.83	0.40	12.01	12	5.84	96.78	4	1.95	49.46
35	0.766	4.57	290	69	0.29	0.109	1.715	0.14	0.15	19	7.14	400.17	4.29	1.61	69.15	0.76	0.29	12.30	8	3.01	99.79	2	0.75	50.21
36	0.799	4.64	294	78	0.27	0.106	1.821	0.17	0.10	27	10.59	410.76	4.76	1.87	71.02	0.83	0.33	12.63	6	2.35	102.14	1	0.39	50.60
37	0.806	4.74	259	80	0.38	0.150	1.971	0.17	0.21	30	11.87	422.63	5.54	2.19	73.21	0.96	0.38	13.01	5	1.98	104.12	0	0.00	50.60
38	0.866	4.44	318	86	0.50	0.213	2.184	0.22	0.28	27	11.48	434.11	6.42	2.73	75.94	1.19	0.51	13.52	7	2.98	107.09	0	0.00	50.60
39	0.781	4.46	281	95	0.40	0.153	2.337	0.18	0.22	27	10.35	444.46	5.59	2.14	78.08	1.01	0.39	13.91	7	2.68	109.78	0	0.00	50.60
40	0.826	4.48	315	93	0.41	0.166	2.503	0.21	0.20	24	9.73	454.19	5.22	2.12	80.20	0.98	0.40	14.31	17	6.89	116.67	0	0.00	50.60
41	0.760	4.37	339	83	0.34	0.127	2.630	0.21	0.13	20	7.46	461.65	4.69	1.75	81.95	0.84	0.31	14.62	17	6.34	123.01	0	0.00	50.60
42	0.809	4.33	349	88	0.39	0.155	2.785	0.16	0.23	27	10.72	472.37	5.65	2.24	84.19	1.07	0.42	15.04	17	6.75	129.76	0	0.00	50.60
43	0.808	4.35	326	85	0.41	0.163	2.948	0.15	0.26	22	8.72	481.09	5.25	2.08	86.27	0.89	0.35	15.39	7	2.78	132.54	0	0.00	50.60
44	0.811	4.66	286	85	0.36	0.143	3.091	0.17	0.19	20	7.96	489.05	4.99	1.99	88.26	0.93	0.37	15.76	7	2.79	135.32	0	0.00	50.60
45	0.807	4.29	382	75	0.44	0.174	3.265	0.19	0.25	20	7.92	496.97	5.13	2.03	90.29	0.99	0.39	16.15	8	3.17	138.49	0	0.00	50.60

Exceeds Oregon
GW Quality Guideline

HCT - 6
CAL-001 (750-762)
Siltstone

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2+} mg/l	Fe^{3+} mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.805	4.29	416	98	0.48	0.190	3.455	0.22	0.26	24	9.48	506.45	6.25	2.47	92.76	1.12	0.44	16.59	9	3.56	142.05	0	0.00	50.60
47	0.808	4.40	464	88	0.45	0.178	3.633	0.22	0.23	22	8.72	515.17	5.20	2.06	94.82	0.99	0.39	16.98	9	3.57	145.61	0	0.00	50.60
48	0.800	4.32	410	90	0.41	0.161	3.794	0.21	0.20	21	8.24	523.41	5.06	1.99	96.81	0.90	0.35	17.33	15	5.89	151.50	0	0.00	50.60
49	0.783	4.36	392	84	0.39	0.150	3.944	0.16	0.23	19	7.30	530.71	4.71	1.81	98.62	0.82	0.32	17.65	11	4.23	155.73	0	0.00	50.60
50	0.807	4.31	410	91	0.42	0.166	4.110	0.18	0.24	24	9.51	540.22	5.29	2.10	100.72	0.95	0.38	18.03	9	3.56	159.29	0	0.00	50.60
51	0.788	4.28	454	96	0.40	0.155	4.265	0.21	0.19	22	8.51	548.73	4.58	1.77	102.49	0.88	0.34	18.37	9	3.48	162.78	0	0.00	50.60
52	0.788	4.31	403	90	0.37	0.143	4.408	0.19	0.18	21	8.12	556.85	4.84	1.87	104.36	0.77	0.30	18.67	9	3.48	166.26	0	0.00	50.60
53	0.777	4.20	404	96	0.43	0.164	4.572	0.18	0.25	26	9.91	566.76	5.12	1.95	106.31	0.87	0.33	19.00	9	3.43	169.69	0	0.00	50.60
54	0.811	4.23	384	91	0.42	0.167	4.739	0.21	0.21	26	10.35	577.11	4.97	1.98	108.29	0.84	0.33	19.33	14	5.57	175.26	0	0.00	50.60
55	0.829	4.11	390	105	0.46	0.187	4.926	0.25	0.21	28	11.39	588.50	5.51	2.24	110.53	0.90	0.37	19.70	10	4.07	179.33	0	0.00	50.60
56	0.826	4.21	442	95	0.44	0.178	5.104	0.19	0.25	25	10.13	598.63	4.60	1.86	112.39	0.86	0.35	20.05	11	4.46	183.79	0	0.00	50.60
57	0.787	4.22	386	85	0.35	0.135	5.239	0.19	0.16	22	8.50	607.13	3.85	1.49	113.88	0.71	0.27	20.32	8	3.09	186.88	0	0.00	50.60
58	0.844	4.14	404	94	0.47	0.195	5.434	0.21	0.26	26	10.77	617.90	4.48	1.86	115.74	0.77	0.32	20.64	10	4.14	191.02	0	0.00	50.60
59	0.812	4.06	405	104	0.60	0.239	5.673	0.25	0.35	28	11.16	629.06	5.26	2.10	117.84	0.97	0.39	21.03	11	4.38	195.40	0	0.00	50.60
60	0.874	4.03	409	107	0.43	0.184	5.857	0.21	0.22	29	12.44	641.50	5.29	2.27	120.11	0.94	0.40	21.43	12	5.15	200.55	0	0.00	50.60
61	0.852	3.99	416	114	0.40	0.167	6.024	0.25	0.15	33	13.80	655.30	5.62	2.35	122.46	0.93	0.39	21.82	11	4.60	205.15	0	0.00	50.60
62	0.835	3.97	405	117	0.52	0.213	6.237	0.43	0.09	34	13.93	669.23	5.72	2.34	124.80	0.97	0.40	22.22	13	5.33	210.48	0	0.00	50.60
63	0.806	3.98	407	107	0.58	0.229	6.466	0.42	0.16	31	12.26	681.49	5.06	2.00	126.80	0.93	0.37	22.59	16	6.33	216.81	0	0.00	50.60
64	0.820	3.94	413	117	0.54	0.217	6.683	0.39	0.15	33	13.10	694.59	5.69	2.29	129.09	0.96	0.39	22.98	15	6.04	222.84	0	0.00	50.60
65	0.812	3.94	411	118	0.54	0.215	6.898	0.42	0.12	34	13.51	708.10	5.12	2.04	131.13	0.90	0.36	23.34	13	5.18	228.03	0	0.00	50.60
66	0.840	3.98	428	111	0.40	0.165	7.063	0.32	0.08	33	13.41	721.51	5.36	2.21	133.34	0.87	0.36	23.70	13	5.36	233.38	0	0.00	50.60
67	0.826	4.03	405	107	0.47	0.191	7.254	0.38	0.09	31	12.57	734.08	4.61	1.87	135.21	0.76	0.31	24.01	11	4.46	237.84	0	0.00	50.60
68	0.810	3.96	408	104	0.41	0.163	7.417	0.32	0.09	28	11.13	745.21	4.83	1.92	137.13	0.71	0.28	24.29	15	5.96	243.81	0	0.00	50.60
69	0.786	3.97	411	105	0.46	0.177	7.594	0.34	0.12	25	9.64	754.85	4.54	1.75	138.88	0.74	0.29	24.58	15	5.79	249.59	0	0.00	50.60
70	0.813	3.90	402	119	0.57	0.227	7.821	0.42	0.15	30	11.97	766.82	5.00	1.99	140.87	0.84	0.34	24.92	16	6.38	255.98	0	0.00	50.60
71	0.814	3.91	407	112	0.48	0.192	8.013	0.42	0.06	28	11.19	778.01	5.24	2.09	142.96	0.84	0.34	25.26	15	5.99	261.97	0	0.00	50.60
72	0.794	3.94	403	101	0.37	0.144	8.157	0.34	0.03	24	9.35	787.36	4.28	1.67	144.63	0.67	0.26	25.52	14	5.46	267.42	0	0.00	50.60
73	0.785	3.99	410	101	0.46	0.177	8.334	0.34	0.12	27	10.40	797.76	4.68	1.80	146.43	0.75	0.29	25.81	15	5.78	273.20	0	0.00	50.60
74	0.805	3.93	404	98	0.39	0.154	8.488	0.35	0.04	25	9.88	807.64	4.35	1.72	148.15	0.64	0.25	26.06	14	5.53	278.73	0	0.00	50.60
75	0.718	3.90	402	102	0.43	0.152	8.640	0.34	0.09	24	8.46	816.10	4.27	1.50	149.65	0.67	0.24	26.30	15	5.29	284.02	0	0.00	50.60
76	0.802	3.88	411	115	0.49	0.193	8.833	0.36	0.13	23	9.05	825.15	3.90	1.54	151.19	0.65	0.26	26.56	16	6.30	290.32	0	0.00	50.60
77	0.796	3.86	426	145	0.48	0.188	9.021	0.29	0.19	26	10.16	835.31	4.30	1.68	152.87	0.67	0.26	26.82	16	6.25	296.57	0	0.00	50.60
78	0.784	3.79	423	128	0.52	0.200	9.221	0.39	0.13	27	10.39	845.70	4.77	1.84	154.71	0.64	0.25	27.07	17	6.54	303.11	0	0.00	50.60
79	0.798	3.79	426	140	0.55	0.215	9.436	0.44	0.11	30	11.75	857.45	4.54	1.78	156.49	0.72	0.28	27.35	17	6.66	309.77	0	0.00	50.60
80	0.801	3.78	452	137	0.49	0.193	9.629	0.30	0.19	33	12.97	870.42	4.88	1.92	158.41	0.79	0.31	27.66	20	7.86	317.63	0	0.00	50.60
81	0.803	3.82	428	126	0.45	0.177	9.806	0.32	0.13	28	11.03	881.45	4.08	1.61	160.02	0.78	0.31	27.97	19	7.49	325.12	0	0.00	50.60
82	0.800	3.70	424	146	0.67	0.263	10.069	0.39	0.28	34	13.35	894.80	5.25	2.06	162.08	0.83	0.33	28.30	21	8.25	333.36	0	0.00	50.60
83	0.799	3.80	414	139	0.54	0.212	10.281	0.26	0.28	30	11.76	906.56	3.93	1.54	163.62	0.69	0.27	28.57	19	7.45	340.81	0	0.00	50.60
84	0.798	3.74	418	144	0.53	0.208	10.489	0.35	0.18	31	12.14	918.70	4.40	1.72	165.34	0.71	0.28	28.85	19	7.44	348.25	0	0.00	50.60
85	0.794	3.77	412	151	0.61	0.238	10.727	0.42	0.19	34	13.21	931.91	5.10	1.99	167.33	0.80	0.31	29.16	18	7.01	355.27	0	0.00	50.60
86	0.814	3.65	415	158	0.64	0.256	10.983	0.48	0.16	40	16.01	947.92	4.90	1.96	169.29	0.84	0.34	29.50	20	8.15	363.41	0	0.00	50.60
87	0.815	3.71	413	153	0.67	0.268	11.251	0.42	0.25	38	15.20	963.12	4.60	1.84	171.13	0.78	0.31	29.81	20	8.00	371.41	0	0.00	50.60

Exceeds Oregon GW Quality Guideline

HCT - 6
CAL-001 (750-762)
Siltstone

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
Oregon Water Quality Guideline							*0.05*	*1*				*0.01*		*250*	*0.05*		*1*	*4*				*0.3*	*0.05*			*0.05*	*0.002*		
0	1.685	<2	<2	<2	3.65	0.0062	0.093	0.058	0.00383	<0.04	0.17	0.0012	214	51.6	0.01	0.10	0.15	1.5	<0.1	725	<2	4.3	0.004	0.156	46.3	1.980	<0.0002	<0.02	0.140
1	0.820	<2	<2	<2	0.27	0.0044	0.027	0.077	0.0005	<0.04	0.04	0.0001	9.9	3.3	<0.01	<0.01	0.01	0.2	<0.1	34.2	<2	0.2	0.001	0.028	2.3	0.102	<0.0002	<0.02	0.009
2	0.778	<2	<2	<2	0.51	0.0034	0.007	0.120	0.00076	<0.04	0.03	0.0001	21.8	0.8	<0.01	0.01	0.03	0.4	<0.1	73	<2	0.4	0.001	0.029	4.5	0.227	<0.0002	<0.02	0.022
3	0.832																												
4	0.863	<2	<2	<2	0.95	0.0023	0.006	0.038	0.00178	<0.04	0.01	0.0003	39.3	<0.5	<0.01	0.03	0.06	0.7	<0.1	131	<2	1.1	0.001	0.012	8.1	0.452	<0.0002	<0.02	0.050
5	0.851																												
6	0.880																												
7	0.899																												
8	0.813	<2	<2	<2	0.81	0.0019	0.007	0.027	0.00181	<0.04	0.2	0.0004	27.6	0.5	<0.01	0.02	0.06	0.6	<0.1	92	<2	1.7	0.001	<0.008	5.6	0.347	0.000	<0.02	0.042
9	0.813																												
10	0.837																												
11	0.827																												
12	0.851	<2	<2	<2	0.67	0.002	0.006	0.022	0.00174	<0.04	0.04	0.0003	22	<0.5	<0.01	0.02	0.05	<10	<0.1	73	<2	2.2	0.001	<0.008	4.3	0.279	<0.0002	<0.02	0.035
13	0.849																												
14	0.850																												
15	0.792																												
16	0.804	<2	<2	<2	0.73	0.0011	0.008	0.019	0.00192	<0.04	<0.01	0.0005	19.7	<0.5	<0.01	0.02	0.07	0.5	<0.1	65	<2	2.8	0.001	<0.008	3.9	0.275	0.000	<0.02	0.043
17	0.828																												
18	0.762																												
19	0.817																												
20	0.809	<2	<2	<2	1.27	0.0013	0.028	0.021	0.00307	<0.04	0.01	0.0009	29.6	<0.5	<0.01	0.04	0.13	<2	<0.1	97	<2	6.2	0.001	<0.008	5.7	0.454	<0.0002	<0.02	0.063
21	0.818																												
22	0.935																												
23	0.937																												
24	0.764	<2	<2	<2	1.8	0.0013	0.076	0.023	0.00413	<0.04	0.02	0.0017	34.9	0.5	<0.01	0.05	0.19	<10	<0.1	114	<2	7.7	0.001	0.012	6.5	0.616	<0.0002	<0.02	0.082
25	0.794																												
26	0.779																												
27	0.885																												
28	0.852	<2	<2	<2	1.29	0.0012	0.079	0.025	0.00317	<0.04	<0.01	0.0014	22.5	<0.5	<0.01	0.04	0.13	<10	<0.1	74	<2	4.4	0.001	<0.008	4.3	0.472	<0.0002	<0.02	0.055
29	0.839																												
30	0.792																												
31	0.844																												
32	0.796	<2	<2	<2	1.4	0.0008	0.057	0.026	0.00294	<0.04	<0.01	0.0015	21.5	<0.5	<0.01	0.03	0.13	0.5	<0.1	68	<2	4.0	0.001	<0.008	3.8	0.473	<0.0002	<0.02	0.058
33	0.795																												
34	0.991																												
35	0.766																												
36	0.799	<2	<2	<2	1.91	0.001	0.021	0.026	0.00286	<0.04	<0.01	0.0016	21.3	<0.5	0.01	0.03	0.15	5.0	<0.1	69	<2	4.8	0.004	<0.008	3.8	0.554	0.000	<0.02	0.059
37	0.806																												
38	0.866																												
39	0.781																												
40	0.826	<2	<2	<2	1.05	0.0008	0.012	0.019	0.00184	<0.04	<0.01	0.0010	12.7	<0.5	<0.01	0.02	0.08	2.0	<0.1	42	<2	2.2	0.002	<0.008	2.4	0.371	<0.0002	<0.02	0.04
41	0.760																												
42	0.809																												
43	0.808																												
44	0.811	<2	<2	<2	1.61	0.0008	0.004	0.023	0.00214	<0.04	<0.01	0.0012	14.3	<0.5	<0.01	0.03	0.10	<2	<0.1	46	<2	3.0	0.003	<0.008	2.4	0.431	<0.0002	<0.02	0.040
45	0.807																												

Exceeds Oregon GW Quality Guideline

HCT - 6
CAL-001 (750-762)
Siltstone

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
46	0.805																												
47	0.808																												
48	0.800	<2	<2	<2	0.92	0.0008	0.003	0.020	0.0015	<0.04	<0.01	0.0008	9	<0.5	<0.01	0.02	0.07	<2	<0.1	28	<2	1.8	0.004	<0.008	1.4	0.279	<0.0002	<0.02	0.029
49	0.783																												
50	0.807																												
51	0.788																												
52	0.788	<2	<2	<2	0.59	0.0006	0.003	0.012	0.00111	<0.04	<0.01	0.0005	5.8	<0.5	<0.01	<0.01	0.04	<2	<0.1	19	<2	0.9	0.001	<0.008	1	0.181	<0.0002	<0.02	0.012
53	0.777																												
54	0.811																												
55	0.829																												
56	0.826	<2	<2	<2	0.42	0.0012	0.006	0.016	0.00069	<0.04	<0.01	0.0004	4.4	<0.5	<0.01	<0.01	0.03	<4	<0.1	14	<2	0.7	0.001	<0.008	0.7	0.142	<0.0002	<0.02	0.014
57	0.787																												
58	0.844																												
59	0.812																												
60	0.874	<2	<2	<2	0.46	0.0005	0.003	0.025	0.00068	<0.04	<0.01	0.0004	4.6	<0.5	<0.01	0.01	0.03	<4	<0.1	15	<2	0.6	0.002	<0.008	0.8	0.152	<0.0002	<0.02	0.015
61	0.852																												
62	0.835																												
63	0.806																												
64	0.820	<2	<2	<2	0.27	0.001	0.002	0.030	0.0005	<0.04	<0.01	0.0003	2.6	<0.5	<0.01	<0.01	0.02	<4	<0.1	8.6	<2	0.4	0.002	<0.008	0.5	0.089	<0.0002	<0.02	0.011
65	0.812																												
66	0.840																												
67	0.826																												
68	0.810	<2	<2	<2	0.21	<0.0004	0.002	0.017	0.00035	<0.04	<0.01	0.0002	2.1	<0.5	<0.01	<0.01	<0.01	<10	<0.1	7.3	<2	0.3	0.002	<0.008	0.5	0.067	<0.0002	<0.02	<.0008
69	0.786																												
70	0.813																												
71	0.814																												
72	0.794	<2	<2	<2	0.28	0.0006	0.002	0.096	0.00047	<0.04	0.05	0.0003	3	<0.5	<0.01	<0.01	0.03	3.0	<0.1	9.1	<2	0.3	0.002	<0.008	0.4	0.088	<0.0002	<0.02	0.01
73	0.785																												
74	0.805																												
75	0.718																												
76	0.802	<2	<2	<2	0.12	<0.0004	0.001	0.109	0.00022	<0.04	0.06	0.0002	1.7	<0.5	<0.01	<0.01	0.01	<4	<0.1	5.1	<2	0.1	0.002	<0.008	0.2	0.044	<0.0002	<0.02	<0.008
77	0.796																												
78	0.784																												
79	0.798																												
80	0.801	<2	<2	<2	0.09	0.0005	0.001	0.016	0.00022	<0.04	<0.01	<0.0001	1.1	<0.5	<0.01	<0.01	<0.01	<10	<0.1	2.8	<2	0.1	0.001	<0.008	<0.2	0.035	<0.0002	<0.02	<0.008
81	0.803																												
82	0.800																												
83	0.799																												
84	0.798	<2	<2	<2	0.13	0.0005	0.002	0.035	0.00028	<0.04	<0.01	0.0001	1.5	<0.5	<0.01	<0.01	<0.01	10.0	<0.1	4.6	<2	0.1	0.001	<0.008	0.2	0.044	<0.0002	<0.02	<0.008
85	0.794																												
86	0.814																												
87	0.815																												

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HCT - 6
CAL-001 (750-762)
Siltstone

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
Oregon Water Quality Guideline		*10*		*6.5 - 8.5*				*0.01*	*0.05*			*250*				*500*			*5*					
0	1.685	1.370	1.22	4.4	0.05	60.9	<0.1	0.1115	<0.01	200	0.619	1130	0.0017	<0.04	0.015	1840	0.0023	<0.005	0.24	2210	26.0	25	2.0	L27933
1	0.820	0.030	0.18	4.4	<0.02	15	<0.1	0.0478	<0.01	21	0.033	105	0.0004	<0.04	<0.005	208	0.0002	<0.005	0.02	255	2.1	2.3	-4.5	L28023
2	0.778	0.040	0.22	4.5	<0.02	18.7	<0.1	0.0309	<0.01	13.6	0.07	128	0.0005	<0.04	<0.005	232	0.0003	<0.005	0.04	336	2.7	2.7	0.0	L28126
3	0.832																							
4	0.863	0.050	0.12	4.3	<0.02	19.7	<0.1	0.0161	<0.01	2.9	0.112	166.0	0.0005	<0.04	<0.005	288	0.0007	<0.005	0.08	369	3.5	3.5	0	L28324
5	0.851																							
6	0.880																							
7	0.899																							
8	0.813	<0.02	<0.05	4.1	0.03	9.5	<0.1	0.0062	<0.01	0.3	0.084	119.0	0.0005	<0.04	<0.005	250	0.0011	<0.005	0.07	294	2.3	2.5	-4.2	L28657
9	0.813																							
10	0.837																							
11	0.827																							
12	0.851	0.020	<0.05	4.0	<0.02	6.5	<0.1	0.0017	<0.01	<0.2	0.06	99.5	0.0003	<0.04	<0.005	166	0.0012	<0.005	0.05	268	1.8	2.1	-7.7	L29021
13	0.849																							
14	0.850																							
15	0.792																							
16	0.804	0.020	<0.05	3.9	<0.02	3	<0.1	0.0019	<0.01	<0.2	0.058	90.6	0.0005	<0.04	<0.005	142	0.0034	<0.005	0.07	248	1.6	1.9	-8.6	L29484
17	0.828																							
18	0.762																							
19	0.817																							
20	0.809	0.030	<0.05	2.4	<0.02	3.3	<0.1	0.0013	<0.01	<0.2	0.087	119.0	0.0005	<0.04	<0.005	208	0.0067	<0.005	0.09	2170	2.5	2.5	0.0	L29914
21	0.818																							
22	0.935																							
23	0.937																							
24	0.764	0.040	<0.05	3.2	<0.02	2.9	<0.1	0.0012	<0.01	<0.2	0.105	148.0	0.0005	<0.04	0.005	286	0.0142	<0.005	0.13	567	3.0	3.1	-1.6	L30419
25	0.794																							
26	0.779																							
27	0.885																							
28	0.852	<0.02	0.26	3.1	<0.02	2.3	<0.1	0.0007	<0.01	<0.2	0.072	132.0	0.0004	<0.04	<0.005	192	0.0106	<0.005	0.09	505	2	2.8	-16.7	L30908
29	0.839																							
30	0.792																							
31	0.844																							
32	0.796	<0.02	<0.05	3	<0.02	1.7	<0.1	0.0005	<0.01	<0.2	0.063	117.0	0.0003	<0.04	<0.005	186	0.0104	<0.005	0.10	592	1.8	2.5	-16.3	L31481
33	0.795																							
34	0.991																							
35	0.766																							
36	0.799	<0.02	<0.05	2.8	<0.02	1.8	<0.1	0.0005	<0.01	<0.2	0.069	139.0	0.0005	<0.04	<0.005	190	0.0143	<0.005	0.10	751	1.9	3.2	-25.5	L32131
37	0.806																							
38	0.866																							
39	0.781																							
40	0.826	<0.02	0.08	3	<0.02	1.3	<0.1	0.0004	<0.01	<0.2	0.035	99.1	0.0005	<0.04	<0.005	116	0.0075	<0.005	0.07	570	1.1	2.2	-33.3	L32682
41	0.760																							
42	0.809																							
43	0.808																							
44	0.811	<0.02	<0.05	2.9	<0.02	1.2	<0.1	0.0004	<0.01	<0.2	0.05	114.0	0.0006	<0.04	<0.005	138	0.0096	<0.005	0.09	634	1.3	2.4	-29.7	L33233
45	0.807																							

Exceeds Oregon
GW Quality Guideline

HCT - 6
CAL-001 (750-762)
Siltstone

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
46	0.805																							
47	0.808																							
48	0.800	0.020	<0.05	3	<0.02	0.9	<0.1	0.0003	<0.01	<0.2	0.032	75.2	0.0003	<0.04	<0.005	86	0.0062	<0.005	0.06	486	0.808	1.6	-32.9	L33820
49	0.783																							
50	0.807																							
51	0.788																							
52	0.788	<0.02	<0.05	3.1	<0.02	0.7	<0.1	0.0002	<0.01	<0.2	0.016	49.9	0.0002	<0.04	<0.005	82	0.004	<0.005	0.03	418	0.5	1.1	-37.5	L34366
53	0.777																							
54	0.811																							
55	0.829																							
56	0.826	<0.02	<0.05	3.1	<0.02	0.7	<0.1	0.0002	<0.01	<0.2	0.008	34.3	0.0002	<0.04	<0.005	50	0.0026	<0.005	0.02	357	0.389	0.7	-28.6	L34779
57	0.787																							
58	0.844																							
59	0.812																							
60	0.874	0.040	<0.05	3.3	<0.02	0.9	<0.1	0.0002	<0.01	<0.2	0.015	40.5	0.0002	<0.04	<0.005	102	0.003	<0.005	0.03	370	0.416	0.09	-36.8	L35145
61	0.852																							
62	0.835																							
63	0.806																							
64	0.820	2.690	<0.05	3.2	<0.02	0.7	<0.1	0.0001	<0.01	<0.2	0.015	32.7	0.0002	<0.04	<0.005	52	0.0021	<0.005	0.02	287	0.246	0.687	-47.3	L35597
65	0.812																							
66	0.840																							
67	0.826																							
68	0.810	<0.02	<0.05	3.4	<0.02	0.7	<0.1	<0.0001	<0.01	<0.2	0.006	33.7	0.0001	<0.04	<0.005	40	0.0014	<0.005	0.02	220	0.208	0.708	-54.6	L36030
69	0.786																							
70	0.813																							
71	0.814																							
72	0.794	0.030	<0.05	3.3	<0.02	0.8	<0.1	0.0001	<0.01	1.3	0.012	29.0	0.0003	<0.04	<0.005	50	0.0018	<0.005	0.08	272	0.317	0.768	-41.6	L36586
73	0.785																							
74	0.805																							
75	0.718																							
76	0.802	0.060	<0.05	3.5	<0.02	0.7	<0.1	0.0001	<0.01	1.2	0.007	22.3	0.0002	<0.04	<0.005	32	0.001	<0.005	0.07	185	0.198	0.468	N/A	L37089
77	0.796																							
78	0.784																							
79	0.798																							
80	0.801	0.020	<0.05	3.5	<0.02	0.6	<0.1	0.0001	<0.01	<0.2	0.006	24.7	0.0001	<0.04	<0.005	20	0.0008	<0.005	0.01	156	---	0.519	N/A	L37686
81	0.803																							
82	0.800																							
83	0.799																							
84	0.798	<0.02	<0.05	3.3	<0.02	1	<0.1	0.0002	<0.01	<0.2	0.006	34.6	0.0003	<0.04	<0.005	68	0.0011	<0.005	<0.01	225	0.142	1.3	N/A	L38237
85	0.794																							
86	0.814																							
87	0.815																							

Exceeds Oregon
GW Quality Guideline

HCT - 7
GMC-014 (176-184)
Siltstone

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2+} mg/l	Fe^{3+} mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
Oregon Water Quality Guideline										*250*														
0	0.647	2.10	442	12160	1527.90	655.712	655.712	720.00	807.90	16250	6973.83	6973.83	435.30	186.81	186.81	229.77	98.61	98.61	12873	5524.56	5524.56	0	0.00	0.00
1	0.663	2.26	399	8090	849.60	373.630	1029.342	832.00	17.60	11000	4837.49	11811.32	341.83	150.33	337.14	109.04	47.95	146.56	6390	2810.14	8334.71	0	0.00	0.00
2	0.815	2.43	509	5230	492.00	265.972	1295.314	260.00	232.00	3900	2108.32	13919.64	193.95	104.85	441.99	58.66	31.71	178.27	3169	1713.14	10047.85	0	0.00	0.00
3	0.675	2.43	525	4110	441.00	197.450	1492.764	156.00	285.00	3000	1343.19	15262.83	188.59	84.44	526.43	48.34	21.64	199.91	2047	916.51	10964.35	0	0.00	0.00
4	0.764	2.53	514	3210	347.54	176.121	1668.885	182.00	165.54	2600	1317.59	16580.42	155.34	78.72	605.15	33.09	16.77	216.68	1391	704.91	11669.27	0	0.00	0.00
5	0.712	2.75	533	1649	96.21	45.437	1714.322	61.10	35.11	810	382.54	16962.96	53.12	25.09	630.24	11.16	5.27	221.95	490	231.41	11900.68	0	0.00	0.00
6	0.736	2.85	533	1155	59.38	28.989	1743.311	35.10	24.28	420	205.04	17168.00	29.98	14.64	644.88	5.34	2.61	224.56	288	140.60	12041.28	0	0.00	0.00
7	0.689	2.85	465	1037	40.68	18.591	1761.902	29.25	11.43	330	150.82	17318.82	20.79	9.50	654.38	4.01	1.83	226.39	251	114.71	12155.99	0	0.00	0.00
8	0.719	2.64	559	1335	94.88	45.250	1807.152	48.75	46.13	480	228.92	17547.74	37.80	18.03	672.41	6.93	3.31	229.70	403	192.20	12348.19	0	0.00	0.00
9	0.715	2.83	494	1216	68.18	32.335	1839.487	45.50	22.68	490	232.39	17780.13	24.31	11.53	683.94	4.48	2.12	231.82	357	169.31	12517.50	0	0.00	0.00
10	0.717	2.77	431	1180	76.69	36.473	1875.960	48.10	28.59	410	194.99	17975.12	25.45	12.10	696.04	4.62	2.20	234.02	335	159.32	12676.82	0	0.00	0.00
11	0.714	2.69	542	1071	72.62	34.393	1910.353	48.75	23.87	360	170.50	18145.62	22.14	10.49	706.53	3.96	1.88	235.90	306	144.92	12821.75	0	0.00	0.00
12	0.734	2.88	476	1050	60.06	29.241	1939.594	33.15	26.91	370	180.14	18325.76	17.67	8.60	715.13	3.11	1.51	237.41	265	129.02	12950.77	0	0.00	0.00
13	0.701	2.94	439	970	60.20	27.992	1967.586	30.55	29.65	340	158.09	18483.85	16.34	7.60	722.73	2.57	1.19	238.60	243	112.99	13063.76	0	0.00	0.00
14	0.717	2.99	427	990	59.29	28.198	1995.784	35.29	24.00	290	137.92	18621.77	15.17	7.21	729.94	2.61	1.24	239.84	270	128.41	13192.16	0	0.00	0.00
15	0.724	2.70	502	886	64.03	30.749	2026.533	35.75	28.28	260	124.86	18746.63	15.46	7.42	737.36	2.30	1.10	240.94	255	122.46	13314.62	0	0.00	0.00
16	0.655	2.90	450	914	59.05	25.655	2052.188	40.30	18.75	270	117.31	18863.94	13.01	5.65	743.01	2.18	0.95	241.89	265	115.13	13429.76	0	0.00	0.00
17	0.715	2.96	425	990	70.93	33.640	2085.828	39.00	31.93	320	151.76	19015.70	15.28	7.25	750.26	2.32	1.10	242.99	280	132.79	13562.55	0	0.00	0.00
18	0.708	2.91	426	1009	77.62	36.452	2122.280	40.95	36.67	370	173.76	19189.46	14.28	6.71	756.97	2.24	1.05	244.04	306	143.70	13706.26	0	0.00	0.00
19	0.720	2.84	432	1056	77.79	37.151	2159.431	53.30	24.49	370	176.70	19366.16	14.29	6.82	763.79	2.17	1.04	245.08	323	154.26	13860.51	0	0.00	0.00
20	0.707	2.73	431	1253	98.57	46.225	2205.656	59.80	38.77	420	196.96	19563.12	17.22	8.08	771.87	2.78	1.30	246.38	395	185.24	14045.75	0	0.00	0.00
21	0.676	2.74	474	1317	99.34	44.544	2250.200	66.95	32.39	520	233.17	19796.29	17.25	7.73	779.60	2.66	1.19	247.57	454	203.57	14249.32	0	0.00	0.00
22	0.728	2.76	438	1297	110.07	53.151	2303.351	55.90	54.17	550	265.59	20061.88	16.87	8.15	787.75	2.63	1.27	248.84	471	227.44	14476.76	0	0.00	0.00
23	0.774	2.74	498	1295	96.08	49.327	2352.678	55.25	40.83	550	282.37	20344.25	14.36	7.37	795.12	2.23	1.14	249.98	446	228.98	14705.74	0	0.00	0.00
24	0.682	2.75	468	1069	53.15	24.044	2376.722	22.75	30.40	390	176.43	20520.68	10.20	4.61	799.73	1.50	0.68	250.66	514	232.52	14938.26	0	0.00	0.00
25	0.687	2.65	447	1412	112.62	51.320	2428.042	59.80	52.82	630	287.09	20807.77	14.71	6.70	806.43	2.25	1.03	251.69	526	239.69	15177.95	0	0.00	0.00
26	0.748	2.68	449	1271	95.62	47.442	2475.484	53.95	41.67	560	277.85	21085.62	11.50	5.71	812.14	1.89	0.94	252.63	469	232.70	15410.65	0	0.00	0.00
27	0.682	2.66	452	1444	107.00	48.404	2523.888	59.15	47.85	480	217.14	21302.76	11.63	5.26	817.40	1.99	0.90	253.53	524	237.04	15647.69	0	0.00	0.00
28	0.724	2.63	449	1489	116.00	55.707	2579.595	52.65	63.35	660	316.95	21619.71	10.65	5.11	822.51	1.74	0.84	254.37	538	258.37	15906.06	0	0.00	0.00
29	0.294	2.60	459	1502	109.31	21.317	2600.912	53.95	55.36	440	85.81	21705.52	12.00	2.34	824.85	1.79	0.35	254.72	576	112.33	16018.39	0	0.00	0.00
30	0.687	2.57	448	1623	136.77	62.325	2663.237	74.75	62.02	730	332.65	22038.17	12.32	5.61	830.46	1.64	0.75	255.47	779	354.98	16373.37	0	0.00	0.00
31	0.701	2.47	445	1701	167.79	78.019	2741.256	68.25	99.54	500	232.49	22270.66	11.89	5.53	835.99	1.71	0.80	256.27	674	313.40	16686.76	0	0.00	0.00
32	0.647	2.50	453	1421	126.49	54.284	2795.540	57.20	69.29	550	236.04	22506.70	8.37	3.59	839.58	1.21	0.52	256.79	501	215.01	16901.77	0	0.00	0.00
33	0.698	2.46	449	1173	88.33	40.896	2836.436	35.10	53.23	430	199.08	22705.78	5.32	2.46	842.04	0.82	0.38	257.17	399	184.73	17086.51	0	0.00	0.00
34	0.691	2.78	450	1079	61.56	28.216	2864.652	34.45	27.11	260	119.17	22824.95	3.24	1.49	843.53	0.57	0.26	257.43	356	163.17	17249.68	0	0.00	0.00
35	0.651	2.73	454	1125	67.52	29.156	2893.808	34.45	33.07	270	116.59	22941.54	4.30	1.86	845.39	0.60	0.26	257.69	287	123.93	17373.61	0	0.00	0.00
36	0.694	2.73	449	1172	56.72	26.110	2919.918	39.65	17.07	390	179.53	23121.07	3.16	1.45	846.84	0.49	0.23	257.92	316	145.47	17519.07	0	0.00	0.00
37	0.680	2.76	455	1069	65.06	29.345	2949.263	40.95	24.11	410	184.93	23306.00	3.48	1.57	848.41	0.55	0.25	258.17	299	134.86	17653.94	0	0.00	0.00
38	0.676	2.77	458	1015	59.63	26.738	2976.001	33.15	26.48	280	125.55	23431.55	2.99	1.34	849.75	0.52	0.23	258.40	255	114.34	17768.28	0	0.00	0.00
39	0.708	2.68	451	981	49.06	23.040	2999.041	34.45	14.61	250	117.41	23548.96	2.16	1.01	850.76	0.49	0.23	258.63	236	110.83	17879.11	0	0.00	0.00
40	0.692	2.85	458	814	46.32	21.261	3020.302	23.40	22.92	159	72.98	23621.94	1.19	0.55	851.31	0.49	0.22	258.85	186	85.38	17964.48	0	0.00	0.00
41	0.710	2.81	451	900	51.30	24.160	3044.462	31.85	19.45	203	95.60	23717.54	2.00	0.94	852.25	0.49	0.23	259.08	226	106.43	18070.92	0	0.00	0.00
42	0.707	2.55	450	1054	56.05	26.285	3070.747	33.15	22.90	279	130.84	23848.38	2.35	1.10	853.35	0.49	0.23	259.31	264	123.81	18194.72	0	0.00	0.00
43	0.744	2.64	449	891	46.76	23.076	3093.823	33.80	12.96	189	93.27	23941.65	1.56	0.77	854.12	0.49	0.24	259.55	213	105.12	18299.84	0	0.00	0.00
44	0.701	2.85	452	789	33.88	15.753	3109.576	21.45	12.43	124	57.66	23999.31	1.52	0.71	854.83	0.49	0.23	259.78	182	84.63	18384.46	0	0.00	0.00
45	0.737	2.83	452	1057	65.51	32.025	3141.601	37.05	28.46	274	133.95	24133.26	1.91	0.93	855.76	0.49	0.24	260.02	289	141.28	18525.74	0	0.00	0.00

Exceeds Oregon
GW Quality Guideline

HCT - 7
GMC-014 (176-184)
Siltstone

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCI)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2+} mg/l	Fe^{3+} mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.695	2.77	471	901	42.83	19.745	3161.346	24.05	18.78	176	81.14	24214.40	1.31	0.60	856.36	0.49	0.23	260.25	233	107.41	18633.15	0	0.00	0.00
47	0.723	2.72	473	1150	75.42	36.169	3197.515	39.00	36.42	213	102.15	24316.55	2.02	0.97	857.33	0.49	0.23	260.48	333	159.70	18792.85	0	0.00	0.00
48	0.693	2.80	461	846	30.41	13.979	3211.494	18.20	12.21	138	63.43	24379.98	1.16	0.53	857.86	0.49	0.23	260.71	193	88.72	18881.57	0	0.00	0.00
49	0.726	2.59	444	1568	114.26	55.023	3266.517	64.35	49.91	400	192.62	24572.60	2.66	1.28	859.14	0.53	0.26	260.97	501	241.26	19122.83	0	0.00	0.00
50	0.704	2.66	466	1257	67.62	31.576	3298.093	48.10	19.52	263	122.81	24695.41	1.69	0.79	859.93	0.49	0.23	261.20	722	337.15	19459.98	0	0.00	0.00
51	0.672	2.85	478	1082	36.94	16.466	3314.559	24.70	12.24	166	73.99	24769.40	0.89	0.40	860.33	0.49	0.22	261.42	242	107.87	19567.85	0	0.00	0.00
52	0.746	2.55	436	1863	135.00	66.802	3381.361	109.20	25.80	592	292.94	25062.34	2.68	1.33	861.66	0.49	0.24	261.66	928	459.20	20027.05	0	0.00	0.00
53	0.723	2.57	450	1562	134.50	64.502	3445.863	70.85	63.65	469	224.92	25287.26	2.18	1.05	862.71	0.49	0.23	261.89	463	222.04	20249.09	0	0.00	0.00
54	0.681	2.58	456	1499	118.59	53.568	3499.431	63.05	55.54	455	205.53	25492.79	2.02	0.91	863.62	0.49	0.22	262.11	446	201.46	20450.55	0	0.00	0.00
55	0.723	2.62	460	1324	73.14	35.076	3534.507	42.25	30.89	306	146.75	25639.54	1.11	0.53	864.15	0.49	0.23	262.34	333	159.70	20610.25	0	0.00	0.00
56	0.684	2.73	476	962	37.12	16.841	3551.348	20.80	16.32	204	92.56	25732.10	0.49	0.22	864.37	0.49	0.22	262.56	208	94.37	20704.62	0	0.00	0.00
57	0.667	2.50	454	1856	167.00	73.885	3625.233	105.95	61.05	647	286.25	26018.35	1.65	0.73	865.10	0.49	0.22	262.78	593	262.36	20966.98	0	0.00	0.00
58	0.692	2.54	449	1709	146.41	67.203	3692.436	104.00	42.41	590	270.81	26289.16	2.27	1.04	866.14	0.49	0.22	263.00	540	247.86	21214.84	0	0.00	0.00
59	0.720	2.56	445	1595	124.41	59.416	3751.852	77.35	47.06	496	236.88	26526.04	2.54	1.21	867.35	0.49	0.23	263.23	471	224.94	21439.78	0	0.00	0.00
60	0.733	2.60	444	1366	107.19	52.116	3803.968	62.40	44.79	397	193.02	26719.06	1.04	0.51	867.86	0.49	0.24	263.47	380	184.76	21624.54	0	0.00	0.00
61	0.741	2.63	446	1273	90.15	44.310	3848.278	53.95	36.20	349	171.54	26890.60	0.99	0.49	868.35	0.49	0.24	263.71	350	172.03	21796.57	0	0.00	0.00
62	0.737	2.78	465	853	41.52	20.297	3868.575	31.85	9.67	192	93.86	26984.46	0.49	0.24	868.59	0.49	0.24	263.95	197	96.31	21892.87	0	0.00	0.00
63	0.646	2.89	483	626	21.17	9.071	3877.646	13.00	8.17	135	58.00	27042.46	0.49	0.21	868.80	0.49	0.21	264.16	121	51.85	21944.72	0	0.00	0.00
64	0.693	2.73	475	909	39.33	18.079	3895.725	20.80	18.53	194	88.95	27131.41	0.49	0.23	869.03	0.49	0.23	264.39	198	91.02	22035.73	0	0.00	0.00
65	0.718	2.54	455	1565	82.09	39.096	3934.821	65.65	16.44	463	220.70	27352.11	0.82	0.39	869.42	0.49	0.23	264.62	425	202.41	22238.14	0	0.00	0.00
66	0.707	2.50	464	1702	62.40	29.263	3964.084	0.40	62.00	460	215.72	27567.83	5.07	2.38	871.80	0.89	0.42	265.04	429	201.18	22439.32	0	0.00	0.00
67	0.682	2.59	458	1417	58.95	26.667	3990.751	40.17	18.78	370	167.38	27735.21	0.65	0.29	872.09	0.49	0.22	265.26	342	154.71	22594.04	0	0.00	0.00
68	0.658	2.63	466	1209	38.57	16.834	4007.585	35.10	3.47	242	105.62	27840.83	0.60	0.26	872.35	0.49	0.21	265.47	288	125.70	22719.74	0	0.00	0.00
69	0.730	2.49	442	1877	114.37	55.379	4062.964	109.20	5.17	555	268.74	28109.57	1.03	0.50	872.85	0.49	0.24	265.71	562	272.13	22991.86	0	0.00	0.00
70	0.697	2.62	461	1229	47.91	22.150	4085.114	32.50	15.41	281	129.91	28239.48	0.66	0.31	873.16	0.49	0.23	265.94	301	139.16	23131.02	0	0.00	0.00
71	0.711	2.52	446	1605	102.30	48.246	4133.360	78.00	24.30	448	211.28	28450.76	1.01	0.48	873.64	0.49	0.23	266.17	447	210.81	23341.83	0	0.00	0.00
72	0.674	2.52	460	1572	63.88	28.559	4161.919	56.55	7.33	389	173.91	28624.67	0.77	0.34	873.98	0.49	0.22	266.39	418	186.88	23528.71	0	0.00	0.00
73	0.640	2.52	457	1611	72.00	30.565	4192.484	55.90	16.10	398	168.96	28793.63	0.97	0.41	874.39	0.49	0.21	266.60	409	173.63	23702.34	0	0.00	0.00
74	0.747	2.48	446	1857	120.55	59.731	4252.215	103.35	17.20	573	283.92	29077.55	0.90	0.45	874.84	0.49	0.24	266.84	573	283.92	23986.25	0	0.00	0.00
75	0.747	2.52	442	1721	109.86	54.434	4306.649	79.95	29.91	496	245.76	29323.31	0.99	0.49	875.33	0.49	0.24	267.08	483	239.32	24225.57	0	0.00	0.00
76	0.687	2.56	449	1543	81.37	37.080	4343.729	59.15	22.22	338	154.02	29477.33	0.69	0.31	875.64	0.49	0.22	267.30	392	178.63	24404.20	0	0.00	0.00
77	0.691	2.62	461	1355	51.38	23.550	4367.279	35.75	15.63	244	111.84	29589.17	0.60	0.28	875.92	0.49	0.22	267.52	299	137.05	24541.25	0	0.00	0.00
78	0.725	2.60	445	1484	87.13	41.901	4409.180	66.30	20.83	299	143.79	29732.96	0.73	0.35	876.27	0.49	0.24	267.76	306	147.15	24688.40	0	0.00	0.00
79	0.699	2.87	462	761	18.24	8.457	4417.637	15.60	2.64	132	61.20	29794.16	0.49	0.23	876.50	0.49	0.23	267.99	141	65.38	24753.78	0	0.00	0.00
80	0.727	2.56	450	1615	91.07	43.916	4461.553	59.80	31.27	432	208.32	30002.48	0.70	0.34	876.84	0.49	0.24	268.23	444	214.11	24967.88	0	0.00	0.00
81	0.694	2.65	458	1273	46.00	21.175	4482.728	31.85	14.15	253	116.46	30118.94	0.63	0.29	877.13	0.49	0.23	268.46	291	133.96	25101.84	0	0.00	0.00
82	0.725	2.56	440	1570	93.31	44.872	4527.600	49.40	43.91	460	221.21	30340.15	0.65	0.31	877.44	0.49	0.24	268.70	415	199.57	25301.41	0	0.00	0.00
83	0.693	2.69	457	1186	35.70	16.410	4544.010	22.00	13.70	252	115.84	30455.99	0.58	0.27	877.71	0.18	0.08	268.78	247	113.54	25414.95	0	0.00	0.00
84	0.700	2.61	444	1435	73.00	33.895	4577.905	33.80	39.20	557	258.62	30714.61	0.52	0.24	877.95	0.49	0.23	269.01	356	165.30	25580.25	0	0.00	0.00
85	0.669	2.72	466	1031	32.08	14.236	4592.141	20.80	11.28	216	95.76	30810.37	0.49	0.22	878.17	0.49	0.22	269.23	211	93.76	25674.00	0	0.00	0.00
86	0.733	2.68	457	1168	47.14	22.920	4615.061	29.25	17.89	276	134.00	30944.37	0.56	0.27	878.44	0.49	0.24	269.47	268	130.15	25804.16	0	0.00	0.00
87	0.747	2.59	443	1354	84.07	41.656	4656.717	40.95	43.12	414	205.13	31149.50	0.51	0.25	878.69	0.49	0.24	269.71	366	181.35	25985.50	0	0.00	0.00

Exceeds Oregon
GW Quality Guideline

HCT - 7
GMC-014 (176-184)
Siltstone

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
Oregon Water Quality Guideline							*0.05*	*1*				*0.01*		*250*	*0.05*		*1*	*4*				*0.3*	*0.05*			*0.05*	*0.002*		
0	0.647	<2	<2	<2	1600	0.082	54.90	<0.06	0.373	<0.8	<0.2	0.1250	397	6.9	0.60	9.20	17.40	10.0	<2	1750	<2	1320.0	0.015	0.700	185	17.000	<0.0002	<0.4	9.600
1	0.663	<2	<2	<2	754	0.01	5.62	<0.03	0.196	<0.4	<0.1	0.0640	274	4.9	0.20	4.2	8.30	10.0	<1	1050	<2	721.0	0.006	0.36	88	7.840	<0.0002	<0.2	4.300
2	0.815	<2	<2	<2	349	0.0055	4.69	0.040	0.085	<0.4	0.1	0.0330	196	2.3	0.20	2.5	4.00	<0.05	<1	699	<2	441.0	0.007	0.21	51	4.460	<0.0002	<0.2	2.550
3	0.675																												
4	0.764	<2	<2	<2	127	0.0027	3.34	<0.006	0.033	<0.08	<0.02	0.0130	115	0.8	0.02	1.10	1.61	<0.05	<0.2	383	<2	250.0	0.002	0.04	23.2	2.010	<0.0002	<0.04	1.140
5	0.712																												
6	0.736																												
7	0.689																												
8	0.719	<2	<2	<2	21.2	0.0032	0.96	0.004	0.0087	<0.04	0.05	0.0037	32.1	1.2	<0.01	0.26	0.45	0.7	<0.1	103	<2	79.2	0.002	0.009	5.6	0.468	0.000	<0.02	0.27
9	0.715																												
10	0.717																												
11	0.714																												
12	0.734	<2	<2	<2	9.18	0.0025	0.64	<0.003	0.00468	<0.04	<0.01	0.0022	19.1	1.3	<0.01	0.13	0.21	<10	<0.1	60	<2	63.5	0.004	<0.008	2.9	0.232	<0.0002	<0.02	0.146
13	0.701																												
14	0.717																												
15	0.724																												
16	0.655	<2	<2	<2	6.58	0.0022	0.57	<0.003	0.00359	<0.04	<0.01	0.0019	14.1	1.1	<0.01	0.1	0.15	0.2	<0.1	44	<2	59.5	0.003	<0.008	2.1	0.169	0.000	<0.02	0.108
17	0.715																												
18	0.708																												
19	0.720																												
20	0.707	<2	<2	<2	13.9	0.0023	0.77	0.006	0.00503	<0.04	0.01	0.0027	18.5	0.5	<0.01	0.13	0.23	<20	<0.1	57	<2	107.0	0.002	<0.008	2.6	0.220	<0.0002	<0.02	0.139
21	0.676																												
22	0.728																												
23	0.774																												
24	0.682	<2	<2	<2	9.57	0.0023	0.41	0.006	0.004	<0.04	0.01	0.0018	10.2	1.9	<0.01	0.07	0.26	<20	<0.1	31	<2	57.5	0.002	<0.008	1.3	0.128	<0.0002	<0.02	0.082
25	0.687																												
26	0.748																												
27	0.682																												
28	0.724	<2	<2	<2	18.3	0.0027	0.99	0.009	0.00644	<0.04	<0.01	0.0027	11.5	<0.5	<0.01	0.09	0.28	<10	<0.1	36	<2	117.0	0.003	<0.008	1.7	0.153	<0.0002	<0.02	0.096
29	0.294																												
30	0.687																												
31	0.701																												
32	0.647	<2	<2	<2	15.8	0.0019	0.85	0.009	0.00549	<0.04	0.01	0.0033	7.9	<0.5	<0.01	0.06	0.24	<5	<0.1	24	<2	115.0	0.004	<0.008	1	0.108	<0.0002	<0.02	0.068
33	0.698																												
34	0.691																												
35	0.651																												
36	0.694	<2	<2	<2	6.95	0.002	0.61	0.007	0.00274	<0.04	<0.01	0.0011	3.4	<0.5	<0.01	0.02	0.12	<5	<0.1	11	<2	71.5	0.002	<0.008	0.5	0.053	<0.0002	<0.02	0.033
37	0.680																												
38	0.676																												
39	0.708																												
40	0.692	<2	<2	<2	3.96	0.0020	0.37	0.005	0.00149	<0.04	<0.01	0.0007	1.9	<0.5	<0.01	0.01	0.07	<2	<0.1	6.4	<2	39.9	0.002	<0.008	0.4	0.028	<0.0002	<0.02	0.018
41	0.710																												
42	0.707																												
43	0.744																												
44	0.701	<2	<2	<2	5.47	0.0018	0.16	0.006	0.00116	<0.04	<0.01	0.0007	1.2	<0.5	<0.01	0.01	0.10	<2	<0.1	3	<2	35.9	0.004	<0.008	<0.2	0.025	<0.0002	<0.02	0.008
45	0.737																												

Exceeds Oregon GW Quality Guideline

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Siltstone

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
46	0.695																												
47	0.723																												
48	0.693	<2	<2	<2	7.13	0.0013	0.15	<0.003	0.00127	<0.04	<0.01	0.0006	0.9	<0.5	<0.01	0.02	0.11	<2	<0.1	2.3	<2	33.1	0.004	<0.008	<0.2	0.023	<0.0002	<0.02	0.014
49	0.726																												
50	0.704																												
51	0.672																												
52	0.746	<2	<2	<2	29.1	0.0022	1.41	<0.003	0.00441	<0.04	<0.01	0.0025	2.5	<0.5	<0.01	0.04	0.32	<2	<0.1	7.9	<2	144.0	0.003	<0.008	0.4	0.073	<0.0002	<0.02	0.037
53	0.723																												
54	0.681																												
55	0.723																												
56	0.684	<2	<2	<2	6.82	0.0013	0.19	0.003	0.00108	<0.04	<0.01	0.0007	0.6	<0.5	<0.01	<0.01	0.15	<20	<0.1	1.5	<2	29.8	0.003	<0.008	<0.2	0.016	<0.0002	<0.02	0.012
57	0.667																												
58	0.692																												
59	0.720																												
60	0.733	<2	<2	<2	12.2	0.0018	1.47	0.005	0.00145	<0.04	<0.01	0.0012	0.9	<0.5	<0.01	0.02	0.24	<20	0.1	2.3	<2	94.2	0.003	<0.008	<0.2	0.047	<0.0002	<0.02	0.023
61	0.741																												
62	0.737																												
63	0.646																												
64	0.693	<2	<2	<2	5.51	0.001	0.16	0.006	0.00072	<0.04	0.01	0.0004	0.3	<0.5	<0.01	0.01	0.09	<4	<0.1	0.7	<2	25.3	0.003	<0.008	<0.2	0.019	<0.0002	<0.02	0.009
65	0.718																												
66	0.707																												
67	0.682																												
68	0.658	<2	<2	<2	9.14	0.0014	0.36	<0.003	0.00089	<0.04	<0.01	0.0006	0.4	<0.5	<0.01	0.01	0.25	<10	<0.1	0.999	<2	44.7	0.003	<0.008	<0.2	0.025	<0.0002	<0.02	0.015
69	0.730																												
70	0.697																												
71	0.711																												
72	0.674	<2	<2	<2	13.8	0.0019	0.55	<0.003	0.00134	<0.04	<0.01	0.0009	0.5	<0.5	<0.01	0.02	0.19	<2	<0.1	1.3	<2	73.3	0.002	<0.008	<0.2	0.041	<0.0002	<0.02	0.016
73	0.640																												
74	0.747																												
75	0.747																												
76	0.687	<2	<2	<2	10.50	0.0018	1.13	0.004	0.00097	<0.04	<0.01	0.0007	0.4	<0.5	<0.01	0.02	0.11	<4	<0.1	0.999	<2	82.8	0.001	<0.008	<0.2	0.040	<0.0002	<0.02	0.020
77	0.691																												
78	0.725																												
79	0.699																												
80	0.727	<2	<2	<2	12.9	0.0022	1.16	0.005	0.00117	<0.04	<0.01	0.0007	0.4	<0.5	<0.01	0.01	0.13	<10	<0.1	0.999	<2	97.9	0.002	<0.008	<0.2	0.045	<0.0002	<0.02	0.021
81	0.694																												
82	0.725																												
83	0.693																												
84	0.700	<2	<2	<2	9.63	0.0019	1.03	<0.003	0.00073	<0.04	<0.01	0.0005	0.3	<0.5	<0.01	0.01	0.09	<10	<0.1	0.749	<2	74.3	0.001	<0.008	<0.2	0.030	<0.0002	<0.02	0.013
85	0.669																												
86	0.733																												
87	0.747																												

Exceeds Oregon
GW Quality Guideline

HCT - 7
GMC-014 (176-184)
Siltstone

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
Oregon Water Quality Guideline		*10*		*6.5 - 8.5*				*0.01*	*0.05*			*250*				*500*			*5*					
0	0.647	0.220	2.23	2.1	58	54	<2	0.0960	<0.2	46	0.200	11500	0.034	<0.8	<0.1	22300	0.277	0.3	31.3	10700	289.0	242	8.9	L27933
1	0.663	0.040	1.24	2.3	5.8	30	<1	0.0360	<0.1	27	0.05	8500	0.018	<0.4	<0.05	12000	0.086	0.14	15.9	6910	146	187	-12.3	L28023
2	0.815	<0.2	0.8	2.4	2.4	20	<1	0.0210	0.2000	13	0.08	3390	0.011	<0.4	0.05	5820	0.04	0.09	9.2	4960	78	71	4.7	L28126
3	0.675																							
4	0.764	0.050	0.26	2.5	1.2	12	<0.2	0.0060	<0.02	3.9	0.01	1700	0.0061	<0.08	0.01	2570	0.0129	0.03	4.62	2770	36	36	0	L28324
5	0.712																							
6	0.736																							
7	0.689																							
8	0.719	0.040	0.14	2.7	0.27	6.9	<0.1	0.0016	<0.01	0.8	0.011	403	0.0035	<0.04	0.006	718	0.0053	0.012	1.31	1350	8.9	8.5	2.3	L28657
9	0.715																							
10	0.717																							
11	0.714																							
12	0.734	0.050	<0.05	2.8	0.14	6.5	<0.1	0.0010	<0.01	0.9	<0.005	288	0.0032	<0.04	<0.005	464	0.0026	<0.005	0.88	1040	5.8	6.1	-2.5	L29021
13	0.701																							
14	0.717																							
15	0.724																							
16	0.655	0.080	0.06	2.9	0.12	6.7	<0.1	0.0009	<0.01	1.2	0.007	246	0.0039	<0.04	<0.005	396	0.0028	<0.005	0.78	887	5	5.2	-2	L29484
17	0.715																							
18	0.708																							
19	0.720																							
20	0.707	0.030	<0.05	2.8	0.21	7.8	<0.1	0.0008	<0.01	1.5	0.013	345	0.0032	<0.04	<0.005	596	0.003	0.008	1.21	1210	8.7	7.3	8.8	L29914
21	0.676																							
22	0.728																							
23	0.774																							
24	0.682	0.030	<0.05	2.7	0.09	4.1	<0.1	0.0008	<0.01	0.8	0.012	230	0.0023	<0.04	<0.005	404	0.0041	<0.005	0.81	1040	4.9	4.9	0.0	L30419
25	0.687																							
26	0.748																							
27	0.682																							
28	0.724	<0.02	<0.05	2.6	0.29	4.6	<0.1	0.0010	<0.01	1.4	0.015	496	0.0027	<0.04	<0.005	722	0.005	0.013	1.20	1420	9.2	10	-4.2	L30908
29	0.294																							
30	0.687																							
31	0.701																							
32	0.647	0.040	<0.05	2.6	0.25	4.9	<0.1	0.0009	<0.01	2.2	0.013	426	0.0025	<0.04	<0.005	700	0.0044	0.009	0.99	1400	8.6	9	-2.3	L31481
33	0.698																							
34	0.691																							
35	0.651																							
36	0.694	0.030	<0.05	2.6	0.14	6.3	<0.1	0.0009	<0.01	2.9	0.014	249	0.0034	<0.04	<0.005	396	0.0034	<0.005	0.57	1160	5.1	5.2	-1	L32131
37	0.680																							
38	0.676																							
39	0.708																							
40	0.692	<0.02	<0.05	2.8	0.06	5	<0.1	0.0004	<0.01	1.9	<0.005	174	0.0022	<0.04	<0.005	228	0.0018	<0.005	0.36	823	2.9	3.7	-12.1	L32682
41	0.710																							
42	0.707																							
43	0.744																							
44	0.701	0.110	<0.05	2.8	0.04	2.2	<0.1	0.0003	<0.01	0.8	0.011	168	0.0012	<0.04	<0.005	202	0.0020	<0.005	0.33	795	2.7	3.5	-12.9	L33233
45	0.737																							

Exceeds Oregon
GW Quality Guideline

HCT - 7
GMC-014 (176-184)
Siltstone

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
46	0.695																							
47	0.723																							
48	0.693	0.020	<0.05	2.8	0.04	0.8	<0.1	0.0002	<0.01	0.4	0.007	183	<0.0007	<0.04	<0.005	198	0.0024	<0.005	0.30	853	2.6	3.8	-18.8	L33820
49	0.726																							
50	0.704																							
51	0.672																							
52	0.746	0.020	<0.05	2.5	0.27	1.9	<0.1	0.0007	<0.01	0.8	0.01	512	0.0018	<0.04	<0.005	834	0.0066	<0.005	0.96	1880	11	11.0	0.0	L34366
53	0.723																							
54	0.681																							
55	0.723																							
56	0.684	<0.02	<0.05	2.6	0.06	0.7	<0.1	0.0003	<0.01	0.3	<0.005	163	0.0006	<0.04	<0.005	220	0.0023	<0.005	0.28	975	2.400	3.4	-17.2	L34779
57	0.667																							
58	0.692																							
59	0.720																							
60	0.733	0.030	<0.05	2.8	0.34	2.6	<0.1	0.0004	<0.01	1.1	0.009	415	0.0023	<0.04	<0.005	500	0.0038	<0.005	0.52	1400	6.5	8.7	-14.5	L35145
61	0.741																							
62	0.737																							
63	0.646																							
64	0.693	0.040	<0.05	2.7	0.06	0.9	<0.1	0.0002	<0.01	0.4	0.009	134	0.0007	<0.04	<0.005	210	0.0022	0.006	0.17	925	2	2.8	-16.7	L35597
65	0.718																							
66	0.707																							
67	0.682																							
68	0.658	0.030	<0.05	2.6	0.03	0.8	<0.1	0.0003	<0.01	0.3	<0.005	238	0.001	<0.04	<0.005	340	0.0031	<0.005	0.25	1230	3.5	5	-17.6	L36030
69	0.730																							
70	0.697																							
71	0.711																							
72	0.674	0.050	0.05	2.4	0.17	1.3	<0.1	0.0005	<0.01	0.4	0.009	319	0.0011	<0.04	<0.005	520	0.0044	<0.005	0.34	1640	5.5	6.7	-9.8	L36586
73	0.640																							
74	0.747																							
75	0.747																							
76	0.687	0.070	<0.05	2.5	0.25	2	<0.1	0.0004	<0.01	0.9	0.008	310	0.0016	<0.04	<0.005	516	0.0033	0.006	0.29	1610	5.7	6.5	-6.6	L37089
77	0.691																							
78	0.725																							
79	0.699																							
80	0.727	0.040	<0.05	2.5	0.34	2.3	<0.1	0.0005	<0.01	1	0.013	335	0.0016	<0.04	<0.005	510	0.0038	0.005	0.31	1480	6.8	7	-1.4	L37686
81	0.694																							
82	0.725																							
83	0.693																							
84	0.700	0.030	<0.05	2.6	0.18	1.6	<0.1	0.0003	<0.01	0.7	0.009	303	0.0013	<0.04	<0.005	480	0.0029	<0.005	0.21	1260	5.1	6.4	-11.3	L38237
85	0.669																							
86	0.733																							
87	0.747																							

Exceeds Oregon
GW Quality Guideline

HCT - 8
CAL-001 (380-400)
Sinter

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCI)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2+} mg/l	Fe^{3+} mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
Oregon Water Quality Guideline										*250*														
0	1.741	7.10	352	117	0.18	0.157	0.157	<0.10	<0.18	30	26.24	26.24	14.11	12.34	12.34	0.71	0.62	0.62	0	0.00	0.00	23	20.12	20.12
1	0.796	7.12	382	100	0.12	0.048	0.205	<0.10	<0.12	27	10.80	37.04	16.11	6.44	18.78	1.11	0.44	1.06	0	0.00	0.00	19	7.60	27.72
2	0.769	7.19	364	57	0.13	0.050	0.255	<0.10	<0.13	11	4.25	41.29	7.49	2.89	21.67	0.61	0.24	1.30	0	0.00	0.00	20	7.73	35.45
3	0.802	7.39	358	46	0.16	0.064	0.319	<0.10	<0.16	7.4	2.98	44.27	6.86	2.76	24.43	0.61	0.25	1.55	0	0.00	0.00	18	7.25	42.70
4	0.826	7.37	357	38	<0.10	0.000	0.319	<0.10	<0.10	6.1	2.53	46.80	7.77	3.22	27.65	0.63	0.26	1.81	0	0.00	0.00	18	7.47	50.17
5	0.814	7.20	385	37	<0.10	0.000	0.319	<0.10	<0.10	3.8	1.55	48.35	5.70	2.33	29.98	0.49	0.20	2.01	0	0.00	0.00	20	8.18	58.35
6	0.851	7.34	380	33	<0.10	0.000	0.319	<0.10	<0.10	58	24.80	73.15	5.00	2.14	32.12	0.49	0.21	2.22	0	0.00	0.00	20	8.55	66.90
7	0.854	7.40	324	32	<0.10	0.000	0.319	<0.10	<0.10	1.6	0.69	73.84	5.04	2.16	34.28	0.49	0.21	2.43	0	0.00	0.00	17	7.29	74.19
8	0.791	7.58	331	29	<0.10	0.000	0.319	<0.10	<0.10	1.2	0.48	74.32	5.10	2.03	36.31	0.49	0.19	2.62	0	0.00	0.00	16	6.36	80.55
9	0.779	7.39	301	30	<0.10	0.000	0.319	<0.10	<0.10	1.1	0.43	74.75	4.18	1.64	37.95	0.49	0.19	2.81	0	0.00	0.00	17	6.65	87.20
10	0.818	6.76	355	45	<0.10	0.000	0.319	<0.10	<0.10	1.1	0.45	75.20	7.44	3.06	41.01	0.49	0.20	3.01	0	0.00	0.00	25	10.27	97.47
11	0.785	6.94	339	18	0.14	0.055	0.374	<0.10	<0.14	<1.0	0.00	75.20	3.64	1.44	42.45	0.49	0.19	3.20	0	0.00	0.00	11	4.34	101.81
12	0.808	6.98	331	19	<0.10	0.000	0.374	<0.10	<0.10	1.1	0.45	75.65	2.79	1.13	43.58	0.49	0.20	3.40	0	0.00	0.00	11	4.47	106.28
13	0.815	7.12	317	19	<0.10	0.000	0.374	<0.10	<0.10	<1.0	0.00	75.65	3.17	1.30	44.88	0.49	0.20	3.60	0	0.00	0.00	12	4.91	111.19
14	0.815	7.47	334	16	<0.10	0.000	0.374	<0.10	<0.10	<1.0	0.00	75.65	2.59	1.06	45.94	0.49	0.20	3.80	0	0.00	0.00	10	4.09	115.28
15	0.788	7.49	292	15	0.12	0.048	0.422	<0.10	<0.12	<1.0	0.00	75.65	3.13	1.24	47.18	0.49	0.19	3.99	0	0.00	0.00	9	3.56	118.84
16	0.796	7.69	289	16	0.21	0.084	0.506	<0.10	<0.21	<1.0	0.00	75.65	2.39	0.96	48.14	0.49	0.20	4.19	0	0.00	0.00	12	4.80	123.64
17	0.791	7.73	279	15	<0.10	0.000	0.506	<0.10	<0.10	<1.0	0.00	75.65	2.50	0.99	49.13	0.49	0.19	4.38	0	0.00	0.00	12	4.77	128.41
18	0.797	7.38	293	15	<0.10	0.000	0.506	<0.10	<0.10	<1.0	0.00	75.65	2.23	0.89	50.02	0.49	0.20	4.58	0	0.00	0.00	10	4.00	132.41
19	0.812	7.43	299	15	0.20	0.082	0.588	<0.10	<0.2	1.8	0.73	76.38	2.17	0.89	50.91	0.49	0.20	4.78	0	0.00	0.00	10	4.08	136.49
20	0.792	7.14	332	16	0.26	0.103	0.691	<0.10	<0.26	<1.0	0.00	76.38	2.29	0.91	51.82	0.49	0.19	4.97	0	0.00	0.00	10	3.98	140.47
21	0.825	7.58	279	14	0.11	0.046	0.737	<0.10	<0.11	<1.0	0.00	76.38	1.86	0.77	52.59	0.49	0.20	5.17	0	0.00	0.00	10	4.14	144.61
22	0.921	7.62	271	22	0.27	0.125	0.862	<0.10	<0.27	1.6	0.74	77.12	3.38	1.56	54.15	0.49	0.23	5.40	0	0.00	0.00	15	6.94	151.55
23	0.913	7.50	300	18	0.24	0.110	0.972	<0.10	<0.24	1.4	0.64	77.76	2.43	1.11	55.26	0.49	0.22	5.62	0	0.00	0.00	12	5.50	157.05
24	0.787	7.66	282	14	<0.10	0.000	0.972	<0.10	<0.10	1	0.40	78.16	2.40	0.95	56.21	0.49	0.19	5.81	7	2.77	2.77	8	3.16	160.21
25	0.789	7.28	305	14	0.26	0.103	1.075	<0.10	<0.26	2.4	0.95	79.11	2.03	0.80	57.01	0.49	0.19	6.00	0	0.00	2.77	9	3.57	163.78
26	0.788	7.09	355	12	0.20	0.079	1.154	<0.10	<0.2	1.1	0.44	79.55	1.72	0.68	57.69	0.49	0.19	6.19	3	1.19	3.96	7	2.77	166.55
27	0.872	7.08	278	15	0.11	0.048	1.202	<0.10	<0.11	<1.0	0.00	79.55	2.03	0.89	58.58	0.49	0.21	6.40	4	1.75	5.71	8	3.50	170.05
28	0.914	7.28	199	18	0.20	0.092	1.294	<0.10	<0.2	<1.0	0.00	79.55	2.83	1.30	59.88	0.49	0.22	6.62	3	1.38	7.09	9	4.13	174.18
29	0.846	7.16	207	14	0.40	0.170	1.464	<0.10	<0.4	<1.0	0.00	79.55	1.95	0.83	60.71	0.49	0.21	6.83	4	1.70	8.79	7	2.98	177.16
30	0.797	7.08	197	25	0.42	0.168	1.632	<0.10	<0.42	11	4.40	83.95	1.37	0.55	61.26	0.49	0.20	7.03	4	1.60	10.39	2	0.80	177.96
31	0.854	7.20	190	14	<0.10	0.000	1.632	<0.10	<0.10	<1.0	0.00	83.95	1.96	0.84	62.10	0.49	0.21	7.24	2	0.86	11.25	7	3.00	180.96
32	0.798	7.12	197	12	<0.10	0.000	1.632	<0.10	<0.10	<1.0	0.00	83.95	1.88	0.75	62.85	0.49	0.20	7.44	2	0.80	12.05	5	2.00	182.96
33	0.821	6.95	313	11	<0.10	0.000	1.632	<0.10	<0.10	<1.0	0.00	83.95	1.33	0.55	63.40	0.49	0.20	7.64	1	0.41	12.46	15	6.19	189.15
34	0.980	7.36	280	18	<0.10	0.000	1.632	<0.10	<0.10	<1.0	0.00	83.95	2.31	1.14	64.54	0.49	0.24	7.88	2	0.99	13.45	22	10.83	199.98
35	0.797	7.30	215	11	<0.10	0.000	1.632	<0.10	<0.10	<1.0	0.00	83.95	1.64	0.66	65.20	0.49	0.20	8.08	2	0.80	14.25	6	2.40	202.38
36	0.787	7.26	171	11	<0.10	0.000	1.632	<0.10	<0.10	<1.0	0.00	83.95	1.79	0.71	65.91	0.49	0.19	8.27	2	0.79	15.04	5	1.98	204.36
37	0.797	7.26	159	11	<0.10	0.000	1.632	<0.10	<0.10	1.3	0.52	84.47	1.52	0.61	66.52	0.49	0.20	8.47	3	1.20	16.24	5	2.00	206.36
38	0.862	7.28	190	11	<0.10	0.000	1.632	<0.10	<0.10	3	1.21	85.68	1.76	0.76	67.28	0.49	0.21	8.68	3	1.30	17.54	5	2.17	208.53
39	0.799	7.11	142	10	<0.10	0.000	1.632	<0.10	<0.10	2	0.68	86.36	1.20	0.48	67.76	0.49	0.20	8.88	4	1.61	19.14	5	2.01	210.54
40	0.789	7.47	150	10	<0.10	0.000	1.632	<0.10	<0.10	4	1.59	87.95	1.36	0.54	68.30	0.49	0.19	9.07	11	4.36	23.50	5	1.98	212.52
41	0.801	7.80	186	10	<0.10	0.000	1.632	<0.10	<0.10	3	1.09	89.04	1.30	0.52	68.82	0.49	0.20	9.27	2	0.81	24.31	6	2.41	214.93
42	0.800	7.16	243	10	<0.10	0.000	1.632	<0.10	<0.10	3	1.33	90.37	1.58	0.64	69.46	0.49	0.20	9.47	1	0.40	24.71	5	2.01	216.94
43	0.795	7.15	327	10	<0.10	0.000	1.632	<0.10	<0.10	2	0.68	91.05	1.47	0.59	70.05	0.49	0.20	9.67	3	1.20	25.91	5	2.00	218.94
44	0.794	7.76	102	11	<0.10	0.000	1.632	<0.10	<0.10	4	1.48	92.53	1.53	0.61	70.66	0.49	0.20	9.87	4	1.60	27.50	6	2.39	221.33
45	0.799	6.98	350	10	0.14	0.056	1.688	<0.10	<0.14	2	0.71	93.24	1.29	0.52	71.18	0.49	0.20	10.07	1	0.40	27.91	5	2.01	223.34

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CAL-001 (380-400)
Sinter

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2+} mg/l	Fe^{3+} mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.785	7.76	293	10	<0.10	0.000	1.688	<0.10	<0.10	2	0.94	94.18	1.24	0.49	71.67	0.49	0.19	10.26	0	0.00	27.91	5	1.97	225.31
47	0.790	7.23	479	11	<0.10	0.000	1.688	<0.10	<0.10	3	1.01	95.19	1.29	0.51	72.18	0.49	0.19	10.45	2	0.79	28.70	5	1.98	227.29
48	0.791	7.09	415	9	<0.10	0.000	1.688	<0.10	<0.10	3	1.08	96.27	1.35	0.54	72.72	0.49	0.19	10.64	2	0.80	29.49	5	1.99	229.28
49	0.771	6.98	428	10	0.33	0.128	1.816	<0.10	<0.33	2	0.62	96.89	1.20	0.46	73.18	0.49	0.19	10.83	3	1.16	30.66	4	1.55	230.83
50	0.809	6.98	475	11	0.10	0.041	1.857	<0.10	<0.1	3	1.16	98.05	1.30	0.53	73.71	0.49	0.20	11.03	3	1.22	31.88	5	2.03	232.86
51	0.797	7.13	412	10	<0.10	0.000	1.857	<0.10	<0.10	3	1.05	99.10	1.00	0.40	74.11	0.49	0.20	11.23	4	1.60	33.48	5	2.00	234.86
52	0.803	7.83	266	11	0.19	0.077	1.934	<0.10	<0.19	2	0.86	99.96	1.07	0.43	74.54	0.49	0.20	11.43	3	1.21	34.69	5	2.02	236.88
53	0.817	7.48	324	11	<0.10	0.000	1.934	<0.10	<0.10	3	1.38	101.34	1.31	0.54	75.08	0.49	0.20	11.63	1	0.41	35.10	5	2.05	238.93
54	0.806	7.84	215	10	<0.10	0.000	1.934	<0.10	<0.10	4	1.42	102.76	1.06	0.43	75.51	0.49	0.20	11.83	4	1.62	36.72	5	2.02	240.95
55	0.810	7.44	273	9	<0.10	0.000	1.934	<0.10	<0.10	4	1.42	104.18	1.13	0.46	75.97	0.49	0.20	12.03	3	1.22	37.94	5	2.03	242.98
56	0.808	8.07	251	10	<0.10	0.000	1.934	<0.10	<0.10	4	1.42	105.60	1.16	0.47	76.44	0.49	0.20	12.23	4	1.62	39.56	6	2.44	245.42
57	0.809	7.58	232	11	<0.10	0.000	1.934	<0.10	<0.10	3	1.38	106.98	0.97	0.39	76.83	0.49	0.20	12.43	4	1.63	41.19	5	2.03	247.45
58	0.816	7.28	308	8	<0.10	0.000	1.934	<0.10	<0.10	4	1.48	108.46	0.96	0.39	77.22	0.49	0.20	12.63	1	0.41	41.60	5	2.05	249.50
59	0.809	6.93	367	11	<0.10	0.000	1.934	<0.10	<0.10	4	1.54	110.00	1.23	0.50	77.72	0.49	0.20	12.83	4	1.63	43.22	5	2.03	251.53
60	0.829	6.96	360	11	<0.10	0.000	1.934	<0.10	<0.10	3	1.42	111.42	1.13	0.47	78.19	0.49	0.20	13.03	4	1.67	44.89	5	2.08	253.61
61	0.825	6.95	389	12	<0.10	0.000	1.934	<0.10	<0.10	4	1.53	112.95	1.18	0.49	78.68	0.49	0.20	13.23	1	0.41	45.30	5	2.07	255.68
62	0.813	6.85	394	9	<0.10	0.000	1.934	<0.10	<0.10	3	1.23	114.18	1.04	0.42	79.10	0.49	0.20	13.43	3	1.23	46.53	5	2.04	257.72
63	0.806	6.99	369	8	<0.10	0.000	1.934	<0.10	<0.10	4	1.47	115.65	1.16	0.47	79.57	0.49	0.20	13.63	0	0.19	46.72	5	1.82	259.54
64	0.815	6.78	414	8	<0.10	0.000	1.934	<0.10	<0.10	3	1.39	117.04	1.24	0.51	80.08	0.49	0.20	13.83	1	0.24	46.96	4	1.76	261.30
65	0.809	7.22	332	9	<0.10	0.000	1.934	<0.10	<0.10	4	1.46	118.50	0.97	0.39	80.47	0.49	0.20	14.03	1	0.41	47.36	5	2.03	263.33
66	0.836	7.24	394	8	<0.10	0.000	1.934	<0.10	<0.10	4	1.58	120.08	0.99	0.42	80.89	0.49	0.21	14.24	2	0.84	48.20	4	1.85	265.18
67	0.819	7.32	338	7	<0.10	0.000	1.934	<0.10	<0.10	4	1.45	121.53	0.90	0.37	81.26	0.49	0.20	14.44	1	0.41	48.61	5	2.06	267.24
68	0.810	6.98	385	8	<0.10	0.000	1.934	<0.10	<0.10	5	1.94	123.47	1.29	0.52	81.78	0.49	0.20	14.64	3	1.22	49.83	4	1.63	268.87
69	0.823	6.96	380	7	<0.10	0.000	1.934	<0.10	<0.10	3	1.12	124.59	1.05	0.43	82.21	0.49	0.20	14.84	1	0.41	50.24	4	1.65	270.52
70	0.803	6.80	416	10	<0.10	0.000	1.934	<0.10	<0.10	3	1.09	125.68	1.10	0.44	82.65	0.49	0.20	15.04	4	1.61	51.86	17	6.86	277.38
71	0.807	7.34	332	10	<0.10	0.000	1.934	<0.10	<0.10	2	0.97	126.65	1.23	0.50	83.15	0.49	0.20	15.24	1	0.41	52.26	5	2.03	279.41
72	0.820	7.20	349	8	<0.10	0.000	1.934	<0.10	<0.10	3	1.11	127.76	1.09	0.45	83.60	0.49	0.20	15.44	3	1.24	53.50	4	1.65	281.06
73	0.816	7.91	302	9	<0.10	0.000	1.934	<0.10	<0.10	3	1.15	128.91	1.26	0.52	84.12	0.49	0.20	15.64	2	0.82	54.32	5	2.05	283.11
74	0.815	7.20	329	8	<0.10	0.000	1.934	<0.10	<0.10	3	1.12	130.03	1.03	0.42	84.54	0.49	0.20	15.84	1	0.41	54.73	4	1.64	284.75
75	0.800	7.26	356	7	<0.10	0.000	1.934	<0.10	<0.10	3	1.09	131.12	1.29	0.52	85.06	0.49	0.20	16.04	1	0.40	55.13	5	2.01	286.76
76	0.812	7.24	358	8	<0.10	0.000	1.934	<0.10	<0.10	2	0.89	132.01	1.02	0.42	85.48	0.49	0.20	16.24	1	0.41	55.54	4	1.63	288.39
77	0.801	6.95	423	8	<0.10	0.000	1.934	<0.10	<0.10	3	1.05	133.06	1.01	0.41	85.89	0.49	0.20	16.44	0	0.00	55.54	4	1.61	290.00
78	0.805	7.09	386	9	<0.10	0.000	1.934	<0.10	<0.10	2	0.63	133.69	1.17	0.47	86.36	0.49	0.20	16.64	2	0.81	56.35	4	1.62	291.62
79	0.861	7.05	430	17	<0.10	0.000	1.934	<0.10	<0.10	4	1.66	135.35	1.01	0.44	86.80	0.49	0.21	16.85	4	1.73	58.08	1	0.43	292.05
80	0.836	7.68	333	12	<0.10	0.000	1.934	<0.10	<0.10	3	1.13	136.48	0.92	0.39	87.19	0.49	0.21	17.06	2	0.84	58.92	4	1.68	293.73
81	0.818	7.55	340	6	<0.10	0.000	1.934	<0.10	<0.10	3	1.06	137.54	0.88	0.36	87.55	0.49	0.20	17.26	2	0.82	59.74	4	1.64	295.37
82	0.822	6.88	375	15	<0.10	0.000	1.934	<0.10	<0.10	4	1.52	139.06	0.95	0.39	87.94	0.49	0.20	17.46	2	0.66	60.40	4	1.45	296.82
83	0.837	7.53	249	9	<0.10	0.000	1.934	<0.10	<0.10	3	1.26	140.32	0.93	0.39	88.33	0.49	0.21	17.67	4	1.68	62.08	4	1.68	298.50
84	0.800	7.04	316	81	<0.10	0.000	1.934	<0.10	<0.10	3	1.27	141.59	0.84	0.34	88.67	0.49	0.20	17.87	3	1.13	63.21	3	1.37	299.87
85	0.807	7.54	180	10	<0.10	0.000	1.934	<0.10	<0.10	4	1.71	143.30	0.95	0.39	89.06	0.49	0.20	18.07	5	1.96	65.17	4	1.74	301.61
86	0.806	7.56	98	9	0.17	0.069	2.003	<0.10	<0.17	3	1.02	144.32	0.95	0.38	89.44	0.49	0.20	18.27	0	0.04	65.21	6	2.59	304.20
87	0.827	6.88	295	9	<0.10	0.000	2.003	<0.10	<0.10	4	1.67	145.99	0.83	0.34	89.78	0.49	0.20	18.47	2	0.83	66.04	4	1.66	305.86

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CAL-001 (380-400)
Sinter

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
Oregon Water Quality Guideline							*0.05*	*1*				*0.01*		*250*	*0.05*		*1*	*4*				*0.3*	*0.05*			*0.05*	*0.002*		
0	1.741	11.7	<2	11.7	<0.03	0.0068	0.048	0.122	<0.00005	<0.04	0.05	<0.0001	14.9	1.1	<0.01	<0.01	<0.01	0.2	<0.1	40.5	<2	0.1	0.000	0.024	0.8	0.007	0.000	0.02	<0.008
1	0.796	11.9	<2	11.9	0.05	0.0052	0.044	0.016	<0.00005	<0.04	0.01	<0.0001	13.7	0.9	<0.01	<0.01	<0.01	0.2	<0.1	38.7	<2	<0.02	0.000	0.012	1.1	<0.005	<0.0002	0.02	0.015
2	0.769	12	<2	12	0.1	0.0036	0.044	0.017	<0.00005	<0.04	0.01	<0.0001	8.6	1.0	<0.01	<0.01	<0.01	0.1	<0.1	24.4	<2	0.1	<0.0001	0.009	0.7	<0.005	<0.0002	<0.02	0.008
3	0.802																												
4	0.826	11.8	<2	11.8	<0.03	0.003	0.036	0.009	<0.00005	<0.04	0.01	<0.0001	5.7	<0.5	<0.01	<0.01	<0.01	0.1	<0.1	16.3	<2	0.1	0.000	<0.008	0.5	<0.005	<0.0002	<0.02	<0.008
5	0.814																												
6	0.851																												
7	0.854																												
8	0.791	11.4	<2	11.4	0.04	0.0013	0.032	0.018	<0.00005	<0.04	0.16	<0.0001	5.2	<0.5	<0.01	<0.01	<0.01	0.1	<0.1	14	<2	0.0	0.000	<0.008	0.3	<0.005	0.000	<0.02	<0.008
9	0.779																												
10	0.818																												
11	0.785																												
12	0.808	5.7	<2	5.7	<0.03	0.0011	0.029	0.004	<0.00005	<0.04	<0.01	<0.0001	2.9	<0.5	<0.01	<0.01	<0.01	<10	<0.1	7.2	<2	<0.02	<0.0001	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
13	0.815																												
14	0.815																												
15	0.788																												
16	0.796	4.7	<2	4.7	<0.03	0.0009	0.019	0.005	<0.00005	<0.04	<0.01	<0.0001	2.5	<0.5	<0.01	<0.01	<0.01	<0.05	<0.1	6.2	<2	<0.02	0.000	<0.008	<0.2	<0.005	0.000	<0.02	0.011
17	0.791																												
18	0.797																												
19	0.812																												
20	0.792	4.3	<2	4.3	<0.03	0.0009	0.020	0.006	<0.00005	<0.04	<0.01	<0.0001	2.4	0.5	<0.01	<0.01	<0.01	<2	<0.1	6	<2	<0.02	0.000	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
21	0.825																												
22	0.921																												
23	0.913																												
24	0.787	3.4	<2	3.4	<0.03	0.0008	0.016	0.004	<0.00005	<0.04	<0.01	<0.0001	2	0.8	<0.01	<0.01	<0.01	<10	<0.1	5	<2	0.0	<0.0001	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
25	0.789																												
26	0.788																												
27	0.872																												
28	0.914	5.9	<2	5.9	<0.03	0.0014	0.013	0.009	<0.00005	<0.04	<0.01	<0.0001	2.7	<0.5	<0.01	<0.01	<0.01	<10	<0.1	7.6	<2	0.1	<0.0001	<0.008	0.2	<0.005	<0.0002	<0.02	<0.008
29	0.846																												
30	0.797																												
31	0.854																												
32	0.798	2.3	<2	2.3	<0.03	0.0005	0.010	0.004	<0.00005	<0.04	<0.01	<0.0001	1.6	<0.5	<0.01	<0.01	<0.01	<0.05	<0.1	4	<2	0.0	<0.0001	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
33	0.821																												
34	0.980																												
35	0.797																												
36	0.787	3.7	<2	3.7	<0.03	0.0006	0.010	0.007	<0.00005	<0.04	<0.01	<0.0001	1.6	0.5	<0.01	<0.01	<0.01	<0.05	<0.1	4	<2	0.0	<0.0001	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
37	0.797																												
38	0.862																												
39	0.799																												
40	0.789	2.5	<2	2.5	<0.03	0.0006	0.015	<0.003	<0.00005	<0.04	<0.01	<0.0001	1.2	<0.5	<0.01	<0.01	<0.01	<2	<0.1	3	<2	<0.02	0.000	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
41	0.801																												
42	0.800																												
43	0.795																												
44	0.794	2.7	<2	2.7	<0.03	0.0006	0.007	0.005	<0.00005	<0.04	<0.01	<0.0001	1.2	<0.5	<0.01	<0.01	<0.01	<2	<0.1	3	<2	<0.02	0.000	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
45	0.799																												

Exceeds Oregon GW Quality Guideline

HCT - 8
CAL-001 (380-400)
Sinter

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
46	0.785																												
47	0.790																												
48	0.791	2.5	<2	2.5	<0.03	0.0007	0.007	0.004	<0.00005	<0.04	<0.01	<0.0001	1.1	<0.5	<0.01	<0.01	<0.01	<2	<0.1	2.8	<2	0.0	0.000	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
49	0.771																												
50	0.809																												
51	0.797																												
52	0.803	2.3	<2	2.3	<0.03	0.0006	0.006	<0.003	<0.00005	<0.04	<0.01	<0.0001	1	<0.5	<0.01	<0.01	<0.01	<2	<0.1	2.5	<2	0.1	<0.0001	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
53	0.817																												
54	0.806																												
55	0.810																												
56	0.808	<2	<2	<2	<0.03	0.0006	0.006	<0.003	<0.00005	<0.04	<0.01	<0.0001	1.2	<0.5	<0.01	<0.01	<0.01	<2	<0.1	3	<2	0.0	0.000	<0.008	<0.2	<0.005	<0.001	<0.02	<0.008
57	0.809																												
58	0.816																												
59	0.809																												
60	0.829	2	<2	2	<0.03	0.0006	0.006	<0.003	<0.00005	<0.04	<0.01	<0.0001	1.1	<0.5	<0.01	<0.01	<0.01	<2	<0.1	2.8	<2	0.0	0.000	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
61	0.825																												
62	0.813																												
63	0.806																												
64	0.815	<2	<2	<2	<0.03	0.001	0.005	0.006	<0.0001	<0.04	<0.01	<0.0001	1	<0.5	<0.01	<0.01	<0.01	<4	<0.1	2.5	<2	0.0	0.000	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
65	0.809																												
66	0.836																												
67	0.819																												
68	0.810	<2	<2	<2	<0.03	0.0005	0.005	0.082	<0.00005	<0.04	<0.01	<0.0001	1.2	<0.5	<0.01	<0.01	<0.01	<10	<0.1	3	<2	0.0	0.000	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
69	0.823																												
70	0.803																												
71	0.807																												
72	0.820	2.5	<2	2.5	<0.03	0.0005	0.004	<0.003	<0.00005	<0.04	<0.01	<0.0001	0.8	<0.5	<0.01	<0.01	<0.01	<2	<0.1	2	<2	<0.02	0.000	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
73	0.816																												
74	0.815																												
75	0.800																												
76	0.812	<2	<2	<2	<0.03	0.0008	0.005	<0.003	<0.00005	<0.04	<0.01	<0.0001	0.8	0.5	<0.01	<0.01	<0.01	<4	<0.1	2	<2	<0.02	<0.0001	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
77	0.801																												
78	0.805																												
79	0.861																												
80	0.836	<2	<2	<2	<0.03	0.0005	0.005	<0.003	<0.00005	<0.04	<0.01	<0.0001	0.7	0.6	<0.01	<0.01	<0.01	<10	<0.1	1.8	<2	0.0	<0.0001	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
81	0.818																												
82	0.822																												
83	0.837																												
84	0.800	<2	<2	<2	<0.03	<0.0004	0.004	<0.003	<0.00005	<0.04	<0.01	<0.0001	0.6	0.6	<0.01	<0.01	<0.01	<10	<0.1	1.5	<2	0.0	0.000	<0.008	<0.2	<0.005	<0.0002	<0.02	<0.008
85	0.807																												
86	0.806																												
87	0.827																												

Exceeds Oregon
GW Quality Guideline

HCT - 8
CAL-001 (380-400)
Sinter

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
Oregon Water Quality Guideline		*10*		*6.5 - 8.5*				*0.01*	*0.05*			*250*				*500*			*5*					
0	1.741	0.070	0.23	7.1	0.05	1.4	<0.1	0.0068	<0.01	3.1	0.101	34.6	<0.0001	<0.04	<0.005	96	<0.0001	0.013	0.01	123	1.0	1	0.0	L27933
1	0.796	0.030	0.06	7.3	0.04	0.5	<0.1	0.0053	<0.01	0.7	0.092	25.6	0.0001	<0.04	<0.005	74	0.0001	<0.005	0.01	99.8	0.831	0.809	1.3	L28023
2	0.769	<0.02	0.06	7.5	0.03	<0.2	<0.1	0.0022	<0.01	0.4	0.062	15.0	<0.0001	<0.04	<0.005	42	<0.0001	<0.005	<0.01	62	0.528	0.589	-5.5	L28126
3	0.802																							
4	0.826	0.030	0.42	7.6	<0.02	0.2	<0.1	0.0010	<0.01	0.3	0.038	15.4	<0.0001	<0.04	<0.005	32	<0.0001	<0.005	0.01	34.8	0.379	0.563	-19.5	L28324
5	0.814																							
6	0.851																							
7	0.854																							
8	0.791	0.020	<0.05	7.5	0.03	<0.2	<0.1	0.0006	<0.01	0.2	0.037	7.1	<0.0001	<0.04	<0.005	84	<0.0001	0.005	0.02	35	0.301	0.381	-11.7	L28657
9	0.779																							
10	0.818																							
11	0.785																							
12	0.808	0.030	<0.05	7.1	<0.02	<0.2	<0.1	0.0005	<0.01	<0.2	0.014	1.0	<0.0001	<0.04	<0.005	20	<0.0001	<0.005	<0.01	22.1	0.1	0.135	N/A	L29021
13	0.815																							
14	0.815																							
15	0.788																							
16	0.796	0.050	<0.05	7.1	<0.02	<0.2	<0.1	0.0005	<0.01	<0.2	0.013	<1	<0.0001	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	18.5	0.125	---	N/A	L29484
17	0.791																							
18	0.797																							
19	0.812																							
20	0.792	0.040	<0.05	7.1	<0.02	<0.2	<0.1	0.0003	<0.01	<0.2	0.012	5.9	<0.0001	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	19.4	0.1	0.2	N/A	L29914
21	0.825																							
22	0.921																							
23	0.913																							
24	0.787	<0.02	<0.05	7	<0.02	<0.2	<0.1	0.0003	<0.01	<0.2	0.014	6.1	<0.0001	<0.04	<0.005	22	<0.0001	<0.005	0.01	16.2	0.1	0.218	N/A	L30419
25	0.789																							
26	0.788																							
27	0.872																							
28	0.914	<0.02	<0.05	7.2	<0.02	0.3	<0.1	0.0003	<0.01	<0.2	0.015	<1	<0.0001	<0.04	<0.005	10	<0.0001	<0.005	<0.01	20.1	0.162	0.118	N/A	L30908
29	0.846																							
30	0.797																							
31	0.854																							
32	0.798	0.020	<0.05	6.7	<0.02	<0.2	<0.1	0.0002	<0.01	<0.2	0.008	<1	<0.0001	<0.04	<0.005	14	<0.0001	<0.005	<0.01	13.7	---	---	N/A	L31481
33	0.821																							
34	0.980																							
35	0.797																							
36	0.787	<0.02	<0.05	7	<0.02	<0.2	<0.1	0.0002	<0.01	<0.2	0.01	3.5	<0.0001	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	14.2	---	0.161	N/A	L32131
37	0.797																							
38	0.862																							
39	0.799																							
40	0.789	<0.02	<0.05	6.9	<0.02	<0.2	<0.1	0.0002	<0.01	<0.2	<0.005	3.0	<0.0001	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	10.7	---	0.113	N/A	L32682
41	0.801																							
42	0.800																							
43	0.795																							
44	0.794	<0.02	<0.05	6.9	<0.02	<0.2	<0.1	0.0002	<0.01	<0.2	0.009	3.9	<0.0001	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	11.6	---	0.136	N/A	L33233
45	0.799																							

Exceeds Oregon
GW Quality Guideline

HCT - 8
CAL-001 (380-400)
Sinter

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
46	0.785																							
47	0.790																							
48	0.791	0.020	<0.05	6.9	<0.02	<0.2	<0.1	0.0001	<0.01	<0.2	0.008	<1	<0.0001	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	10.9	---	---	N/A	L33820
49	0.771																							
50	0.809																							
51	0.797																							
52	0.803	0.030	<0.05	6.7	<0.02	<0.2	<0.1	<0.0001	<0.01	<0.2	<0.005	<1	<0.0001	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	10.4	---	---	N/A	L34366
53	0.817																							
54	0.806																							
55	0.810																							
56	0.808	<0.02	<0.05	6.7	<0.02	<0.2	<0.1	<0.0001	<0.01	<0.2	<0.005	4.2	<0.0001	<0.04	<0.005	18	<0.0001	<0.005	<0.01	10.1	---	---	N/A	L34779
57	0.809																							
58	0.816																							
59	0.809																							
60	0.829	0.050	<0.05	6.8	<0.02	<0.2	<0.1	<0.0001	<0.01	<0.2	<0.005	6.5	<0.0001	<0.04	<0.005	28	<0.0001	<0.005	<0.01	10.1	---	0.176	N/A	L35145
61	0.825																							
62	0.813																							
63	0.806																							
64	0.815	0.240	<0.05	6.5	<0.02	<0.2	<0.1	<0.0001	<0.01	<0.2	0.009	5.2	<0.0001	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	10.1	---	0.109	N/A	L35597
65	0.809																							
66	0.836																							
67	0.819																							
68	0.810	0.120	<0.05	6.8	<0.02	<0.2	<0.1	<0.0001	<0.01	<0.2	<0.005	8.3	<0.0001	<0.04	<0.005	14	<0.0001	<0.005	<0.01	17.7	---	0.174	N/A	L36030
69	0.823																							
70	0.803																							
71	0.807																							
72	0.820	<0.02	<0.05	7	<0.02	<0.2	<0.1	<0.0001	<0.01	<0.2	<0.005	1.2	<0.0001	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	7.6	---	---	N/A	L36586
73	0.816																							
74	0.815																							
75	0.800																							
76	0.812	0.020	<0.05	6.6	<0.02	<0.2	<0.1	0.0001	<0.01	<0.2	<0.005	<1	<0.0001	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	9.2	---	---	N/A	L37089
77	0.801																							
78	0.805																							
79	0.861																							
80	0.836	0.020	<0.05	5.2	<0.02	<0.2	<0.1	0.0001	<0.01	<0.2	<0.005	<1	<0.0001	<0.04	<0.005	14	<0.0001	<0.005	<0.01	7.5	---	---	N/A	L37686
81	0.818																							
82	0.822																							
83	0.837																							
84	0.800	0.020	<0.05	5.3	<0.02	<0.2	<0.1	0.0001	<0.01	<0.2	<0.005	<1	<0.0001	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	5.8	---	---	N/A	L38237
85	0.807																							
86	0.806																							
87	0.827																							

Exceeds Oregon
GW Quality Guideline

HCT - 9
CAL-002 (177-187)
Sinter

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCI)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
Oregon Water Quality Guideline										*250*														
0	1.750	6.76	357	85	<0.10	0.000	0.000	<0.10	<0.10	23	20.02	20.02	5.37	4.67	4.67	1.03	0.90	0.90	0	0.00	0.00	11	9.57	9.57
1	0.791	6.53	384	113	<0.10	0.000	0.000	<0.10	<0.10	39	15.34	35.36	10.31	4.06	8.73	1.87	0.74	1.64	7	2.75	2.75	6	2.36	11.93
2	0.806	6.73	387	60	<0.10	0.000	0.000	<0.10	<0.10	19	7.62	42.98	4.15	1.66	10.39	0.77	0.31	1.95	9	3.61	6.36	7	2.81	14.74
3	0.840	6.75	385	41	<0.10	0.000	0.000	<0.10	<0.10	13	5.43	48.41	3.60	1.50	11.89	0.71	0.30	2.25	6	2.51	8.87	6	2.51	17.25
4	0.879	6.79	378	35	<0.10	0.000	0.000	<0.10	<0.10	12	5.25	53.66	3.94	1.72	13.61	0.77	0.34	2.59	7	3.06	11.93	6	2.62	19.87
5	0.838	6.71	397	32	<0.10	0.000	0.000	<0.10	<0.10	9.9	4.13	57.79	2.93	1.22	14.83	0.54	0.23	2.82	7	2.92	14.85	6	2.50	22.37
6	0.881	6.74	394	27	<0.10	0.000	0.000	<0.10	<0.10	9.4	4.12	61.91	2.53	1.11	15.94	0.49	0.21	3.03	5	2.19	17.04	6	2.63	25.00
7	0.913	6.51	367	27	<0.10	0.000	0.000	<0.10	<0.10	8.5	3.86	65.77	2.26	1.03	16.97	0.49	0.22	3.25	6	2.72	19.76	4	1.82	26.82
8	0.820	6.39	394	20	<0.10	0.000	0.000	<0.10	<0.10	5.7	2.32	68.09	1.83	0.75	17.72	0.49	0.20	3.45	6	2.45	22.21	4	1.63	28.45
9	0.833	6.45	352	21	<0.10	0.000	0.000	<0.10	<0.10	6.8	2.82	70.91	1.47	0.61	18.33	0.49	0.20	3.65	8	3.31	25.52	8	3.31	31.76
10	0.840	5.95	363	23	<0.10	0.000	0.000	<0.10	<0.10	<1.0	0.00	70.91	1.96	0.82	19.15	0.49	0.20	3.85	13	5.43	30.95	7	2.92	34.68
11	0.836	6.14	382	15	<0.10	0.000	0.000	<0.10	<0.10	5.3	2.20	73.11	1.27	0.53	19.68	0.49	0.20	4.05	4	1.66	32.62	4	1.66	36.34
12	0.858	6.25	362	17	<0.10	0.000	0.000	<0.10	<0.10	6.1	2.60	75.71	1.26	0.54	20.22	0.49	0.21	4.26	4	1.71	34.32	4	1.71	38.05
13	0.949	6.44	330	18	<0.10	0.000	0.000	<0.10	<0.10	5.7	2.69	78.40	1.46	0.69	20.91	0.49	0.23	4.49	3	1.42	35.74	5	2.36	40.41
14	0.850	6.20	386	18	<0.10	0.000	0.000	<0.10	<0.10	5.8	2.45	80.85	1.38	0.58	21.49	0.49	0.21	4.70	2	0.85	36.58	3	1.27	41.68
15	0.819	6.34	309	16	<0.10	0.000	0.000	<0.10	<0.10	5.2	2.12	82.97	1.53	0.62	22.11	0.49	0.20	4.90	3	1.22	37.81	3	1.22	42.90
16	0.860	6.69	300	18	<0.10	0.000	0.000	<0.10	<0.10	5.8	2.48	85.45	1.41	0.60	22.71	0.49	0.21	5.11	8	3.42	41.23	4	1.71	44.61
17	0.844	7.05	310	16	<0.10	0.000	0.000	<0.10	<0.10	5.1	2.14	87.59	1.22	0.51	23.22	0.49	0.21	5.32	3	1.26	42.49	4	1.68	46.29
18	0.803	6.54	313	14	<0.10	0.000	0.000	<0.10	<0.10	5.4	2.16	89.75	1.02	0.41	23.63	0.49	0.20	5.52	15	5.99	48.48	3	1.20	47.49
19	0.864	6.53	329	19	<0.10	0.000	0.000	<0.10	<0.10	6.7	2.88	92.63	1.42	0.61	24.24	0.49	0.21	5.73	12	5.16	53.63	4	1.72	49.21
20	0.830	6.35	348	23	<0.10	0.000	0.000	<0.10	<0.10	5.8	2.39	95.02	1.22	0.50	24.74	0.49	0.20	5.93	17	7.02	60.65	3	1.24	50.45
21	0.853	6.63	278	21	<0.10	0.000	0.000	<0.10	<0.10	7.5	3.18	98.20	1.60	0.68	25.42	0.49	0.21	6.14	6	2.55	63.19	4	1.70	52.15
22	0.958	7.05	298	29	<0.10	0.000	0.000	<0.10	<0.10	11	5.24	103.44	2.34	1.11	26.53	0.49	0.23	6.37	4	1.91	65.10	5	2.38	54.53
23	0.952	6.63	313	23	<0.10	0.000	0.000	<0.10	<0.10	8.1	3.83	107.27	1.78	0.84	27.37	0.49	0.23	6.60	16	7.58	72.68	4	1.89	56.42
24	0.828	5.90	336	20	<0.10	0.000	0.000	<0.10	<0.10	7.6	3.13	110.40	1.88	0.77	28.14	0.49	0.20	6.80	7	2.88	75.56	2	0.82	57.24
25	0.842	6.04	279	21	<0.10	0.000	0.000	<0.10	<0.10	8.3	3.48	113.88	1.61	0.67	28.81	0.49	0.21	7.01	5	2.09	77.65	3	1.26	58.50
26	0.845	5.43	347	19	<0.10	0.000	0.000	<0.10	<0.10	7.3	3.07	116.95	1.37	0.58	29.39	0.49	0.21	7.22	9	3.78	81.43	2	0.84	59.34
27	0.867	5.48	273	21	<0.10	0.000	0.000	<0.10	<0.10	6.3	2.72	119.67	1.51	0.65	30.04	0.49	0.21	7.43	4	1.73	83.16	1	0.43	59.77
28	0.936	5.39	239	24	<0.10	0.000	0.000	<0.10	<0.10	8	3.72	123.39	1.81	0.84	30.88	0.49	0.23	7.66	5	2.33	85.49	1	0.47	60.24
29	0.859	5.29	235	20	0.10	0.043	0.043	<0.10	<0.1	5.3	2.26	125.65	1.37	0.59	31.47	0.49	0.21	7.87	4	1.71	87.19	1	0.43	60.67
30	0.846	5.53	295	10	<0.10	0.000	0.043	<0.10	<0.10	1.9	0.80	126.45	1.55	0.65	32.12	0.49	0.21	8.08	2	0.84	88.04	5	2.10	62.77
31	0.873	5.05	260	21	<0.10	0.000	0.043	<0.10	<0.10	6.8	2.95	129.40	1.53	0.66	32.78	0.49	0.21	8.29	2	0.87	88.90	1	0.43	63.20
32	0.850	5.29	237	18	<0.10	0.000	0.043	<0.10	<0.10	5.3	2.24	131.64	1.41	0.60	33.38	0.49	0.21	8.50	6	2.54	91.44	0	0.00	63.20
33	0.846	5.55	180	17	<0.10	0.000	0.043	<0.10	<0.10	4.8	2.02	133.66	1.00	0.42	33.80	0.49	0.21	8.71	13	5.47	96.91	3	1.26	64.46
34	0.984	5.54	215	22	<0.10	0.000	0.043	<0.10	<0.10	6.2	3.03	136.69	1.51	0.74	34.54	0.49	0.24	8.95	11	5.38	102.29	3	1.47	65.93
35	0.830	5.27	240	19	<0.10	0.000	0.043	<0.10	<0.10	5.1	2.11	138.80	1.49	0.62	35.16	0.49	0.20	9.15	11	4.54	106.83	2	0.83	66.76
36	0.852	5.21	240	23	<0.10	0.000	0.043	<0.10	<0.10	6.5	2.75	141.55	1.68	0.71	35.87	0.49	0.21	9.36	3	1.27	108.10	1	0.42	67.18
37	0.857	5.36	223	19	<0.10	0.000	0.043	<0.10	<0.10	6.2	2.64	144.19	1.41	0.60	36.47	0.49	0.21	9.57	4	1.71	109.81	1	0.43	67.61
38	0.869	5.07	273	23	<0.10	0.000	0.043	<0.10	<0.10	6	2.72	146.91	1.66	0.72	37.19	0.49	0.21	9.78	15	6.48	116.29	1	0.43	68.04
39	0.847	5.17	239	21	<0.10	0.000	0.043	<0.10	<0.10	6	2.40	149.31	1.09	0.46	37.65	0.49	0.21	9.99	10	4.21	120.50	1	0.42	68.46
40	0.837	5.30	247	19	<0.10	0.000	0.043	<0.10	<0.10	8	3.29	152.60	1.21	0.50	38.15	0.49	0.20	10.19	16	6.66	127.16	1	0.42	68.88
41	0.855	5.28	284	20	<0.10	0.000	0.043	<0.10	<0.10	6	2.68	155.28	1.20	0.51	38.66	0.49	0.21	10.40	13	5.53	132.69	1	0.43	69.31
42	0.854	5.03	303	19	<0.10	0.000	0.043	<0.10	<0.10	8	3.48	158.76	1.40	0.59	39.25	0.49	0.21	10.61	11	4.67	137.36	1	0.42	69.73
43	0.850	5.44	244	20	<0.10	0.000	0.043	<0.10	<0.10	4	1.52	160.28	1.15	0.49	39.74	0.49	0.21	10.82	3	1.27	138.63	1	0.42	70.15
44	0.803	5.15	137	16	<0.10	0.000	0.043	<0.10	<0.10	5	2.08	162.36	1.26	0.50	40.24	0.49	0.20	11.02	3	1.20	139.83	2	0.80	70.95
45	0.935	5.06	367	21	<0.10	0.000	0.043	<0.10	<0.10	4	1.67	164.03	1.30	0.60	40.84	0.49	0.23	11.25	7	3.26	143.08	3	1.39	72.34

Exceeds Oregon
GW Quality Guideline

HCT - 9
CAL-002 (177-187)
Sinter

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2+} mg/l	Fe^{3+} mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.857	4.98	419	20	<0.10	0.000	0.043	<0.10	<0.10	4	1.87	165.90	1.11	0.47	41.31	0.49	0.21	11.46	6	2.56	145.64	1	0.43	72.77
47	0.846	5.42	419	28	<0.10	0.000	0.043	<0.10	<0.10	4	1.54	167.44	1.13	0.48	41.79	0.49	0.21	11.67	5	2.10	147.74	1	0.42	73.19
48	0.827	5.41	335	25	<0.10	0.000	0.043	<0.10	<0.10	4	1.85	169.29	1.09	0.45	42.24	0.49	0.20	11.87	5	2.06	149.80	1	0.41	73.60
49	0.813	5.31	351	18	0.11	0.044	0.087	<0.10	<0.11	6	2.53	171.82	0.95	0.38	42.62	0.49	0.20	12.07	5	2.02	151.82	1	0.40	74.00
50	0.867	5.25	445	20	<0.10	0.000	0.087	<0.10	<0.10	5	2.17	173.99	1.16	0.50	43.12	0.49	0.21	12.28	5	2.16	153.98	1	0.43	74.43
51	0.839	5.43	386	20	<0.10	0.000	0.087	<0.10	<0.10	5	1.89	175.88	0.81	0.34	43.46	0.49	0.20	12.48	4	1.67	155.65	1	0.42	74.85
52	0.816	5.64	345	17	<0.10	0.000	0.087	<0.10	<0.10	3	1.01	176.89	0.84	0.34	43.80	0.49	0.20	12.68	3	1.22	156.86	2	0.81	75.66
53	0.844	5.05	400	20	<0.10	0.000	0.087	<0.10	<0.10	4	1.78	178.67	0.93	0.39	44.19	0.49	0.21	12.89	5	2.10	158.96	1	0.42	76.08
54	0.824	5.27	315	17	<0.10	0.000	0.087	<0.10	<0.10	5	2.01	180.68	0.85	0.35	44.54	0.49	0.20	13.09	4	1.64	160.60	1	0.41	76.49
55	0.885	5.09	354	21	<0.10	0.000	0.087	<0.10	<0.10	5	2.11	182.79	1.02	0.45	44.99	0.49	0.22	13.31	4	1.76	162.36	1	0.44	76.93
56	0.852	5.93	323	19	<0.10	0.000	0.087	<0.10	<0.10	5	2.04	184.83	0.87	0.37	45.36	0.49	0.21	13.52	4	1.70	164.06	2	0.85	77.78
57	0.842	5.30	330	14	<0.10	0.000	0.087	<0.10	<0.10	4	1.60	186.43	0.68	0.28	45.64	0.49	0.21	13.73	4	1.68	165.73	1	0.42	78.20
58	0.858	5.42	368	14	<0.10	0.000	0.087	<0.10	<0.10	5	2.04	188.47	0.71	0.30	45.94	0.49	0.21	13.94	4	1.71	167.44	2	0.85	79.05
59	0.844	5.34	355	16	<0.10	0.000	0.087	<0.10	<0.10	6	2.48	190.95	0.89	0.37	46.31	0.49	0.21	14.15	3	1.26	168.70	1	0.42	79.47
60	0.840	4.95	364	15	<0.10	0.000	0.087	<0.10	<0.10	5	2.01	192.96	0.81	0.34	46.65	0.49	0.20	14.35	5	2.09	170.79	1	0.42	79.89
61	0.851	4.95	469	17	<0.10	0.000	0.087	<0.10	<0.10	5	2.29	195.25	0.93	0.39	47.04	0.49	0.21	14.56	4	1.69	172.48	1	0.42	80.31
62	0.843	5.00	417	14	<0.10	0.000	0.087	<0.10	<0.10	6	2.64	197.89	0.76	0.32	47.36	0.49	0.21	14.77	4	1.68	174.16	1	0.42	80.73
63	0.844	5.15	458	17	<0.10	0.000	0.087	<0.10	<0.10	7	3.12	201.01	0.85	0.36	47.72	0.49	0.21	14.98	3	1.26	175.42	1	0.42	81.15
64	0.842	4.99	469	17	<0.10	0.000	0.087	<0.10	<0.10	6	2.68	203.69	0.93	0.39	48.11	0.49	0.21	15.19	4	1.68	177.09	1	0.42	81.57
65	0.844	5.29	419	16	<0.10	0.000	0.087	<0.10	<0.10	7	3.14	206.83	0.75	0.31	48.42	0.49	0.21	15.40	4	1.68	178.77	1	0.42	81.99
66	0.867	5.43	465	17	<0.10	0.000	0.087	<0.10	<0.10	7	3.00	209.83	0.81	0.35	48.77	0.49	0.21	15.61	3	1.47	180.24	2	0.65	82.64
67	0.847	5.54	434	16	<0.10	0.000	0.087	<0.10	<0.10	5	2.03	211.86	0.63	0.27	49.04	0.49	0.21	15.82	3	1.26	181.50	2	0.84	83.48
68	0.859	4.92	424	16	<0.10	0.000	0.087	<0.10	<0.10	4	1.79	213.65	0.72	0.31	49.35	0.49	0.21	16.03	5	2.14	183.64	1	0.43	83.91
69	0.819	5.09	429	16	<0.10	0.000	0.087	<0.10	<0.10	4	1.51	215.16	0.83	0.34	49.69	0.49	0.20	16.23	4	1.63	185.27	1	0.41	84.32
70	0.831	4.92	372	16	<0.10	0.000	0.087	<0.10	<0.10	4	1.78	216.94	0.85	0.35	50.04	0.49	0.20	16.43	5	2.07	187.33	1	0.41	84.73
71	0.858	5.32	414	14	<0.10	0.000	0.087	<0.10	<0.10	4	1.69	218.63	0.93	0.40	50.44	0.49	0.21	16.64	4	1.71	189.04	1	0.43	85.16
72	0.855	5.21	383	15	<0.10	0.000	0.087	<0.10	<0.10	4	1.77	220.40	0.83	0.35	50.79	0.49	0.21	16.85	4	1.70	190.74	1	0.43	85.59
73	0.814	5.92	384	11	<0.10	0.000	0.087	<0.10	<0.10	4	1.53	221.93	0.87	0.35	51.14	0.49	0.20	17.05	3	1.21	191.96	2	0.81	86.40
74	0.822	5.30	387	12	<0.10	0.000	0.087	<0.10	<0.10	5	2.02	223.95	0.75	0.31	51.45	0.49	0.20	17.25	4	1.64	193.59	1	0.41	86.81
75	0.853	5.32	339	14	<0.10	0.000	0.087	<0.10	<0.10	5	1.98	225.93	0.99	0.42	51.87	0.49	0.21	17.46	3	1.27	194.86	2	0.85	87.66
76	0.856	5.45	367	15	<0.10	0.000	0.087	<0.10	<0.10	3	1.08	227.01	0.82	0.35	52.22	0.49	0.21	17.67	2	0.85	195.72	2	0.85	88.51
77	0.852	5.14	448	15	<0.10	0.000	0.087	<0.10	<0.10	3	1.09	228.10	0.82	0.35	52.57	0.49	0.21	17.88	4	1.70	197.41	1	0.42	88.93
78	0.817	5.23	401	13	<0.10	0.000	0.087	<0.10	<0.10	3	1.37	229.47	0.80	0.33	52.90	0.49	0.20	18.08	4	1.63	199.04	1	0.41	89.34
79	0.861	5.18	430	17	<0.10	0.000	0.087	<0.10	<0.10	4	1.63	231.10	0.88	0.38	53.28	0.49	0.21	18.29	4	1.71	200.75	1	0.43	89.77
80	0.866	5.64	375	15	<0.10	0.000	0.087	<0.10	<0.10	4	1.80	232.90	0.87	0.37	53.65	0.49	0.21	18.50	3	1.29	202.04	2	0.86	90.63
81	0.870	5.68	354	12	<0.10	0.000	0.087	<0.10	<0.10	2	0.96	233.86	0.84	0.36	54.01	0.49	0.21	18.71	3	1.30	203.34	2	0.87	91.50
82	0.893	4.76	393	15	<0.10	0.000	0.087	<0.10	<0.10	4	1.75	235.61	0.73	0.32	54.33	0.49	0.22	18.93	4	1.78	205.11	1	0.44	91.94
83	0.858	5.75	257	14	<0.10	0.000	0.087	<0.10	<0.10	3	1.24	236.85	0.77	0.33	54.66	0.49	0.21	19.14	4	1.71	206.82	2	0.85	92.79
84	0.863	5.22	274	17	<0.10	0.000	0.087	<0.10	<0.10	5	1.97	238.82	1.10	0.47	55.13	0.49	0.21	19.35	6	2.45	209.27	1	0.43	93.22
85	0.867	6.23	156	15	<0.10	0.000	0.087	<0.10	<0.10	5	2.00	240.82	0.78	0.34	55.47	0.49	0.21	19.56	3	1.38	210.65	2	0.73	93.95
86	0.859	6.69	69	13	<0.10	0.000	0.087	<0.10	<0.10	3	1.25	242.07	0.72	0.31	55.78	0.49	0.21	19.77	1	0.49	211.14	3	1.36	95.31
87	0.859	5.03	295	13	<0.10	0.000	0.087	<0.10	<0.10	4	1.51	243.58	0.58	0.25	56.03	0.49	0.21	19.98	5	2.14	213.28	1	0.43	95.74

Exceeds Oregon
GW Quality Guideline

HCT - 9
CAL-002 (177-187)
Sinter

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
Oregon Water Quality Guideline							*0.05*	*1*				*0.01*		*250*	*0.05*		*1*	*4*				*0.3*	*0.05*			*0.05*	*0.002*		
0	1.750	3.8	<2	3.8	<0.03	0.0069	0.008	0.126	<0.00005	0.04	0.06	<0.0001	5.6	1.4	<0.01	<0.01	<0.01	0.2	<0.1	18.5	<2	0.030	0.0001	0.022	1.1	0.009	0.000	<0.02	0.008
1	0.791	<2	<2	<2	0.05	0.0025	0.005	0.010	<0.00005	<0.04	<0.01	<0.0001	9.3	1.6	<0.01	<0.01	<0.01	0.1	<0.1	31	<2	0.030	0.0003	0.028	1.9	0.017	<0.0002	<0.02	0.112
2	0.806	<2	<2	<2	<0.03	0.002	0.004	0.009	<0.00005	<0.04	<0.01	<0.0001	4.8	1.1	<0.01	<0.01	<0.01	0.1	<0.1	16.1	<2	0.020	0.0002	0.016	1	0.008	<0.0002	<0.02	0.069
3	0.840																												
4	0.879	<2	<2	<2	<0.03	0.0017	0.003	0.003	<0.00005	<0.04	<0.01	<0.0001	2.8	0.5	<0.01	<0.01	<0.01	<0.05	<0.1	9.46	<2	<0.02	0.0002	<0.008	0.6	<0.005	<0.0002	<0.02	0.068
5	0.838																												
6	0.881																												
7	0.913																												
8	0.820	<2	<2	<2	0.04	0.0016	0.003	0.008	<0.00005	<0.04	0.16	<0.0001	1.7	<0.5	<0.01	<0.01	<0.01	<0.05	<0.1	5.9	<2	0.040	0.0004	<0.008	0.4	0.010	0.000	<0.02	0.072
9	0.833																												
10	0.840																												
11	0.836																												
12	0.858	<2	<2	<2	<0.03	0.0012	0.004	0.004	<0.00005	<0.04	<0.01	<0.0001	1.2	<0.5	<0.01	<0.01	<0.01	<2	<0.1	3.8	<2	<0.02	<0.0001	<0.008	0.2	<0.005	<0.0002	<0.02	0.076
13	0.949																												
14	0.850																												
15	0.819																												
16	0.860	<2	<2	<2	<0.03	0.0010	0.003	<0.003	<0.00005	<0.04	<0.01	<0.0001	1.4	<0.5	<0.01	<0.01	<0.01	<0.05	<0.1	4.7	<2	0.040	0.0002	<0.008	0.3	0.009	0.000	<0.02	0.092
17	0.844																												
18	0.803																												
19	0.864																												
20	0.830	<2	<2	<2	<0.03	0.0009	0.004	0.004	<0.00005	<0.04	<0.01	<0.0001	1.3	<0.5	<0.01	<0.01	<0.01	<2	<0.1	4.5	<2	0.030	0.0008	<0.008	0.3	0.008	<0.0002	<0.02	0.098
21	0.853																												
22	0.958																												
23	0.952																												
24	0.828	<2	<2	<2	<0.03	0.0009	0.003	0.004	<0.00005	<0.04	<0.01	<0.0001	1.4	0.8	<0.01	<0.01	<0.01	<10	<0.1	4.3	<2	0.030	0.0001	<0.008	0.2	0.019	<0.0002	<0.02	0.144
25	0.842																												
26	0.845																												
27	0.867																												
28	0.936	<2	<2	<2	<0.03	0.0007	0.002	0.008	0.00017	<0.04	<0.01	<0.0001	1.9	<0.5	<0.01	0.01	<0.01	<10	<0.1	6.8	<2	0.040	0.0001	<0.008	0.5	0.028	<0.0002	<0.02	0.208
29	0.859																												
30	0.846																												
31	0.873																												
32	0.850	<2	<2	<2	<0.03	0.0006	0.004	0.003	0.00007	<0.04	<0.01	<0.0001	1.2	<0.5	<0.01	<0.01	<0.01	<0.5	<0.1	4.2	<2	0.040	<0.0001	<0.008	0.3	0.017	<0.0004	<0.02	0.155
33	0.846																												
34	0.984																												
35	0.830																												
36	0.852	<2	<2	<2	<0.03	0.0006	0.003	0.007	0.00012	<0.04	<0.01	<0.0001	1.4	<0.5	<0.01	<0.01	<0.01	<0.05	<0.1	4.7	<2	0.070	0.0002	<0.008	0.3	0.021	<0.0002	<0.02	0.185
37	0.857																												
38	0.869																												
39	0.847																												
40	0.837	<2	<2	<2	<0.03	0.0005	0.004	<0.003	0.0001	<0.04	<0.01	<0.0001	1.1	<0.5	<0.01	<0.01	<0.01	<2	<0.1	4	<2	0.050	0.0002	<0.008	0.3	0.013	<0.0002	<0.02	0.167
41	0.855																												
42	0.854																												
43	0.850																												
44	0.803	<2	<2	<2	<0.03	0.0009	0.003	0.005	0.00012	<0.04	<0.01	<0.0001	0.9	<0.5	<0.01	<0.01	<0.01	<2	<0.1	2.3	<2	0.070	0.0004	<0.008	<0.2	0.013	<0.0002	<0.02	0.141
45	0.935																												

Exceeds Oregon
GW Quality Guideline

HCT - 9
CAL-002 (177-187)
Sinter

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3, $CaCO_3$ mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	CD mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg mg/L	Mo mg/L	Ni mg/L
46	0.857																												
47	0.846																												
48	0.827	<2	<2	<2	<0.03	0.0004	0.003	0.003	0.0001	<0.04	<0.01	<0.0001	0.8	<0.5	<0.01	<0.01	<0.01	<2	<0.1	2	<2	0.050	0.0009	<0.008	<0.2	0.012	<0.0002	<0.02	0.13
49	0.813																												
50	0.867																												
51	0.839																												
52	0.816	<2	<2	<2	<0.03	<0.0004	0.003	<0.003	0.00014	<0.04	<0.01	<0.0001	0.8	<0.5	<0.01	<0.01	<0.01	<2	<0.1	2	<2	0.030	0.0003	<0.008	<0.2	0.006	<0.0002	<0.02	0.117
53	0.844																												
54	0.824																												
55	0.885																												
56	0.852	<2	<2	<2	<0.03	<0.0004	0.003	<0.003	0.00014	<0.04	<0.01	<0.0001	0.8	<0.5	<0.01	<0.01	<0.01	<2	<0.1	2	<2	0.030	0.0003	<0.008	<0.2	0.005	<0.0002	<0.02	0.119
57	0.842																												
58	0.858																												
59	0.844																												
60	0.840	<2	<2	<2	<0.03	<0.0004	0.003	<0.003	0.0001	<0.04	<0.01	<0.0001	0.7	<0.5	<0.01	<0.01	<0.01	<2	<0.1	1.8	<2	0.030	0.0005	<0.008	<0.2	0.011	<0.0002	<0.02	0.113
61	0.851																												
62	0.843																												
63	0.844																												
64	0.842	<2	<2	<2	<0.03	<0.0004	0.003	0.006	0.00015	<0.04	<0.01	<0.0001	0.7	<0.5	<0.01	<0.01	<0.01	<4	<0.1	1.8	<2	0.020	0.0008	<0.008	<0.2	0.011	<0.0002	<0.02	0.108
65	0.844																												
66	0.867																												
67	0.847																												
68	0.859	<2	<2	<2	<0.03	<0.0004	0.003	<0.003	0.00011	<0.04	<0.01	<0.0001	0.7	<0.5	<0.01	<0.01	<0.01	<10	<0.1	1.8	<2	<0.02	0.0023	<0.008	<0.2	0.007	<0.0002	<0.02	0.111
69	0.819																												
70	0.831																												
71	0.858																												
72	0.855	<2	<2	<2	<0.03	<0.0004	0.003	<0.003	0.00011	<0.04	<0.01	<0.0001	0.6	<0.5	<0.01	<0.01	<0.01	<2	<0.1	1.5	<2	<0.02	0.0004	<0.008	<0.2	<0.005	<0.0002	<0.02	0.097
73	0.814																												
74	0.822																												
75	0.853																												
76	0.856	<2	<2	<2	<0.03	<0.0004	0.003	0.003	0.00013	<0.04	<0.01	<0.0001	0.5	<0.5	<0.01	<0.01	<0.01	<4	<0.1	1.3	<2	0.020	0.0003	<0.008	<0.2	0.007	<0.0002	<0.02	0.091
77	0.852																												
78	0.817																												
79	0.861																												
80	0.866	<2	<2	<2	<0.03	<0.0004	0.003	0.006	0.00013	<0.04	<0.01	<0.0001	0.6	0.5	<0.01	<0.01	<0.01	<4	<0.1	1.5	<2	<0.02	0.0002	<0.008	<0.2	0.007	<0.0002	<0.02	0.112
81	0.870																												
82	0.893																												
83	0.858																												
84	0.863	<2	<2	<2	<0.03	<0.0004	0.003	<0.003	0.00013	<0.04	<0.01	<0.0001	0.6	0.6	<0.01	<0.01	<0.01	<10	<0.1	1.5	<2	<0.02	0.0004	<0.008	<0.2	<0.005	<0.0002	<0.02	0.114
85	0.867																												
86	0.859																												
87	0.859																												

Exceeds Oregon
GW Quality Guideline

HCT - 9
CAL-002 (177-187)
Sinter

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
Oregon Water Quality Guideline		*10*		*6.5 - 8.5*				*0.01*	*0.05*			*250*				*500*			*5*					
0	1.750	0.040	0.12	6.8	0.02	2.5	<0.1	0.0069	<0.01	3.9	0.042	24.4	0.0005	<0.04	<0.005	60	<0.0001	<0.005	0.03	79.6	0.6	0.636	-1.4	L27933
1	0.791	<0.02	0.06	6.6	0.02	2.4	<0.1	0.0083	<0.01	5.3	0.06	37.6	0.0013	<0.04	<0.005	92	<0.0001	<0.005	0.02	111	0.931	0.841	5.1	L28023
2	0.806	<0.02	<0.05	6.5	<0.02	1.2	<0.1	0.0065	<0.01	2.7	0.032	22.4	0.0007	<0.04	<0.005	48	<0.0001	<0.005	0.01	63.3	0.475	0.506	-3.2	L28126
3	0.840																							
4	0.879	0.020	<0.05	6.4	<0.02	0.8	<0.1	0.0045	<0.01	1.3	0.016	14.7	0.0005	<0.04	<0.005	32	<0.0001	<0.005	0.01	33.7	0.268	0.323	-9.3	L28324
5	0.838																							
6	0.881																							
7	0.913																							
8	0.820	0.020	<0.05	6	0.02	0.6	<0.1	0.0036	<0.01	0.6	0.015	6.3	0.0005	<0.04	<0.005	86	<0.0001	0.006	0.03	24.3	0.168	0.132	N/A	L28657
9	0.833																							
10	0.840																							
11	0.836																							
12	0.858	0.030	<0.05	5.6	<0.02	0.4	<0.1	0.0034	<0.01	0.4	0.005	5.9	0.0004	<0.04	<0.005	18	<0.0001	<0.005	<0.01	22.6	0.1	0.124	N/A	L29021
13	0.949																							
14	0.850																							
15	0.819																							
16	0.860	0.030	<0.05	5.6	<0.02	0.5	<0.1	0.0033	<0.01	0.4	0.008	5.0	0.0006	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	22.6	0.128	0.105	N/A	L29484
17	0.844																							
18	0.803																							
19	0.864																							
20	0.830	<0.02	<0.05	5.5	<0.02	0.7	<0.1	0.0023	<0.01	0.3	0.008	6.4	0.0007	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	24	0.123	0.134	N/A	L29914
21	0.853																							
22	0.958																							
23	0.952																							
24	0.828	<0.02	<0.05	5.3	<0.02	0.5	<0.1	0.0024	<0.01	0.3	0.014	7.7	0.0007	<0.04	<0.005	22	<0.0001	<0.005	0.01	25.9	0.1	0.184	N/A	L30419
25	0.842																							
26	0.845																							
27	0.867																							
28	0.936	<0.02	<0.05	5.2	<0.02	0.7	<0.1	0.0027	<0.01	0.3	0.015	7.9	0.0007	<0.04	<0.005	16	<0.0001	0.006	<0.01	30.6	0.172	0.166	N/A	L30908
29	0.859																							
30	0.846																							
31	0.873																							
32	0.850	<0.02	<0.05	5.2	<0.02	0.6	<0.1	0.0019	<0.01	0.2	0.009	5.5	0.0008	<0.04	<0.005	18	<0.0001	<0.005	0.01	25.2	0.113	0.115	N/A	L31481
33	0.846																							
34	0.984																							
35	0.830																							
36	0.852	<0.02	<0.05	4.9	<0.02	0.7	<0.1	0.0020	<0.01	0.2	0.013	7.1	0.0011	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	30.2	0.127	0.149	N/A	L32131
37	0.857																							
38	0.869																							
39	0.847																							
40	0.837	<0.02	0.06	4.9	<0.02	0.6	<0.1	0.0021	<0.01	0.2	<0.005	6.2	0.0011	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	26.2	0.112	0.1	N/A	L32682
41	0.855																							
42	0.854																							
43	0.850																							
44	0.803	<0.02	<0.05	4.9	<0.02	0.4	<0.1	0.0016	<0.01	<0.2	0.01	4.5	0.0007	<0.04	<0.005	12	<0.0001	<0.005	<0.01	23.9	---	---	N/A	L33233
45	0.935																							

Exceeds Oregon
GW Quality Guideline

HCT - 9
CAL-002 (177-187)
Sinter

Week	Vol. L	NO_3 + NO_2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO_4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance %	ACZ Report No.
46	0.857																							
47	0.846																							
48	0.827	<0.02	0.15	4.9	<0.02	0.3	<0.1	0.0016	<0.01	<0.2	0.009	4.0	0.0009	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	21.9	---	---	N/A	L33820
49	0.813																							
50	0.867																							
51	0.839																							
52	0.816	<0.02	<0.05	4.8	<0.02	0.3	<0.1	0.0015	<0.01	<0.2	<0.005	3.8	0.0007	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	23.4	---	---	N/A	L34366
53	0.844																							
54	0.824																							
55	0.885																							
56	0.852	<0.02	<0.05	4.7	<0.02	0.3	<0.1	0.0013	<0.01	<0.2	<0.005	4.3	0.0007	<0.04	<0.005	12	<0.0001	<0.005	<0.01	21.5	---	---	N/A	L34779
57	0.842																							
58	0.858																							
59	0.844																							
60	0.840	0.030	<0.05	4.9	<0.02	0.4	<0.1	0.0011	<0.01	<0.2	<0.005	6.2	0.0007	<0.04	<0.005	36	<0.0001	<0.005	<0.01	21.8	---	0.1	N/A	L35145
61	0.851																							
62	0.843																							
63	0.844																							
64	0.842	0.050	<0.05	4.8	<0.02	0.3	<0.1	0.0011	<0.01	<0.2	0.011	4.7	0.0007	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	21.7	---	---	N/A	L35597
65	0.844																							
66	0.867																							
67	0.847																							
68	0.859	0.030	<0.05	4.8	<0.02	0.4	<0.1	0.0010	<0.01	<0.2	<0.005	6.2	0.0008	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	22.4	---	0.1	N/A	L36030
69	0.819																							
70	0.831																							
71	0.858																							
72	0.855	0.020	<0.05	5.6	<0.02	<0.2	<0.1	0.0009	<0.01	<0.2	0.006	4.0	0.0007	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	15.9	---	---	N/A	L36586
73	0.814																							
74	0.822																							
75	0.853																							
76	0.856	<0.02	<0.05	4.8	<0.02	0.3	<0.1	0.0009	<0.01	<0.2	<0.005	2.6	0.0008	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	21.5	---	---	N/A	L37089
77	0.852																							
78	0.817																							
79	0.861																							
80	0.866	<0.02	<0.05	4.9	<0.02	0.3	<0.1	0.0010	<0.01	<0.2	0.007	3.4	0.0008	<0.04	<0.005	10	<0.0001	<0.005	<0.01	20.2	---	---	N/A	L37686
81	0.870																							
82	0.893																							
83	0.858																							
84	0.863	<0.02	<0.05	4.9	<0.02	0.2	<0.1	0.0009	<0.01	<0.2	0.006	3.6	0.0008	<0.04	<0.005	<10	<0.0001	<0.005	<0.01	20.7	---	---	N/A	L38237
85	0.867																							
86	0.859																							
87	0.859																							

Exceeds Oregon
GW Quality Guideline

HCT - 10
Calico Leached Res after CN destruct
Tailings

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
Oregon Water Quality Guideline										*250*														
0	1.460	4.32	401	2230	4.94	3.603	3.603	0.33	4.61	1193	870.02	870.02	350.57	255.66	255.66	18.75	13.67	13.67	80	58.34	58.34	0	0.00	0.00
1	1.002	3.85	393	275	<0.10	0.000	3.603	<0.10	<0.10	120	60.06	930.08	32.39	16.21	271.87	0.98	0.49	14.16	123	61.56	119.90	0	0.00	0.00
2	0.946	3.92	467	141	<0.10	0.000	3.603	<0.10	<0.10	52	24.57	954.65	13.28	6.28	278.15	0.49	0.23	14.39	66	31.19	151.09	0	0.00	0.00
3	0.958	3.87	469	120	<0.10	0.000	3.603	<0.10	<0.10	45	21.53	976.18	14.70	7.03	285.18	0.49	0.23	14.62	48	22.97	174.06	0	0.00	0.00
4	1.031	4.00	469	133	<0.10	0.000	3.603	<0.10	<0.10	46	23.69	999.87	19.83	10.21	295.39	0.49	0.25	14.87	32	16.48	190.54	0	0.00	0.00
5	0.984	4.22	453	123	<0.10	0.000	3.603	<0.10	<0.10	47	23.10	1022.97	13.62	6.69	302.08	0.49	0.24	15.11	20	9.83	200.37	0	0.00	0.00
6	0.954	4.28	460	123	1.08	0.515	4.118	<0.10	<1.08	50	23.83	1046.80	13.53	6.45	308.53	0.49	0.23	15.34	17	8.10	208.47	0	0.00	0.00
7	1.007	4.29	404	151	0.17	0.086	4.204	<0.10	<0.17	52	26.16	1072.96	15.55	7.82	316.35	0.49	0.25	15.59	23	11.57	220.04	0	0.00	0.00
8	0.947	4.04	487	148	0.22	0.104	4.308	<0.10	<0.22	59	27.91	1100.87	16.16	7.64	323.99	0.49	0.23	15.82	25	11.83	231.87	0	0.00	0.00
9	0.986	4.12	450	160	0.31	0.153	4.461	<0.10	<0.31	31	15.27	1116.14	14.10	6.94	330.93	0.49	0.24	16.06	25	12.31	244.18	0	0.00	0.00
10	1.047	4.00	438	169	0.49	0.256	4.717	<0.10	<0.49	5.6	2.93	1119.07	16.40	8.58	339.51	0.49	0.26	16.32	29	15.17	259.34	0	0.00	0.00
11	0.988	3.92	489	143	0.82	0.405	5.122	0.12	0.70	57	28.13	1147.20	18.71	9.23	348.74	0.49	0.24	16.56	30	14.81	274.15	0	0.00	0.00
12	0.929	4.05	482	162	0.81	0.376	5.498	0.23	0.58	61	28.31	1175.51	13.35	6.19	354.93	0.49	0.23	16.79	27	12.53	286.68	0	0.00	0.00
13	0.969	4.07	473	168	1.23	0.595	6.093	0.34	0.89	59	28.56	1204.07	15.05	7.28	362.21	0.49	0.24	17.03	29	14.04	300.71	0	0.00	0.00
14	0.999	4.14	408	180	1.85	0.923	7.016	0.44	1.41	64	31.94	1236.01	12.63	6.30	368.51	0.49	0.24	17.27	31	15.47	316.18	0	0.00	0.00
15	0.947	3.75	476	183	3.00	1.419	8.435	0.49	2.51	60	28.38	1264.39	13.21	6.25	374.76	0.49	0.23	17.50	40	18.92	335.10	0	0.00	0.00
16	0.994	3.90	455	201	3.72	1.847	10.282	0.81	2.91	61	30.29	1294.68	9.72	4.83	379.59	0.49	0.24	17.74	50	24.83	359.93	0	0.00	0.00
17	1.038	3.86	393	220	6.45	3.344	13.626	1.44	5.01	68	35.26	1329.94	9.05	4.69	384.28	0.49	0.25	17.99	53	27.48	387.41	0	0.00	0.00
18	0.936	3.68	421	228	8.10	3.787	17.413	1.78	6.32	72	33.66	1363.60	5.61	2.62	386.90	0.49	0.23	18.22	65	30.39	417.80	0	0.00	0.00
19	1.024	3.58	430	244	10.79	5.519	22.932	2.25	8.54	75	38.36	1401.96	4.32	2.21	389.11	0.49	0.25	18.47	73	37.34	455.14	0	0.00	0.00
20	0.891	3.42	439	280	12.25	5.452	28.384	2.89	9.36	78	34.71	1436.67	2.85	1.27	390.38	0.49	0.22	18.69	84	37.39	492.52	0	0.00	0.00
21	1.090	3.49	495	272	13.06	7.111	35.495	1.25	11.81	82	44.65	1481.32	1.99	1.08	391.46	0.49	0.27	18.96	88	47.91	540.44	0	0.00	0.00
22	0.894	3.71	442	203	10.10	4.510	40.005	1.39	8.71	64	28.58	1509.90	1.31	0.58	392.04	0.49	0.22	19.18	70	31.26	571.69	0	0.00	0.00
23	1.003	3.47	533	296	14.45	7.239	47.244	1.96	12.49	93	46.59	1556.49	1.32	0.66	392.70	0.49	0.25	19.43	97	48.60	620.29	0	0.00	0.00
24	0.944	3.38	432	317	16.56	7.809	55.053	1.83	14.73	100	47.15	1603.64	1.43	0.67	393.37	0.49	0.23	19.66	104	49.04	669.33	0	0.00	0.00
25	0.914	3.36	404	322	17.45	7.967	63.020	1.68	15.77	110	50.22	1653.86	1.18	0.54	393.91	0.49	0.22	19.88	108	49.31	718.64	0	0.00	0.00
26	1.085	3.37	406	280	15.62	8.465	71.485	1.77	13.85	93	50.40	1704.26	0.98	0.53	394.44	0.49	0.27	20.15	94	50.94	769.58	0	0.00	0.00
27	0.907	3.36	383	309	15.85	7.181	78.666	1.94	13.91	98	44.40	1748.66	0.98	0.44	394.88	0.49	0.22	20.37	99	44.85	814.43	0	0.00	0.00
28	0.963	3.30	382	313	15.81	7.605	86.271	1.77	14.04	99	47.62	1796.28	0.87	0.42	395.30	0.49	0.24	20.61	116	55.80	870.23	0	0.00	0.00
29	1.018	3.37	378	282	16.99	8.639	94.910	2.26	14.73	61	31.02	1827.30	0.96	0.49	395.79	0.49	0.25	20.86	120	61.02	931.25	0	0.00	0.00
30	0.959	3.30	382	314	16.39	7.851	102.761	1.86	14.53	98	46.94	1874.24	0.90	0.43	396.22	0.49	0.23	21.09	249	119.28	1050.53	0	0.00	0.00
31	1.011	3.23	388	321	16.06	8.110	110.871	2.20	13.86	93	46.96	1921.20	0.74	0.37	396.59	0.49	0.25	21.34	127	64.13	1114.66	0	0.00	0.00
32	0.919	3.18	392	331	18.72	8.593	119.464	2.09	16.63	98	44.99	1966.19	0.78	0.36	396.95	0.49	0.22	21.56	105	48.20	1162.86	0	0.00	0.00
33	1.062	3.10	394	331	15.56	8.254	127.718	1.75	13.81	97	51.46	2017.65	0.63	0.33	397.28	0.49	0.26	21.82	125	66.31	1229.17	0	0.00	0.00
34	0.954	3.31	402	365	15.01	7.153	134.871	3.67	11.34	83	39.55	2057.20	0.68	0.32	397.60	0.49	0.23	22.05	152	72.43	1301.60	0	0.00	0.00
35	0.957	3.27	410	383	15.15	7.242	142.113	3.34	11.81	89	42.54	2099.74	0.92	0.44	398.04	0.49	0.23	22.28	103	49.24	1350.84	0	0.00	0.00
36	0.992	3.18	415	475	19.08	9.454	151.567	4.65	14.43	160	79.28	2179.02	1.22	0.60	398.64	0.49	0.24	22.52	155	76.80	1427.64	0	0.00	0.00
37	1.022	3.20	417	426	18.55	9.470	161.037	8.97	9.58	120	61.26	2240.28	0.97	0.50	399.14	0.49	0.25	22.77	139	70.96	1498.60	0	0.00	0.00
38	0.931	3.15	425	454	19.80	9.208	170.245	12.09	7.71	116	53.94	2294.22	1.04	0.48	399.62	0.49	0.23	23.00	117	54.41	1553.01	0	0.00	0.00
39	0.998	3.00	429	503	18.74	9.342	179.587	12.28	6.46	132	65.80	2360.02	0.77	0.38	400.00	0.49	0.24	23.24	118	58.82	1611.83	0	0.00	0.00
40	0.978	3.09	431	507	19.19	9.375	188.962	12.02	7.17	134	65.46	2425.48	0.90	0.44	400.44	0.49	0.24	23.48	121	59.11	1670.94	0	0.00	0.00
41	0.943	3.10	430	480	15.63	7.362	196.324	9.75	5.88	97	45.69	2471.17	0.79	0.37	400.81	0.49	0.23	23.71	111	52.28	1723.22	0	0.00	0.00
42	0.985	2.87	434	525	16.76	8.246	204.570	12.15	4.61	133	65.44	2536.61	0.99	0.49	401.30	0.49	0.24	23.95	131	64.45	1787.68	0	0.00	0.00
43	1.070	2.84	433	538	15.14	8.092	212.662	10.60	4.54	111	59.33	2595.94	1.20	0.64	401.94	0.49	0.26	24.21	127	67.88	1855.55	0	0.00	0.00
44	0.952	3.03	434	521	13.93	6.624	219.286	9.94	3.99	91	43.27	2639.21	0.92	0.44	402.38	0.49	0.23	24.44	121	57.54	1913.09	0	0.00	0.00
45	0.879	3.06	444	563	14.63	6.423	225.709	10.47	4.16	116	50.93	2690.14	0.92	0.40	402.78	0.49	0.22	24.66	133	58.40	1971.49	0	0.00	0.00

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					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	1.060	2.98	467	537	13.92	7.370	233.079	9.88	4.04	91	48.18	2738.32	0.67	0.35	403.13	0.49	0.26	24.92	122	64.60	2036.08	0	0.00	0.00
47	1.014	2.98	508	543	11.34	5.744	238.823	8.26	3.08	96	48.62	2786.94	0.77	0.39	403.52	0.49	0.25	25.17	118	59.77	2095.85	0	0.00	0.00
48	0.977	2.97	462	589	9.94	4.851	243.674	8.52	1.42	100	48.80	2835.74	0.83	0.41	403.93	0.49	0.24	25.41	122	59.54	2155.38	0	0.00	0.00
49	0.875	2.94	478	598	10.83	4.733	248.407	8.13	2.70	95	41.52	2877.26	0.56	0.24	404.17	0.49	0.21	25.62	137	59.88	2215.26	0	0.00	0.00
50	1.030	3.13	476	579	9.75	5.016	253.423	6.89	2.86	95	48.88	2926.14	0.55	0.28	404.45	0.49	0.25	25.87	130	66.88	2282.15	0	0.00	0.00
51	0.961	2.97	509	596	8.59	4.123	257.546	6.37	2.22	92	44.16	2970.30	0.49	0.24	404.69	0.49	0.24	26.11	111	53.28	2335.43	0	0.00	0.00
52	0.969	2.99	492	519	6.49	3.141	260.687	4.94	1.55	69	33.40	3003.70	0.49	0.24	404.93	0.49	0.24	26.35	96	46.47	2381.89	0	0.00	0.00
53	1.043	2.99	476	535	7.49	3.902	264.589	5.07	2.42	97	50.53	3054.23	0.57	0.30	405.23	0.49	0.26	26.61	98	51.06	2432.95	0	0.00	0.00
54	0.963	3.00	469	479	5.52	2.655	267.244	4.29	1.23	90	43.29	3097.52	0.49	0.24	405.47	0.49	0.24	26.85	91	43.77	2476.72	0	0.00	0.00
55	0.971	3.02	463	487	4.97	2.411	269.655	3.90	1.07	76	36.86	3134.38	0.57	0.28	405.75	0.49	0.24	27.09	84	40.74	2517.46	0	0.00	0.00
56	1.024	3.05	490	460	4.79	2.450	272.105	3.64	1.15	75	38.36	3172.74	0.49	0.25	406.00	0.49	0.25	27.34	81	41.43	2558.89	0	0.00	0.00
57	0.954	3.06	481	428	5.49	2.616	274.721	2.65	2.84	74	35.26	3208.00	0.49	0.23	406.23	0.49	0.23	27.57	90	42.89	2601.78	0	0.00	0.00
58	0.949	3.07	485	408	2.99	1.417	276.138	2.64	0.35	66	31.29	3239.29	0.49	0.23	406.46	0.49	0.23	27.80	73	34.60	2636.39	0	0.00	0.00
59	1.067	3.09	478	390	2.85	1.519	277.657	2.21	0.64	58	30.91	3270.20	0.58	0.31	406.77	0.49	0.26	28.06	68	36.24	2672.63	0	0.00	0.00
60	0.903	3.11	478	363	2.14	0.965	278.622	1.72	0.42	50	22.55	3292.75	0.49	0.22	406.99	0.49	0.22	28.28	64	28.87	2701.49	0	0.00	0.00
61	0.928	3.11	482	361	1.81	0.839	279.461	1.65	0.16	55	25.49	3318.24	0.59	0.27	407.26	0.49	0.23	28.51	95	44.04	2745.53	0	0.00	0.00
62	1.045	3.13	483	356	1.52	0.793	280.254	1.27	0.25	51	26.62	3344.86	0.49	0.26	407.52	0.49	0.26	28.77	97	50.63	2796.16	0	0.00	0.00
63	1.004	3.15	485	334	1.37	0.687	280.941	1.00	0.37	57	28.59	3373.45	0.49	0.25	407.77	0.49	0.25	29.02	97	48.65	2844.81	0	0.00	0.00
64	0.966	3.17	488	323	1.00	0.483	281.424	0.83	0.17	56	27.25	3400.70	0.49	0.24	408.01	0.49	0.24	29.26	92	44.39	2889.20	0	0.00	0.00
65	0.861	3.20	493	314	0.81	0.348	281.772	0.65	0.16	53	22.88	3423.58	0.49	0.21	408.22	0.49	0.21	29.47	51	21.93	2911.13	0	0.00	0.00
66	1.063	3.28	504	268	0.55	0.292	282.064	0.43	0.12	46	24.24	3447.82	0.49	0.26	408.48	0.49	0.26	29.73	44	23.52	2934.65	0	0.00	0.00
67	0.949	3.31	501	260	0.42	0.199	282.263	0.29	0.13	44	20.77	3468.59	0.49	0.23	408.71	0.49	0.23	29.96	93	44.08	2978.73	0	0.00	0.00
68	1.087	3.32	497	238	0.32	0.174	282.437	0.23	0.09	38	20.63	3489.22	0.64	0.35	409.06	0.49	0.27	30.23	91	49.41	3028.14	0	0.00	0.00
69	0.935	3.34	501	229	0.29	0.135	282.572	0.17	0.12	33	15.41	3504.63	0.61	0.28	409.34	0.49	0.23	30.46	85	39.70	3067.84	0	0.00	0.00
70	0.994	3.34	497	225	0.28	0.139	282.711	0.12	0.16	33	16.38	3521.01	0.55	0.27	409.61	0.49	0.24	30.70	90	44.69	3112.53	0	0.00	0.00
71	0.897	3.37	497	206	0.22	0.099	282.810	0.13	0.09	31	13.89	3534.90	0.73	0.33	409.94	0.49	0.22	30.92	38	17.03	3129.55	0	0.00	0.00
72	1.000	3.41	498	196	0.14	0.070	282.880	<0.10	<0.14	31	15.48	3550.38	0.84	0.42	410.36	0.49	0.24	31.16	35	17.48	3147.04	0	0.00	0.00
73	0.951	3.46	489	177	0.15	0.071	282.951	<0.10	<0.15	27	12.83	3563.21	0.65	0.31	410.67	0.49	0.23	31.39	34	16.15	3163.19	0	0.00	0.00
74	0.981	3.45	485	185	0.14	0.069	283.020	<0.10	<0.14	27	13.23	3576.44	0.56	0.27	410.94	0.49	0.24	31.63	33	16.17	3179.36	0	0.00	0.00
75	0.967	3.45	489	191	0.10	0.048	283.068	<0.10	<0.1	31	14.91	3591.35	1.48	0.71	411.65	0.49	0.24	31.87	32	15.46	3194.81	0	0.00	0.00
76	0.999	3.47	495	186	0.12	0.060	283.128	<0.10	<0.12	26	12.97	3604.32	0.87	0.43	412.08	0.49	0.24	32.11	31	15.47	3210.28	0	0.00	0.00
77	0.989	3.50	510	176	<0.10	0.000	283.128	<0.10	<0.10	26	12.84	3617.16	1.33	0.66	412.74	0.49	0.24	32.35	30	14.82	3225.10	0	0.00	0.00
78	0.935	3.48	505	178	0.11	0.051	283.179	<0.10	<0.11	22	10.25	3627.41	0.55	0.26	413.00	0.49	0.23	32.58	30	14.01	3239.11	0	0.00	0.00
79	1.046	3.51	511	173	<0.10	0.000	283.179	<0.10	<0.10	23	12.02	3639.43	0.63	0.33	413.33	0.49	0.26	32.84	29	15.15	3254.27	0	0.00	0.00
80	0.949	3.58	497	140	<0.10	0.000	283.179	<0.10	<0.10	21	9.95	3649.38	0.52	0.25	413.58	0.49	0.23	33.07	27	12.80	3267.06	0	0.00	0.00
81	0.985	3.61	492	143	<0.10	0.000	283.179	<0.10	<0.10	21	10.33	3659.71	0.76	0.37	413.95	0.49	0.24	33.31	26	12.79	3279.86	0	0.00	0.00
82	1.013	3.60	484	143	<0.10	0.000	283.179	<0.10	<0.10	25	12.65	3672.36	0.52	0.26	414.21	0.49	0.25	33.56	26	13.16	3293.01	0	0.00	0.00
83	0.846	3.58	483	154	<0.10	0.000	283.179	<0.10	<0.10	26	10.99	3683.35	0.71	0.30	414.51	0.49	0.21	33.77	28	11.83	3304.84	0	0.00	0.00
84	1.125	3.58	474	139	0.16	0.090	283.269	<0.10	<0.16	24	13.49	3696.84	0.71	0.40	414.91	0.49	0.28	34.05	25	14.32	3319.16	0	0.00	0.00
85	0.900	3.60	473	147	<0.10	0.000	283.269	<0.10	<0.10	28	12.42	3709.26	0.67	0.30	415.21	0.49	0.22	34.27	26	11.69	3330.85	0	0.00	0.00
86	1.042	3.56	483	152	<0.10	0.000	283.269	<0.10	<0.10	28	14.79	3724.05	0.60	0.31	415.52	0.49	0.26	34.53	27	14.02	3344.87	0	0.00	0.00
87	1.005	3.57	477	144	<0.10	0.000	283.269	<0.10	<0.10	28	14.06	3738.11	0.49	0.25	415.77	0.49	0.25	34.78	27	13.52	3358.40	0	0.00	0.00

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Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3 mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	CN, Total mg/L	CN, WAD mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L
Oregon Water Quality Guideline							*0.05*	*1*				*0.01*		*250*	*0.05*		*1*			*4*				*0.3*	*0.05*			*0.05*
0	1.460	<2	<2	<2	3.69	<0.0004	0.005	0.063	0.00352	0.05	0.1	0.0047	238	2.2	0.01	0.39	23.60	0.0	0.011	<10	<0.1	643.0	<2	3.23	0.00	0.101	11.800	9.80
1	1.002	<2	<2	<2	0.45	<0.0004	0.002	0.016	0.00083	<0.04	0.01	0.0006	28.6	1.5	<0.01	0.02	3.69	0.0	0.011	0.28	<0.1	75.9	<2	0.14	0.00	0.018	1.100	0.63
2	0.946	<2	<2	<2	0.23	<0.0004	0.003	0.021	0.00041	<0.04	<0.01	0.0003	13.8	0.9	<0.01	<0.01	1.89	0.0	<0.003	0.20	<0.1	36.1	<2	0.06	0.00	<0.008	0.400	0.26
3	0.958																											
4	1.031	<2	<2	<2	0.25	<0.0004	0.003	0.025	0.00057	<0.04	<0.01	0.0004	14.2	0.9	<0.01	0.01	2.21	<0.003	<0.003	0.19	<0.1	37.1	<2	0.08	0.00	<0.008	0.400	0.24
5	0.984																											
6	0.954																											
7	1.007																											
8	0.947	<2	<2	<2	0.44	<0.0004	0.004	0.046	0.00104	<0.04	0.26	0.0007	15.8	<0.5	<0.01	0.02	3.27	0.0	<0.003	0.27	<0.1	41.0	<2	0.22	0.00	<0.008	0.300	0.23
9	0.986																											
10	1.047																											
11	0.988																											
12	0.929	<2	<2	<2	0.55	<0.0004	0.001	0.054	0.00174	<0.04	<0.01	0.0010	14.8	<0.5	<0.01	0.01	4.09	0.0	<0.003	<2	<0.1	37.0	<2	0.85	0.00	<0.008	<0.2	0.25
13	0.969																											
14	0.999																											
15	0.947																											
16	0.994	<2	<2	<2	1.16	<0.0004	0.003	0.074	0.00291	<0.04	<0.01	0.0015	10.8	<0.5	<0.01	0.02	5.07	0.0	<0.003	0.45	<0.1	28.0	<2	4.04	0.00	<0.008	0.300	0.30
17	1.038																											
18	0.936																											
19	1.024																											
20	0.891	<2	<2	<2	3.28	<0.0004	0.002	0.070	0.00206	<0.04	<0.01	0.0011	3.1	<0.5	<0.01	0.02	3.28	<0.006	<0.003	<2	<0.1	7.7	<2	13.90	0.00	<0.008	0.200	0.18
21	1.090																											
22	0.894																											
23	1.003																											
24	0.944	<2	<2	<2	4.22	<0.0004	0.006	0.049	0.00101	<0.04	0.01	0.0006	1.1	0.7	<0.01	0.01	1.50	0.0	<0.003	<10	<0.1	2.8	<2	17.60	0.00	<0.008	<0.2	0.13
25	0.914																											
26	1.085																											
27	0.907																											
28	0.963	<2	<2	<2	3.85	<0.0004	0.002	0.045	0.00067	<0.04	<0.01	0.0004	0.8	<0.5	<0.01	0.01	0.82	<0.03	<0.003	<10	<0.1	2.0	<2	17.40	0.00	<0.008	<0.2	0.09
29	1.018																											
30	0.959																											
31	1.011																											
32	0.919	<2	<2	<2	4.54	<0.0004	0.001	0.043	0.00054	<0.04	<0.01	0.0004	0.7	<0.5	<0.01	<0.01	0.63	<0.003	<0.003	0.09	<0.1	1.8	<2	18.50	0.00	<0.008	<0.2	0.09
33	1.062																											
34	0.954																											
35	0.957																											
36	0.992	<2	<2	<2	6.47	<0.0004	0.005	0.047	0.00069	<0.04	<0.01	0.0008	0.9	<0.05	0.02	<0.01	0.67	<0.003	<0.003	0.11	<0.1	2.3	<2	24.10	0.00	<0.008	<0.2	0.14
37	1.022																											
38	0.931																											
39	0.998																											
40	0.978	<2	<2	<2	7.02	0.0004	0.002	0.031	0.00059	<0.04	<0.01	0.0008	0.8	<0.5	0.02	<0.01	0.56	<0.003	<0.003	<2	<0.1	2.8	<2	19.20	0.00	<0.008	0.200	0.13
41	0.943																											
42	0.985																											
43	1.070																											
44	0.952	<2	<2	<2	6.20	0.0004	0.003	0.033	0.00045	<0.04	0.01	0.0009	0.6	<0.5	0.03	<0.01	0.37	<0.003	<0.003	<2	<0.1	1.5	<2	14.10	0.00	<0.008	<0.2	0.09
45	0.879																											

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Tailings

Week	Vol. L	Alkalinity, $CaCO_3$ mg/L	CO_3 mg/L	HCO_3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cl mg/L	Cr mg/L	Co mg/L	Cu mg/L	CN, Total mg/L	CN, WAD mg/L	F mg/L	Ga mg/L	Hardness mg/L	OH mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L
46	1.060																											
47	1.014																											
48	0.977	<2	<2	<2	5.74	0.0004	0.003	0.032	0.00041	<0.04	<0.01	0.0010	0.5	<0.5	0.03	0.02	0.31	<0.003	<0.003	<2	<0.1	1.3	<2	11.70	0.00	<0.008	<0.2	0.09
49	0.875																											
50	1.030																											
51	0.961																											
52	0.969	<2	<2	<2	3.53	<0.0004	0.002	0.230	0.00029	<0.04	<0.01	0.0008	0.4	<0.5	<0.01	<0.01	0.18	0.0	<0.003	<2	<0.1	1.0	<2	6.90	0.00	<0.008	<0.2	0.06
53	1.043																											
54	0.963																											
55	0.971																											
56	1.024	<2	<2	<2	2.74	<0.0004	0.002	0.028	0.00026	<0.04	<0.01	0.0009	0.4	<0.5	0.01	<0.01	0.14	<0.003	<0.003	<2	<0.1	1.0	<2	4.44	0.00	<0.008	<0.2	0.05
57	0.954																											
58	0.949																											
59	1.067																											
60	0.903	<2	<2	<2	1.88	<0.0008	0.001	0.030	0.0001	<0.04	<0.01	0.0009	0.3	<0.5	0.01	<0.01	0.20	<0.003	<0.003	<2	<0.1	0.7	<2	2.18	0.00	<0.008	<0.2	0.05
61	0.928																											
62	1.045																											
63	1.004																											
64	0.966	<2	<2	<2	1.41	<0.0004	0.001	0.040	0.0002	<0.04	<0.01	0.0007	0.3	<0.5	<0.01	<0.01	0.10	<0.003	<0.003	<4	<0.1	0.7	<2	0.99	0.00	<0.008	<0.2	0.04
65	0.861																											
66	1.063																											
67	0.949																											
68	1.087	<2	<2	<2	1	<0.0004	0.001	0.084	0.00013	<0.04	0.04	0.0005	0.6	<0.5	<0.01	<0.01	0.09	N/A	<0.003	<10	<0.1	1.5	<2	0.34	0.00	<0.008	<0.2	0.03
69	0.935																											
70	0.994																											
71	0.897																											
72	1.000	<2	<2	<2	0.97	<0.0004	0.001	0.126	0.00017	<0.04	0.06	0.0006	0.6	<0.5	<0.01	<0.01	0.11	<0.003	<0.003	<2	<0.1	1.5	<2	0.16	0.00	<0.008	<0.2	0.03
73	0.951																											
74	0.981																											
75	0.967																											
76	0.999	<2	<2	<2	0.78	<0.0004	0.001	0.137	0.00019	<0.04	0.06	0.0005	0.6	<0.5	<0.01	<0.01	0.10	<0.003	<0.003	<4	<0.1	1.5	<2	0.09	0.00	<0.008	<0.2	0.03
77	0.989																											
78	0.935																											
79	1.046																											
80	0.949	<2	<2	<2	0.65	<0.0004	<0.002	0.049	0.00016	<0.04	<0.01	0.0003	0.2	<0.5	<0.01	<0.01	0.08	<0.003	<0.003	<10	<0.1	0.5	<2	0.06	0.00	<0.008	<0.2	0.03
81	0.985																											
82	1.013																											
83	0.846																											
84	1.125	<2	<2	<2	0.72	<0.0004	0.001	0.065	0.00017	<0.04	<0.01	0.0003	0.3	0.5	<0.01	<0.01	0.08	<0.003	<0.003	<10	<0.1	0.7	<2	0.05	0.00	<0.008	<0.2	0.03
85	0.900																											
86	1.042																											
87	1.005																											

Exceeds Oregon
GW Quality Guideline

HCT - 10
Calico Leached Res after CN de
Tailings

Week	Vol. L	Hg mg/L	Mo mg/L	Ni mg/L	NO_3+NO 2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance, % %	ACZ Report No.
Oregon Water Quality Guideline		*0.002*			*10*		*6.5 - 8.5*				*0.01*	*0.05*			*250*				*500*			*5*					
0	1.460	0.0004	<0.02	1.35	0.20	9.23	4.40	0.01	23.8	<0.1	0.0204	<0.01	68.5	0.276	882	0.0094	<0.04	0.015	1360	0.01	<0.005	2.0	1560	19.0	19	0	L27933
1	1.002	<0.0002	<0.02	0.097	0.09	1.5	4.70	<0.02	6.2	<0.1	0.0040	<0.01	6.4	0.078	118	0.0024	<0.04	<0.005	218	0.00	<0.005	0.18	255	2.3	2.5	-4.2	L28023
2	0.946	<0.0002	<0.02	0.043	0.03	0.54	4.70	<0.02	3.3	<0.1	0.0024	<0.01	2.1	0.049	54	0.0012	<0.04	<0.005	100	0.00	<0.005	0.09	141	1.1	1.2	-4.3	L28126
3	0.958																										
4	1.031	<0.0002	<0.02	0.041	0.07	0.44	4.90	<0.02	3.0	<0.1	0.0029	<0.01	1.6	0.058	46	0.0012	<0.04	<0.005	110	0.00	<0.005	0.1	129	1.1	0.999	4.8	L28324
5	0.984																										
6	0.954																										
7	1.007																										
8	0.947	0.000006	<0.02	0.037	0.03	0.28	4.40	0.02	2.8	<0.1	0.0038	<0.01	0.7	0.085	47	0.0012	<0.04	<0.005	148	0.00	<0.005	0.12	155	1.1	1	4.8	L28657
9	0.986																										
10	1.047																										
11	0.988																										
12	0.929	<0.0002	<0.02	0.045	0.03	0.15	4.10	<0.02	2.8	<0.1	0.0034	<0.01	0.5	0.086	52	0.0012	<0.04	<0.005	136	0.00	<0.005	0.1	175	1.1	1.1	0	L29021
13	0.969																										
14	0.999																										
15	0.947																										
16	0.994	0.000002	<0.02	0.051	0.03	0.1	3.80	<0.02	3.4	<0.1	0.0034	<0.01	0.5	0.096	49	0.0019	<0.04	<0.005	130	0.00	<0.005	0.12	201	1.2	1.1	4.3	L29484
17	1.038																										
18	0.936																										
19	1.024																										
20	0.891	<0.0002	<0.02	0.029	0.03	<0.05	3.50	<0.02	3.7	<0.1	0.0034	<0.01	0.5	0.056	77	0.002	<0.04	<0.005	152	0.01	<0.005	0.09	275	1.5	1.6	-3.2	L29914
21	1.090																										
22	0.894																										
23	1.003																										
24	0.944	<0.0002	<0.02	0.022	<0.02	<0.05	3.40	<0.02	3.1	<0.1	0.0038	<0.01	0.4	0.035	67	0.0023	<0.04	<0.005	188	0.01	<0.005	0.0	308	1.6	1.4	6.7	L30419
25	0.914																										
26	1.085																										
27	0.907																										
28	0.963	<0.0002	<0.02	0.016	<0.02	<0.05	3.30	<0.02	2.7	<0.1	0.0034	<0.01	0.4	0.026	74	0.0016	<0.04	<0.005	164	0.01	<0.005	0.04	298	1.5	1.6	-3.2	L30908
29	1.018																										
30	0.959																										
31	1.011																										
32	0.919	<0.0004	<0.02	0.02	0.03	<0.05	3.30	<0.02	2.7	<0.1	0.0032	<0.01	0.4	0.022	74	0.0016	<0.04	<0.005	180	0.01	<0.005	0.04	336	1.6	1.6	0	L31481
33	1.062																										
34	0.954																										
35	0.957																										
36	0.992	<0.0002	<0.02	0.023	<0.02	<0.05	3.10	<0.02	3.4	<0.1	0.0037	<0.01	0.6	0.031	99	0.0025	<0.04	<0.005	228	0.01	<0.005	0.06	474	2.2	2.1	2.3	L32131
37	1.022																										
38	0.931																										
39	0.998																										
40	0.978	<0.0002	<0.02	0.024	<0.02	<0.05	3.10	0.02	3.3	<0.1	0.0032	<0.01	0.6	0.021	115	0.0023	<0.04	<0.005	198	0.01	<0.005	0.09	513	2.0	2.4	-9.1	L32682
41	0.943																										
42	0.985																										
43	1.070																										
44	0.952	<0.0002	<0.02	0.016	<0.02	<0.05	3.00	<0.02	3.1	<0.1	0.0023	<0.01	0.5	0.024	97	0.0023	<0.04	<0.005	156	0.01	<0.005	0.1	531	1.6	2	-11.1	L33233
45	0.879																										

Exceeds Oregon
GW Quality Guideline

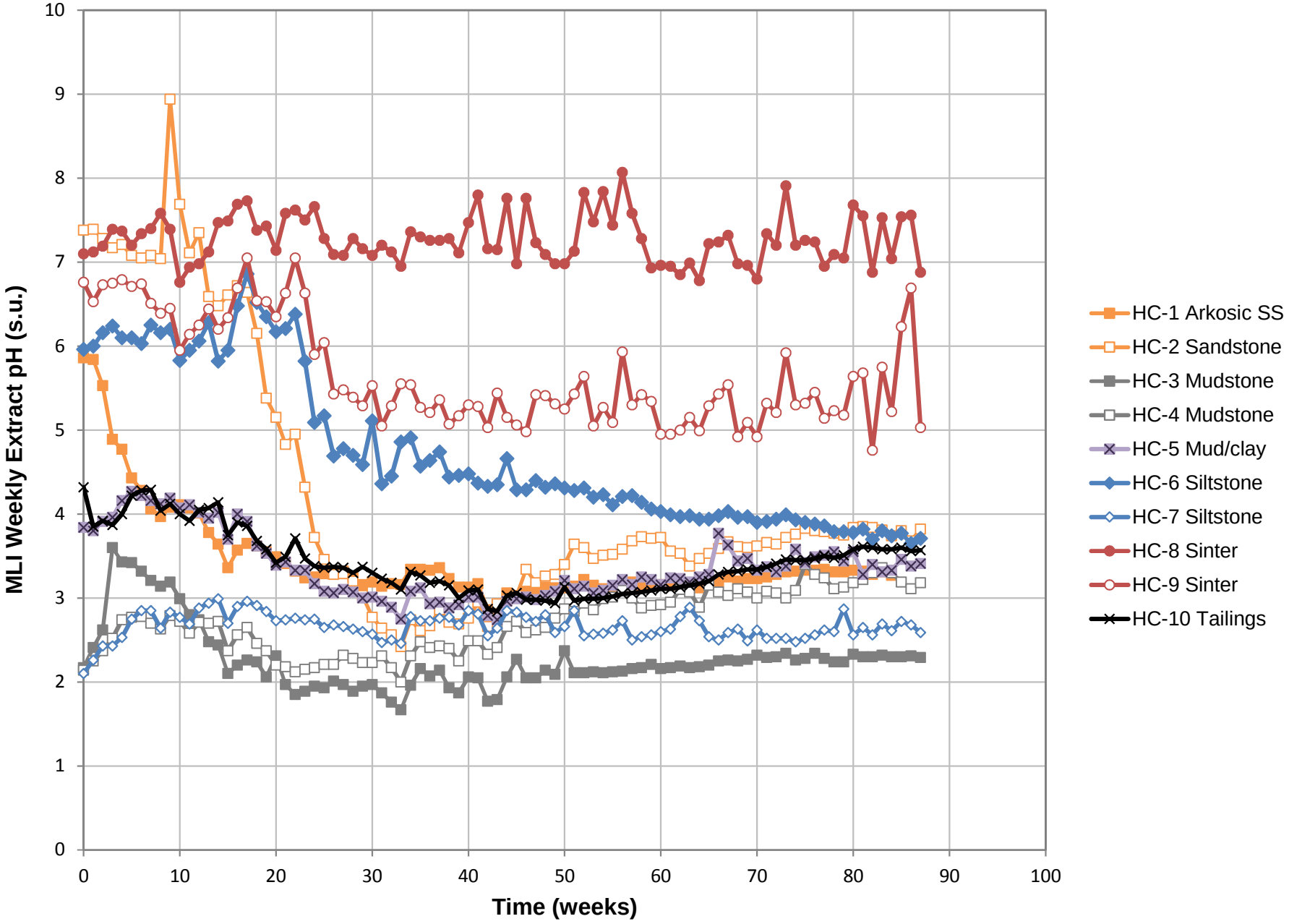
HCT - 10
Calico Leached Res after CN de
Tailings

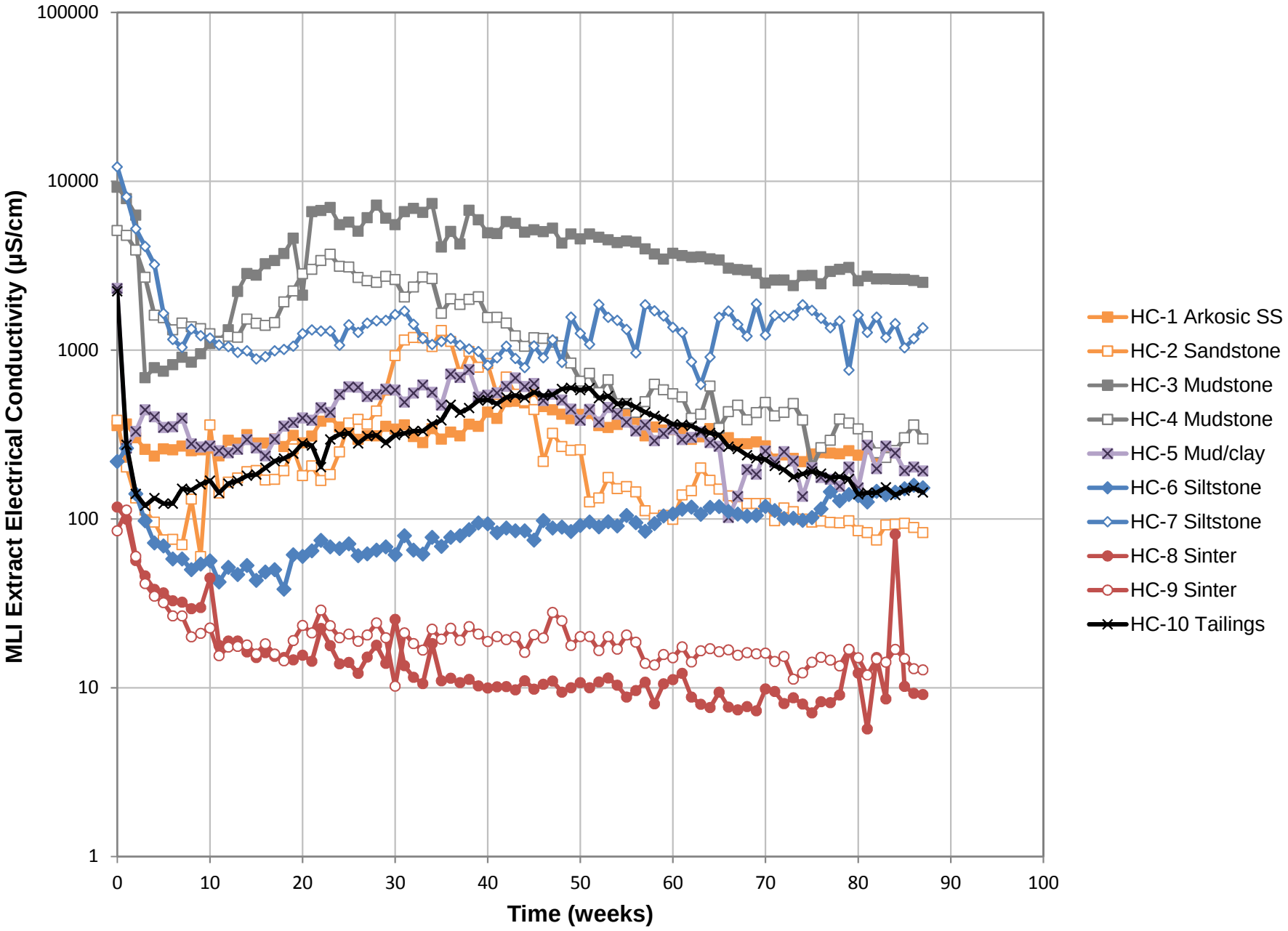
Week	Vol. L	Hg mg/L	Mo mg/L	Ni mg/L	NO_3+NO 2 mg/L	NH_4 mg/L	pH s.u.	P mg/L	K mg/L	Sc mg/L	Se mg/L	Ag mg/L	Na mg/L	St mg/L	SO4 mg/L	Tl mg/L	Sn mg/L	Ti mg/L	TDS mg/L	U mg/L	V mg/L	Zn mg/L	EC µmhos/cm	Cations meq/L	Anions meq/L	Balance, % %	ACZ Report No.
46	1.060																										
47	1.014																										
48	0.977	<0.0002	<0.02	0.01	<0.02	<0.05	2.90	<0.02	3.3	<0.1	0.0014	<0.01	0.6	0.022	95	0.0026	<0.04	<0.005	152	0.01	<0.005	0.12	597	1.4	2	-17.6	L33820
49	0.875																										
50	1.030																										
51	0.961																										
52	0.969	<0.0002	<0.02	<0.008	<0.02	<0.05	2.90	<0.02	2.9	<0.1	0.0010	<0.01	0.5	0.011	69	0.0021	<0.04	<0.005	112	0.00	<0.005	0.09	528.0	0.9	1.5	-25.6	L34366
53	1.043																										
54	0.963																										
55	0.971																										
56	1.024	<0.0002	<0.02	<0.008	<0.02	0.05	2.90	<0.02	2.8	<0.1	0.0007	<0.01	0.5	0.008	70	0.0024	<0.04	<0.005	114	0.00	<0.005	0.110	451	0.7	1.5	-38.3	L34779
57	0.954																										
58	0.949																										
59	1.067																										
60	0.903	<0.0002	<0.02	<0.008	0.12	<0.05	3.20	<0.02	2.5	<0.1	0.0004	<0.01	0.5	0.013	40	0.0019	<0.04	<0.005	120	0.00	<0.005	0.14	378	0.4	0.838	-35.4	L35145
61	0.928																										
62	1.045																										
63	1.004																										
64	0.966	<0.0002	<0.02	<0.008	0.03	<0.05	3.20	<0.02	2.4	<0.1	0.0004	<0.01	0.5	0.02	34	0.0018	<0.04	<0.005	60	0.00	<0.005	0.09	322	0.3	0.7	-37.5	L35597
65	0.861																										
66	1.063																										
67	0.949																										
68	1.087	<0.0002	<0.02	<0.008	0.10	<0.05	3.30	<0.02	2.2	<0.1	0.0003	<0.01	1.5	0.014	25	0.0011	<0.04	<0.005	52	0.00	<0.005	0.12	250	0.291	0.519	-28.1	L36030
69	0.935																										
70	0.994																										
71	0.897																										
72	1.000	<0.0002	<0.02	<0.008	0.08	<0.05	3.40	<0.02	2.0	<0.1	0.0003	<0.01	1.6	0.018	31	0.001	<0.04	<0.005	54	0.00	<0.005	0.13	197	0.3	0.6	-36.5	L36586
73	0.951																										
74	0.981																										
75	0.967																										
76	0.999	<0.0002	<0.02	<0.008	0.02	<0.05	3.40	<0.02	2.1	<0.1	0.0003	<0.01	1.6	0.018	20	0.001	<0.04	<0.005	50	0.00	<0.005	0.11	194	0.256	0.418	-24	L37089
77	0.989																										
78	0.935																										
79	1.046																										
80	0.949	<0.0002	<0.02	<0.008	0.02	<0.05	3.50	0.02	1.6	<0.1	0.0003	<0.01	0.2	0.016	19	0.001	<0.04	<0.005	<20	0.00	<0.005	0.03	140	0.141	0.409	N/A	L37686
81	0.985																										
82	1.013																										
83	0.846																										
84	1.125	<0.0002	<0.02	0.008	<0.02	<0.05	3.60	<0.02	1.80	<0.1	0.0003	<0.01	0.4	0.018	20	0.0011	<0.04	<0.005	44	0.00	<0.005	0.03	128	0.2	0.434	N/A	L38237
85	0.900																										
86	1.042																										
87	1.005																										

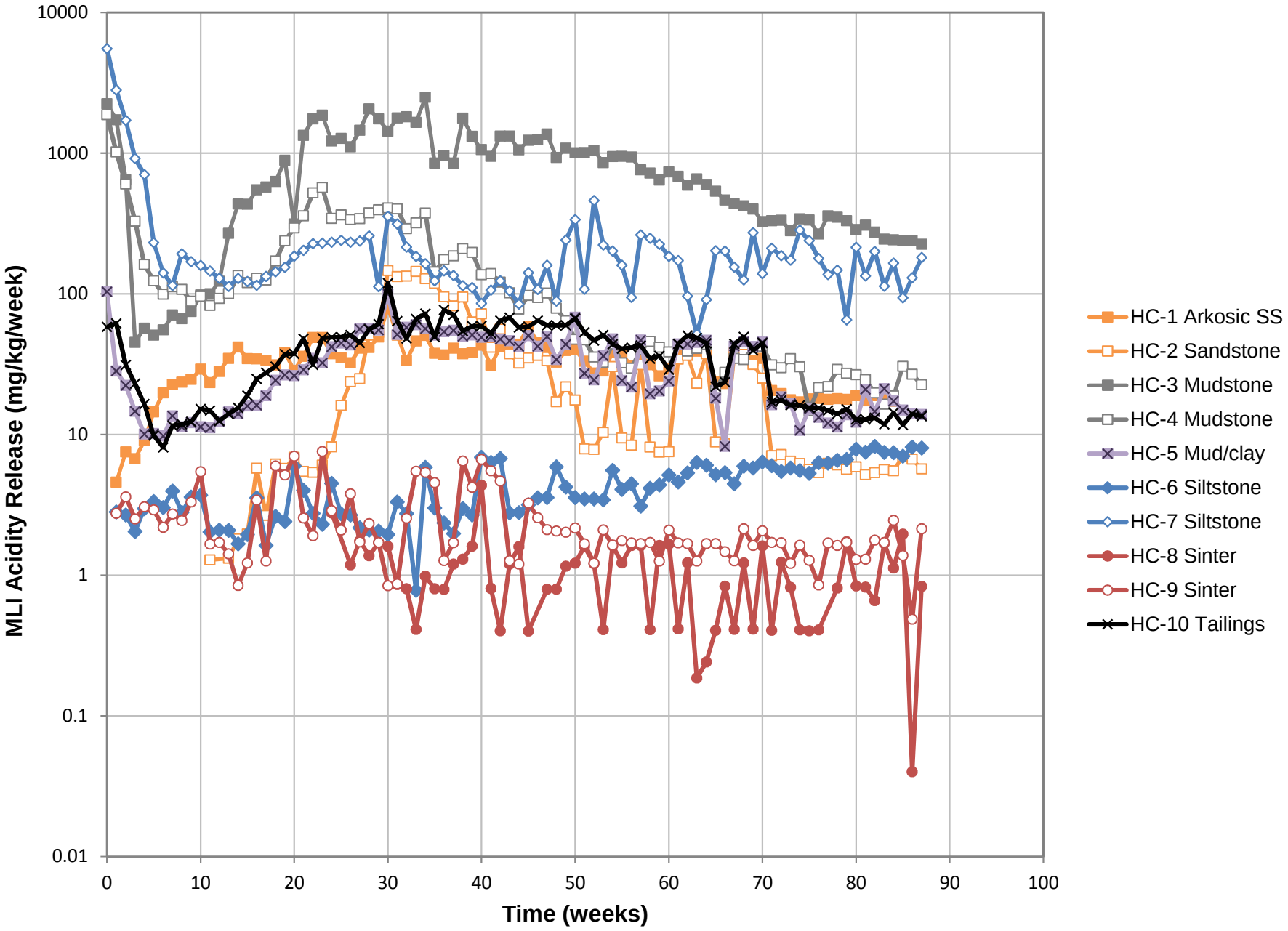
Exceeds Oregon
GW Quality Guideline

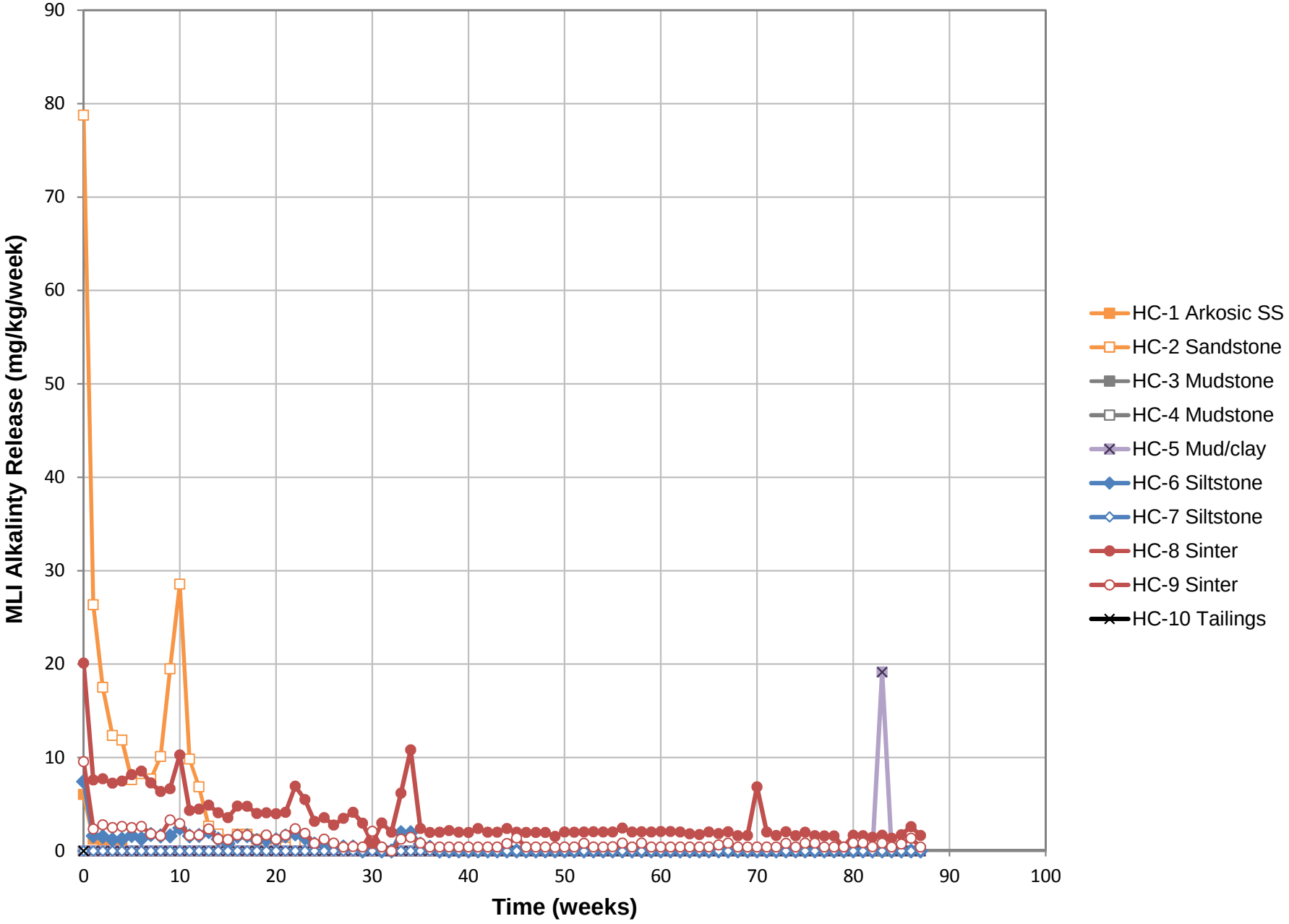
Appendix D2

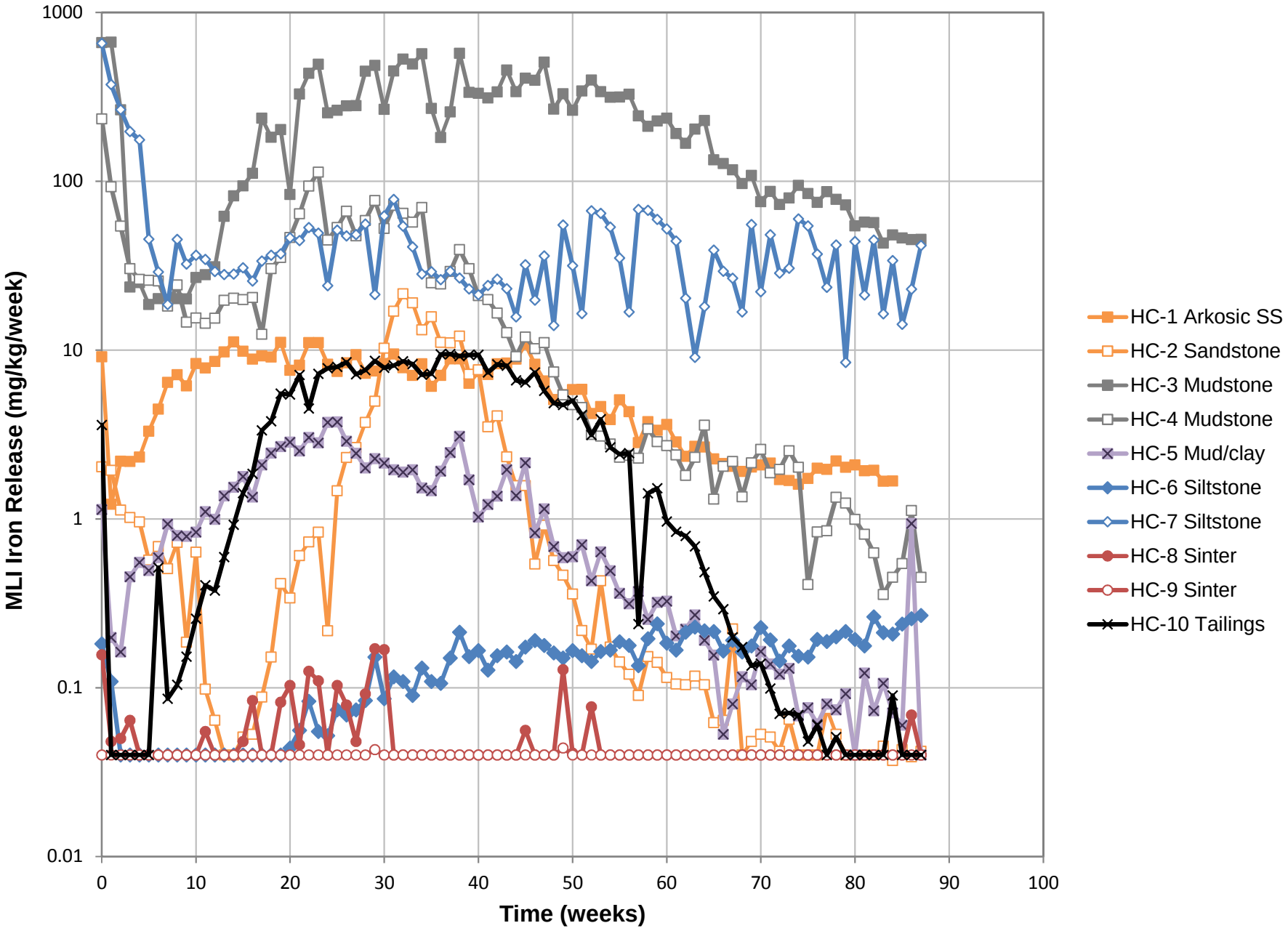
Loadings Charts

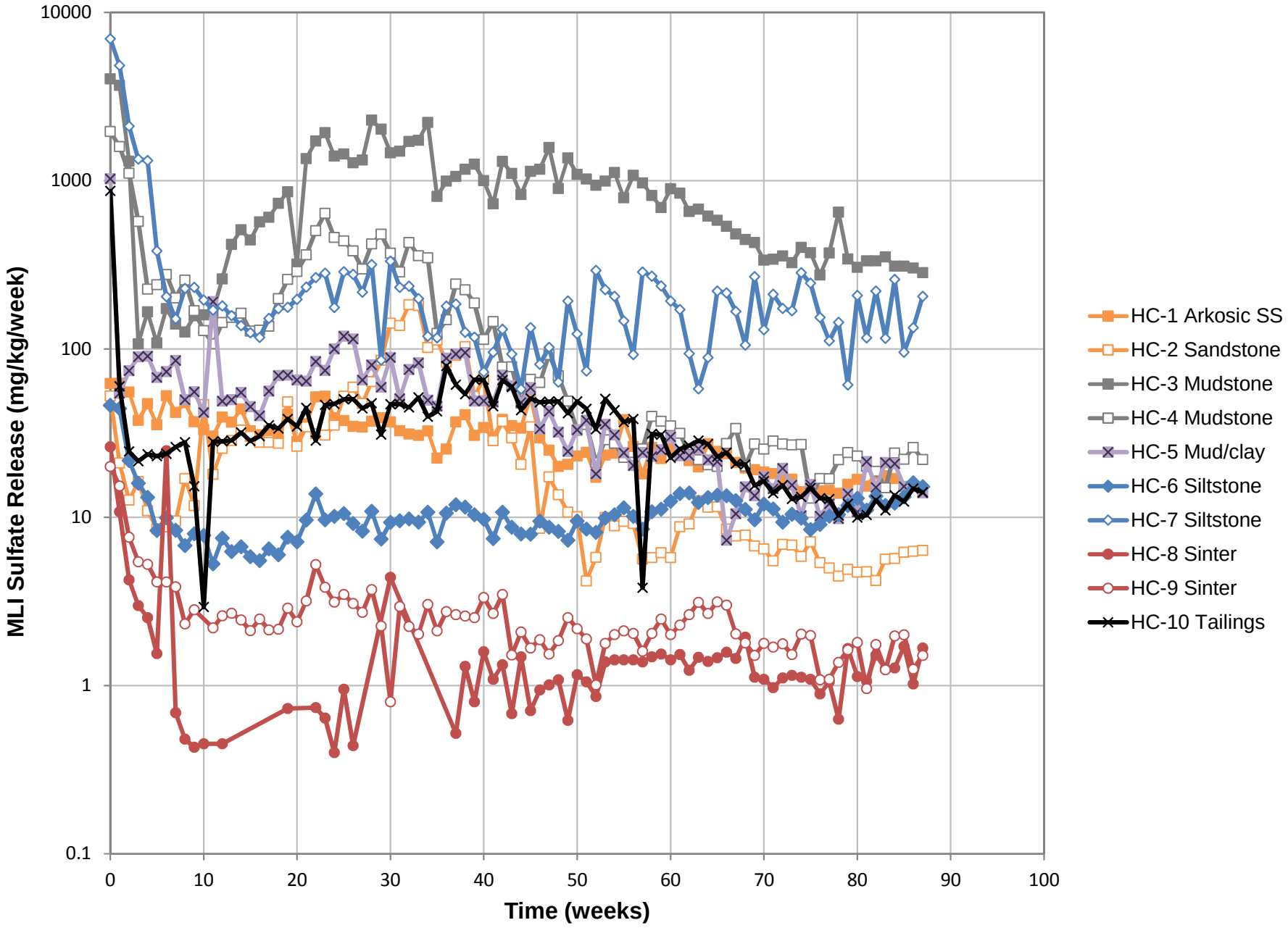

MLI Weekly Extract pH (s.u.)
Time (weeks)
0
1
2
3
4
5
6
7
8
9
10
0
10
20
30
40
50
60
70
80
90
100
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

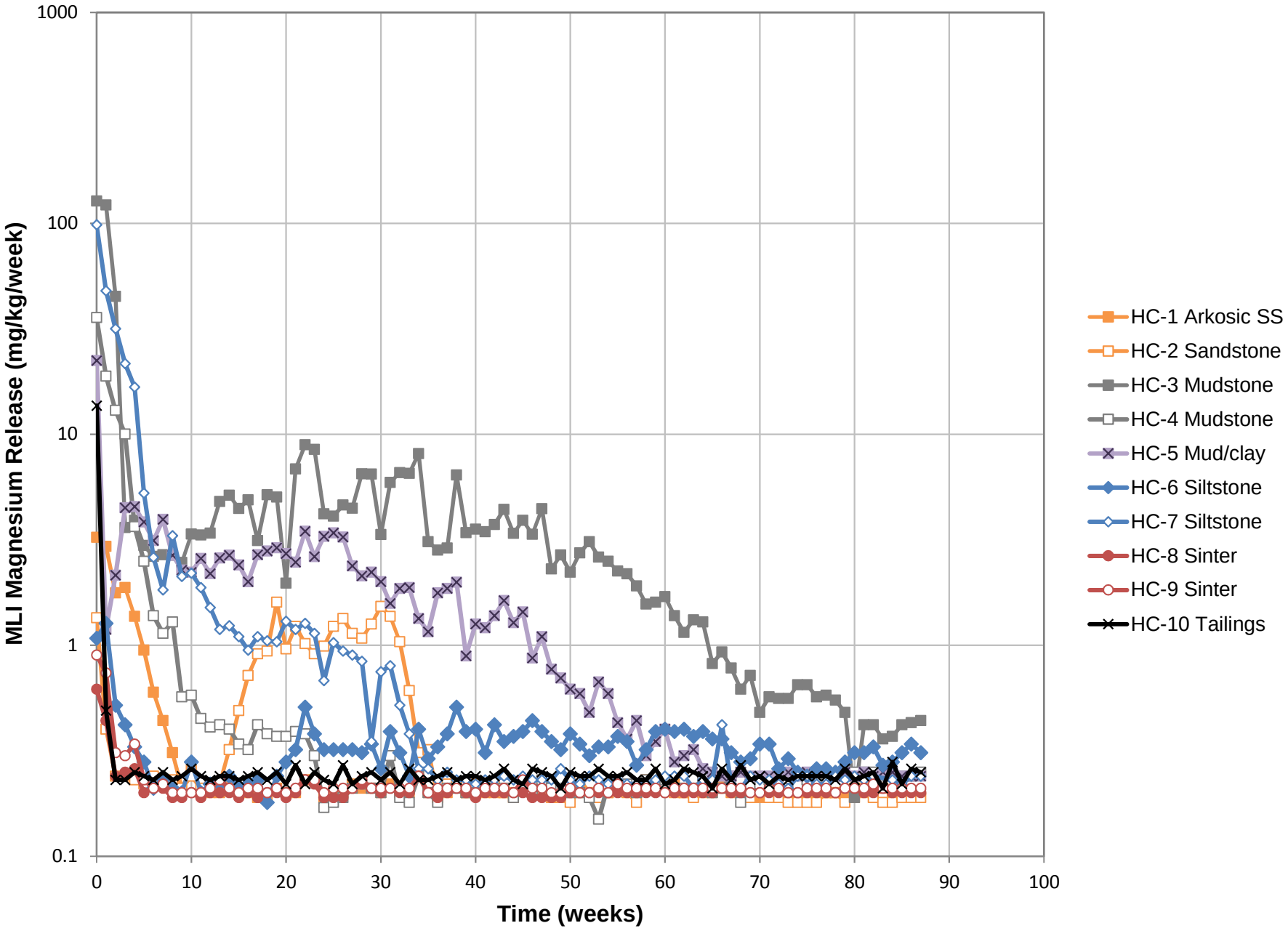

MLI Extract Electrical Conductivity (µS/cm)
100000
10000
1000
100
10
1
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

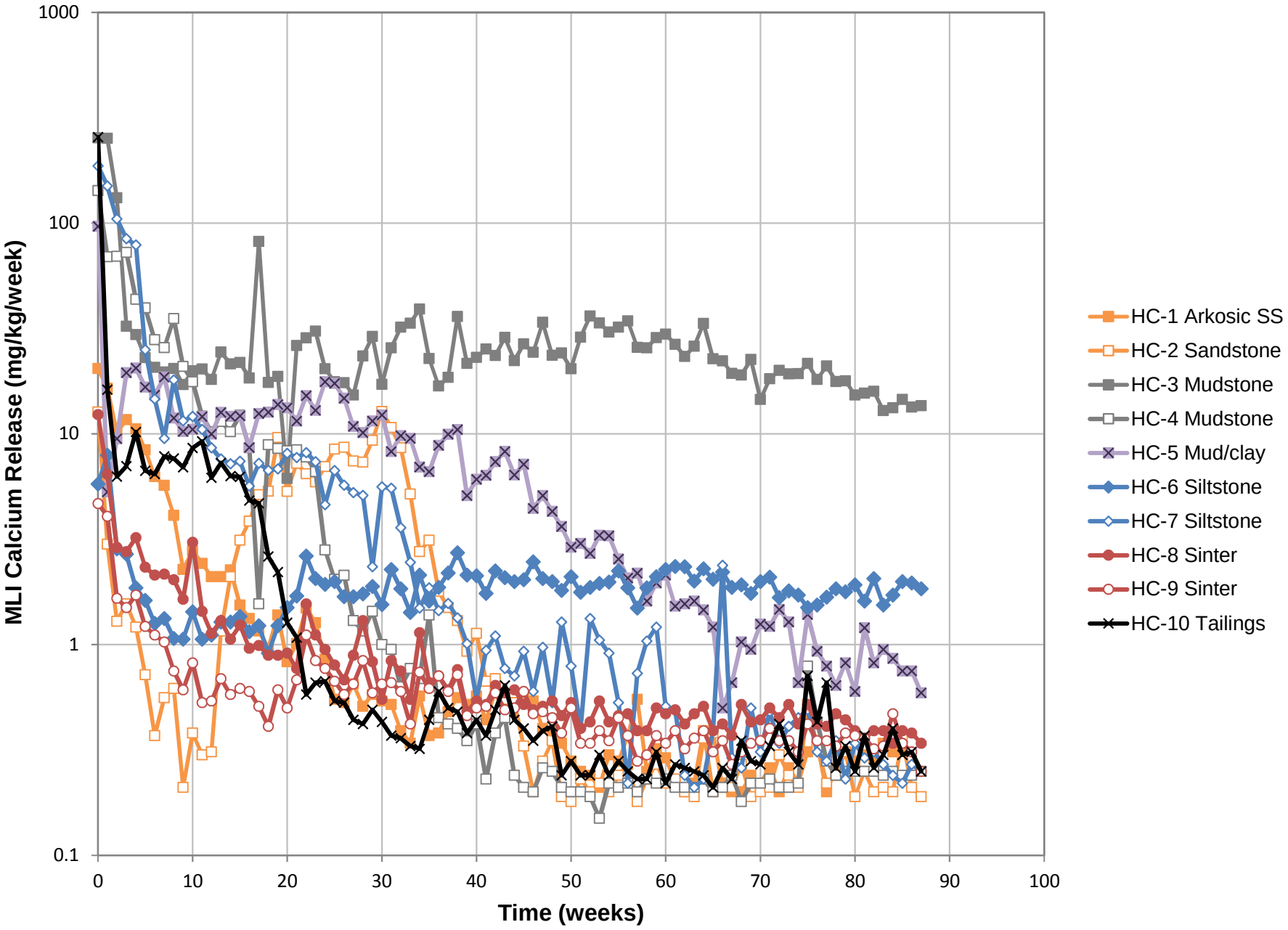

MLI Acidity Release (mg/kg/week)
10000
1000
100
10
1
0.1
0.01
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

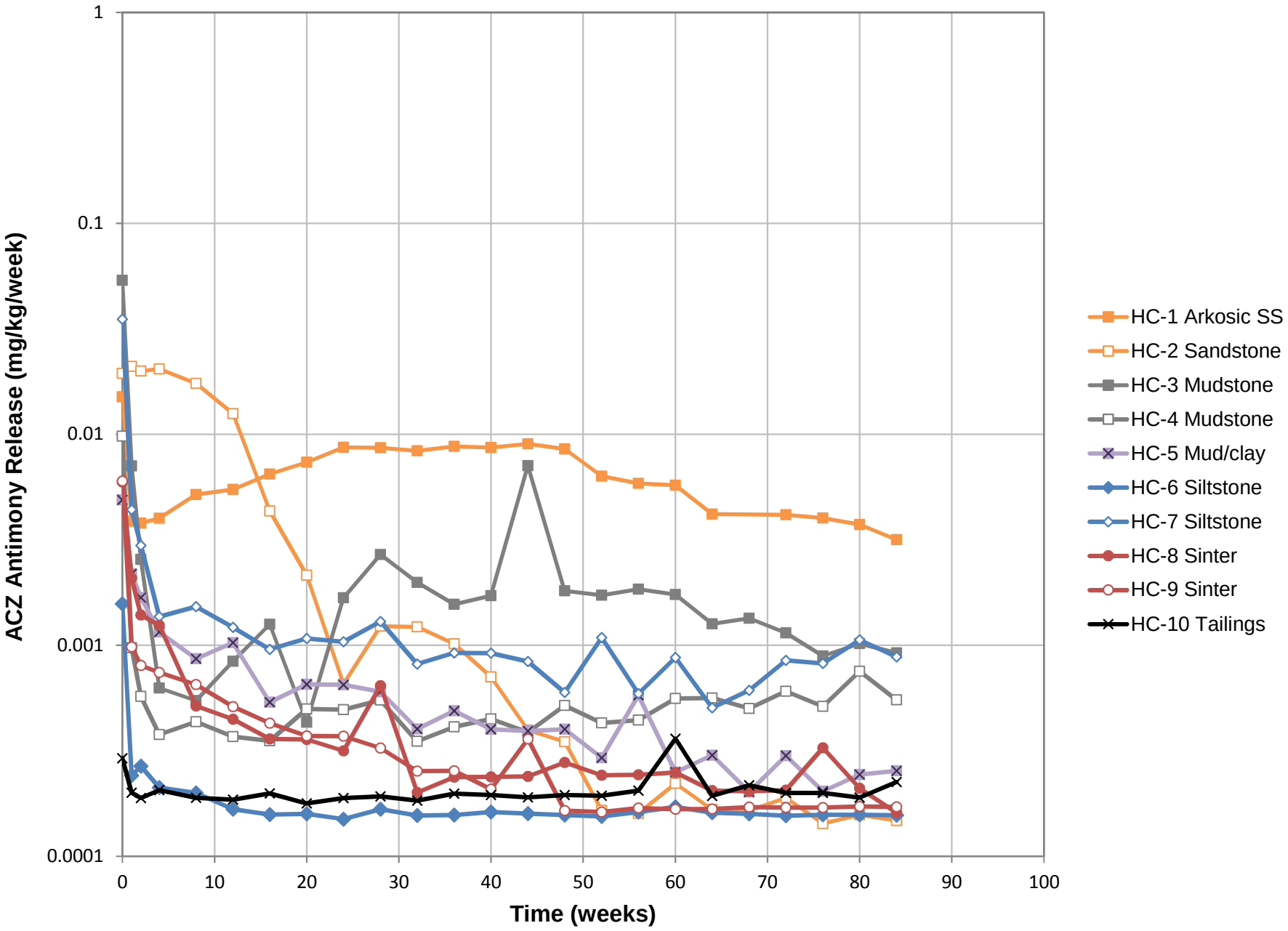

MLI Alkalinty Release (mg/kg/week)
Time (weeks)
0
10
20
30
40
50
60
70
80
90
100
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

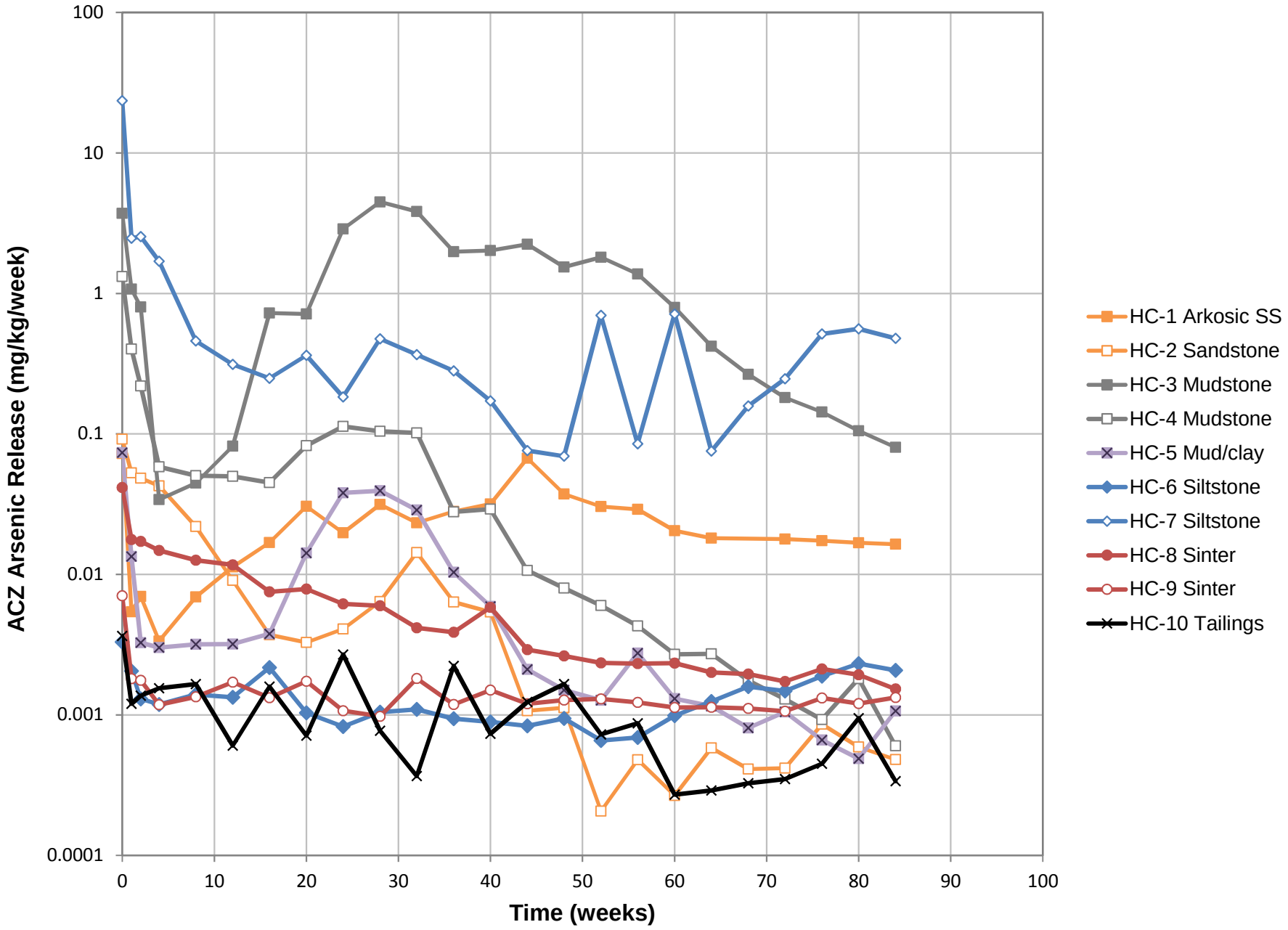

1000
100
10
1
0.1
0.01
MLI Iron Release (mg/kg/week)
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

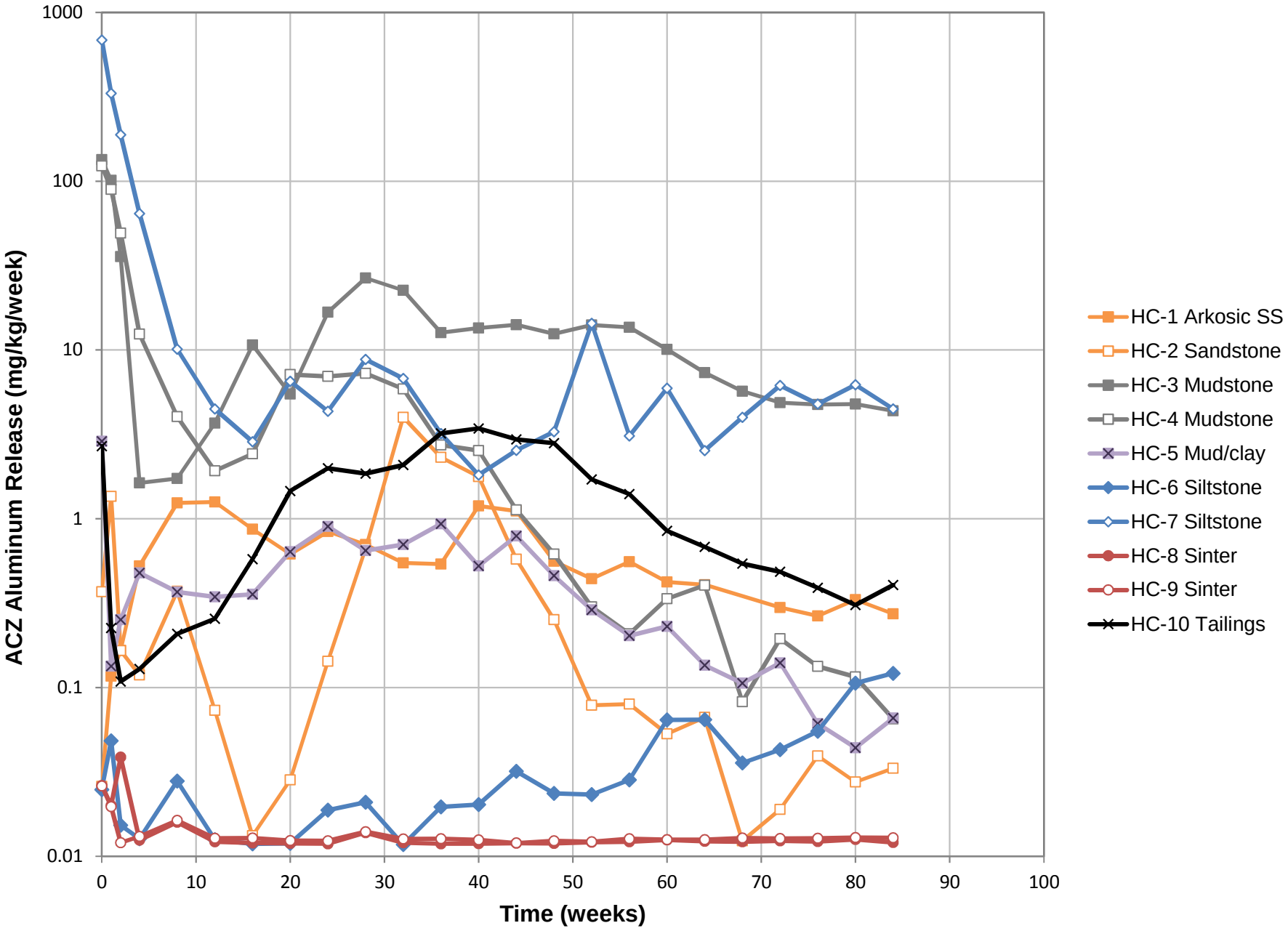

10000
1000
100
10
1
0.1
MLI Sulfate Release (mg/kg/week)
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

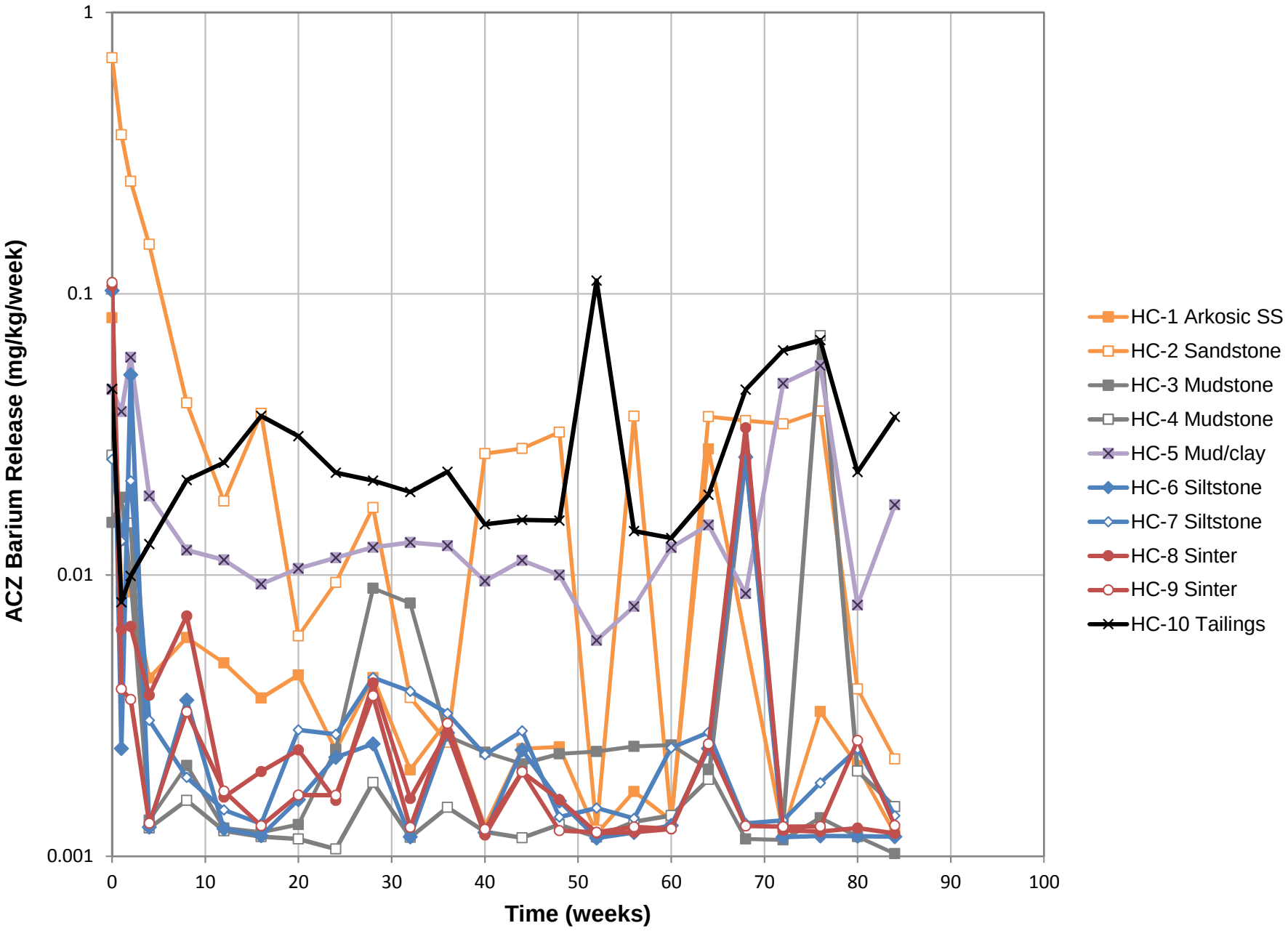

1000
100
10
1
0.1
MLI Magnesium Release (mg/kg/week)
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

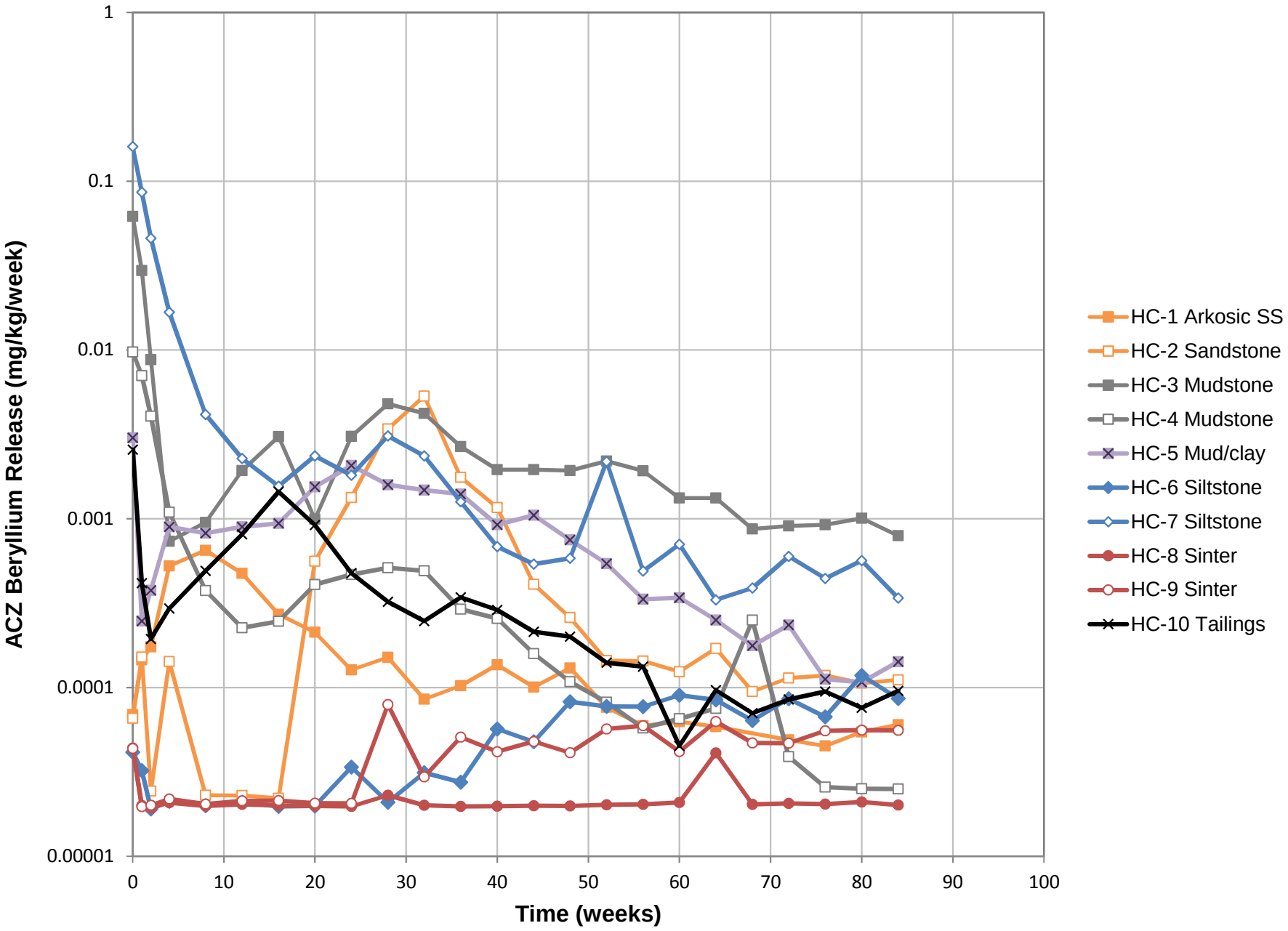

1000
100
10
1
0.1
MLI Calcium Release (mg/kg/week)
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

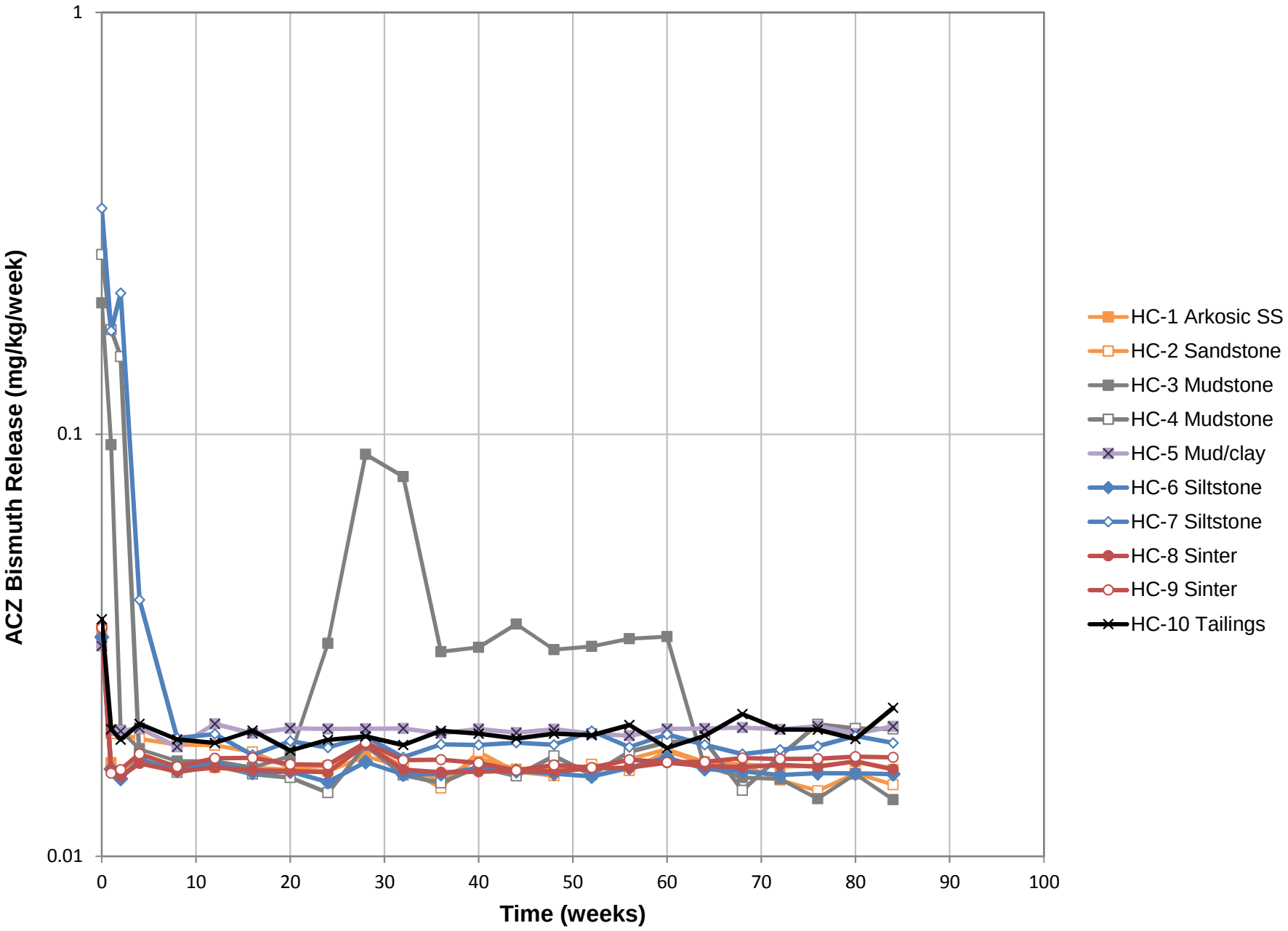

ACZ Antimony Release (mg/kg/week)
1
0.1
0.01
0.001
0.0001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

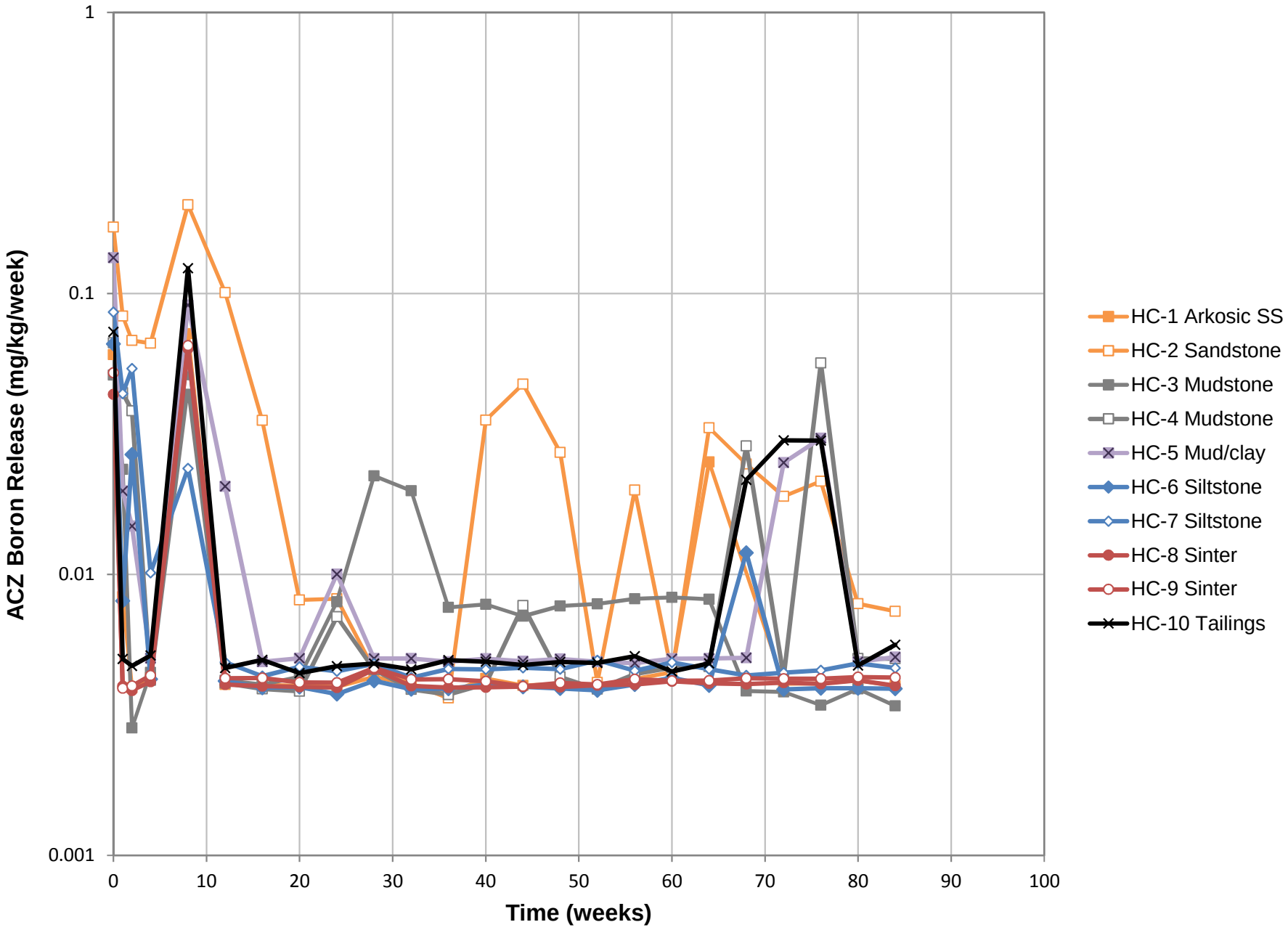

ACZ Arsenic Release (mg/kg/week)
100
10
1
0.1
0.01
0.001
0.0001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

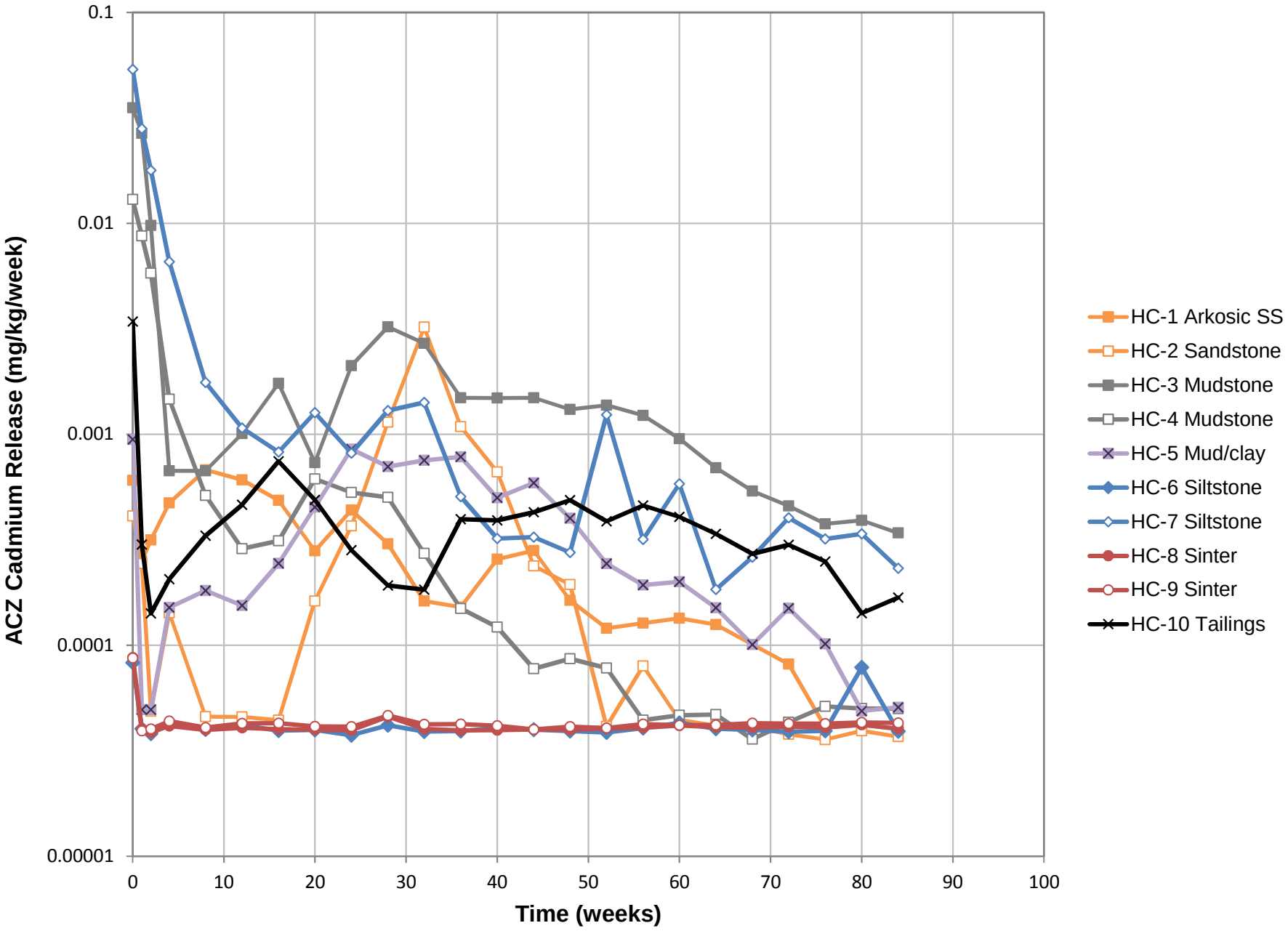

ACZ Aluminum Release (mg/kg/week)
1000
100
10
1
0.1
0.01
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

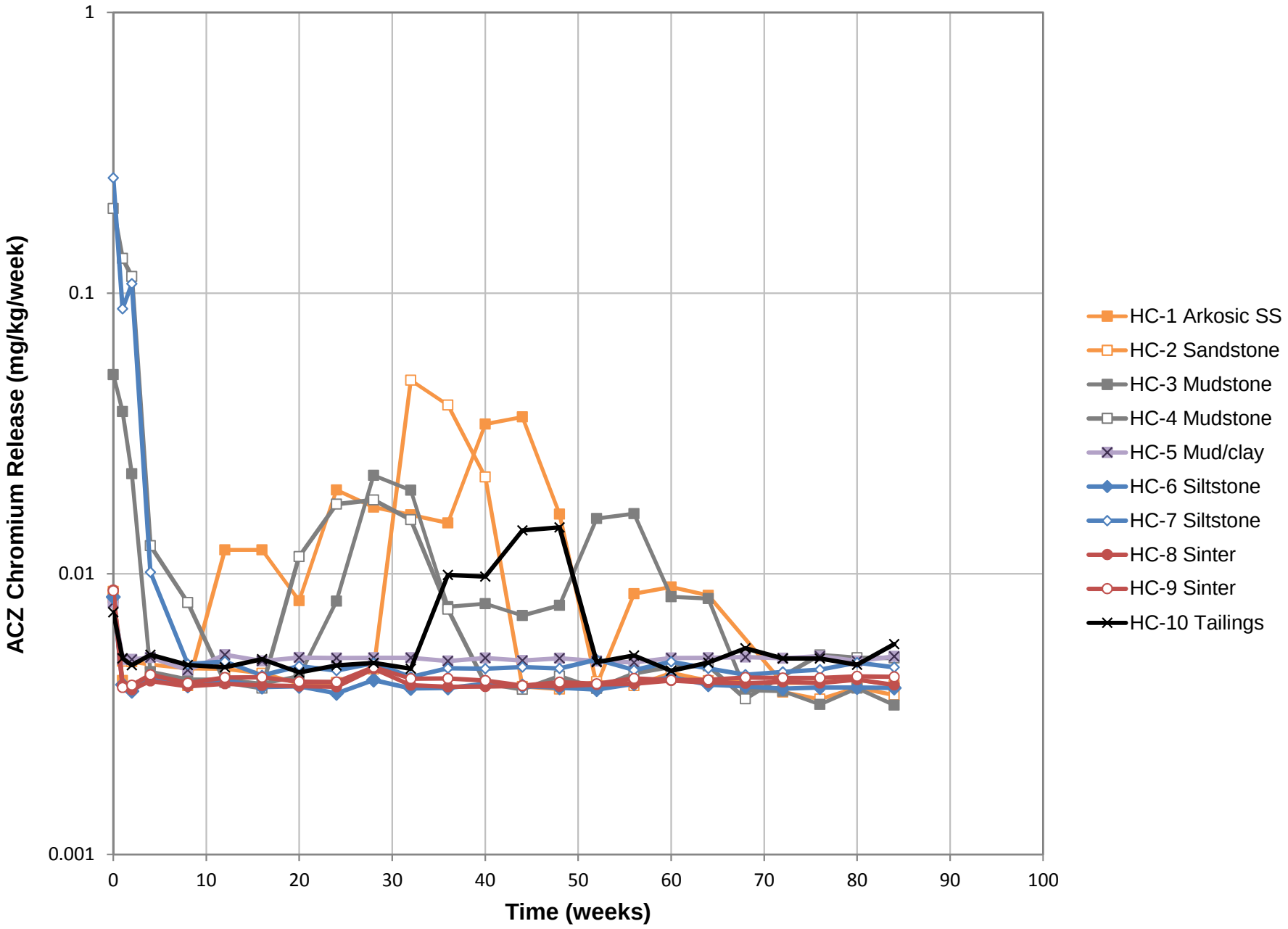

ACZ Barium Release (mg/kg/week)
1
0.1
0.01
0.001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

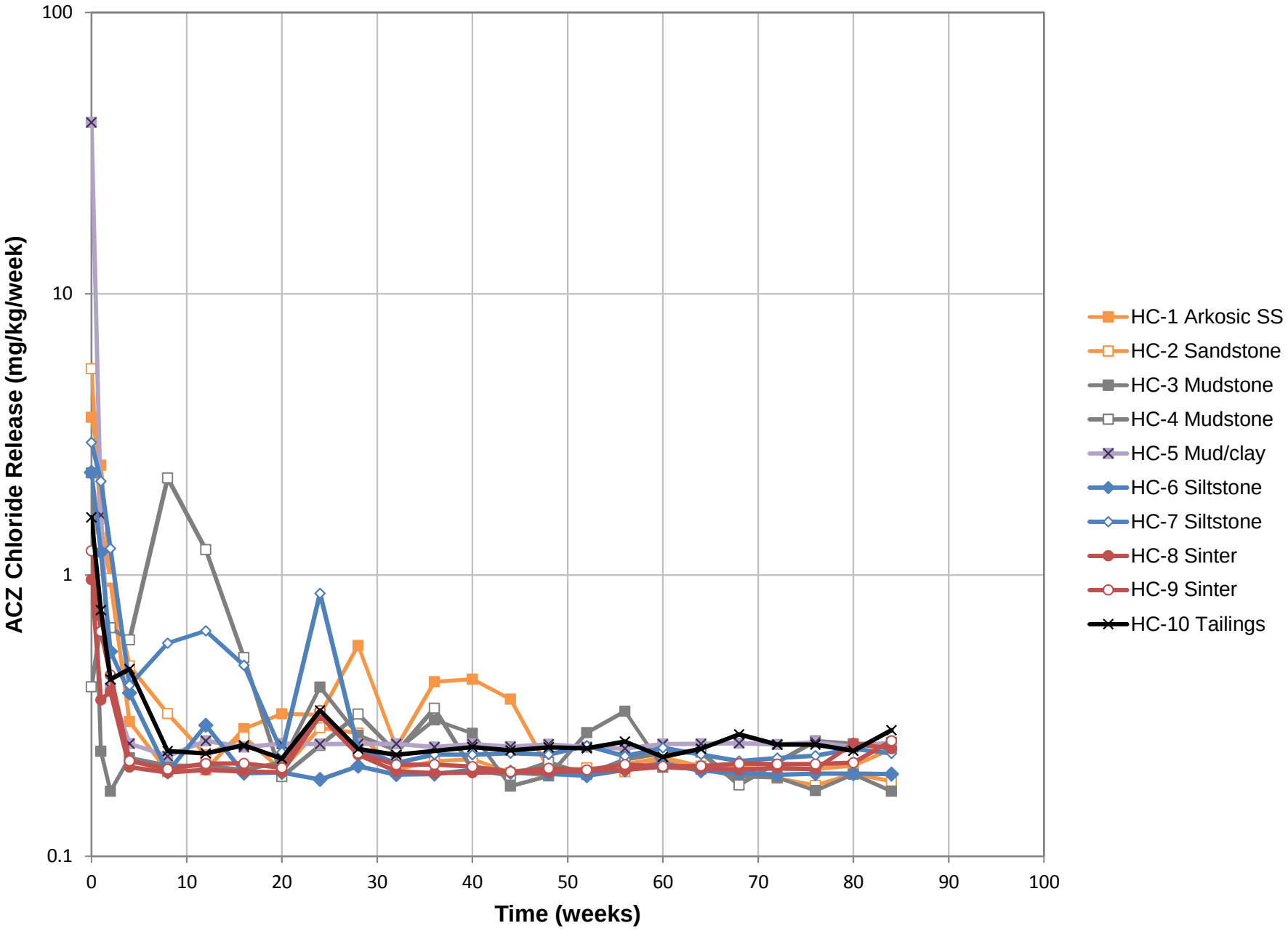

ACZ Beryllium Release (mg/kg/week)
1
0.1
0.01
0.001
0.0001
0.00001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

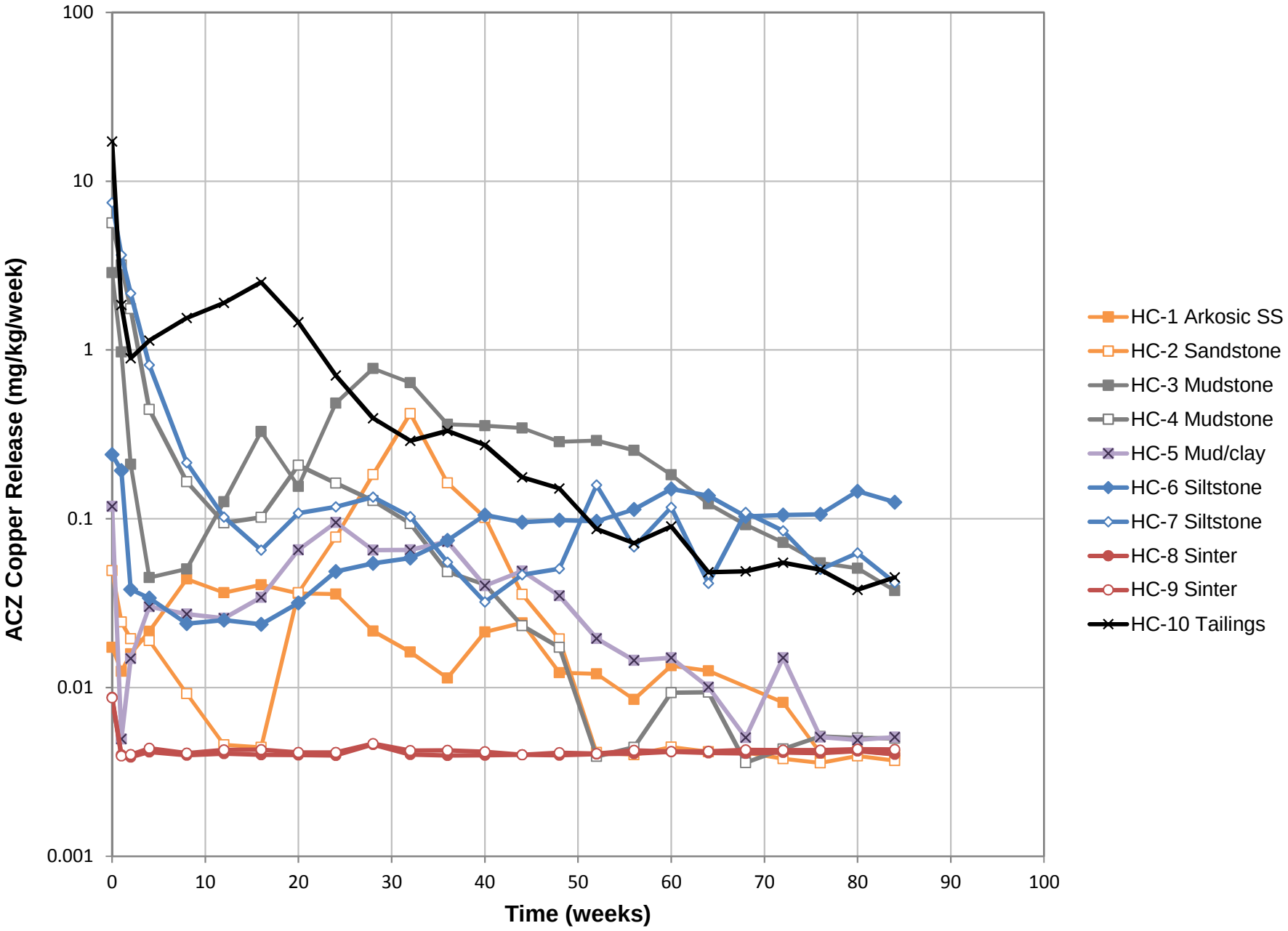

ACZ Bismuth Release (mg/kg/week)
1
0.1
0.01
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

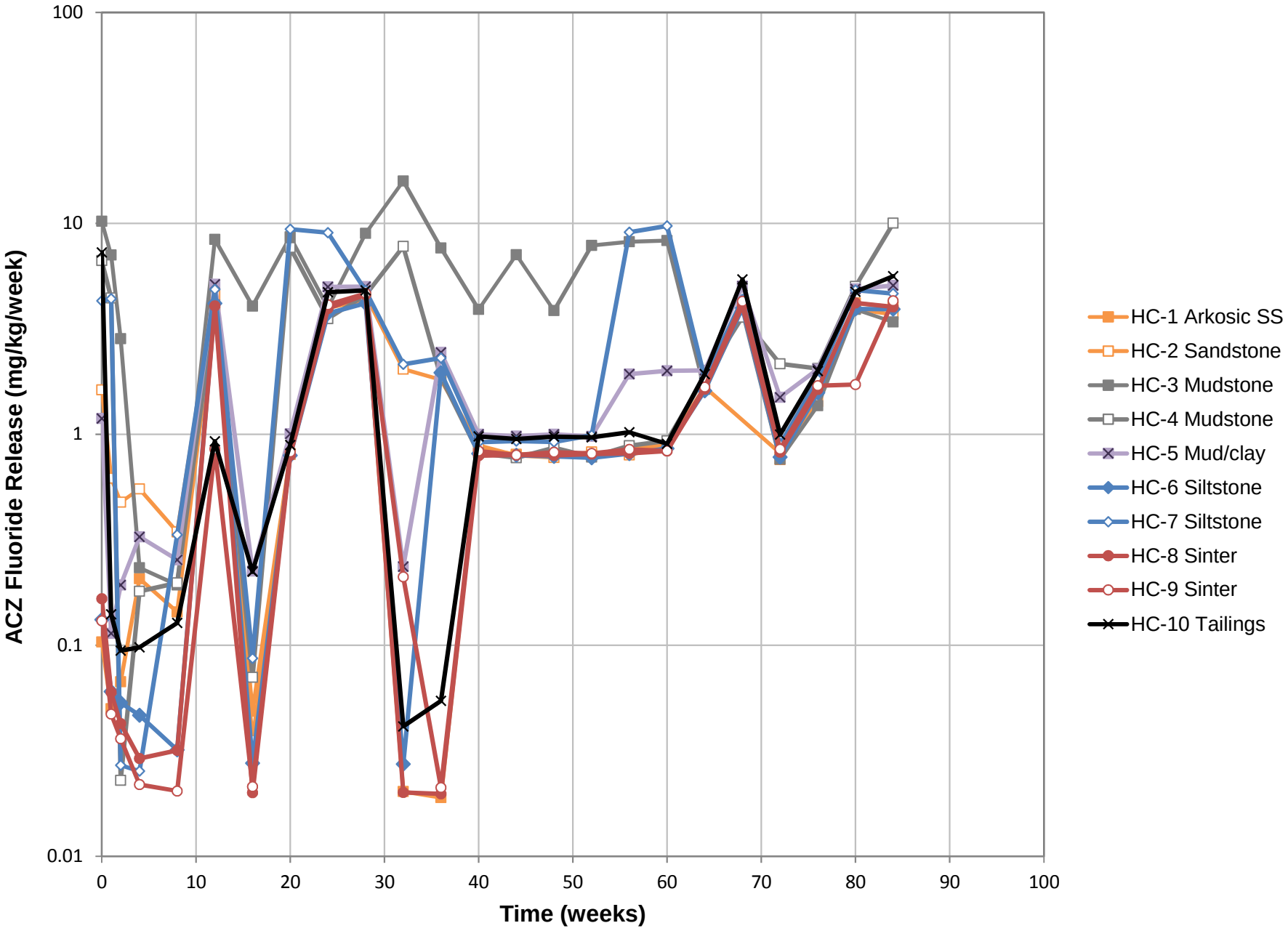

ACZ Boron Release (mg/kg/week)
1
0.1
0.01
0.001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

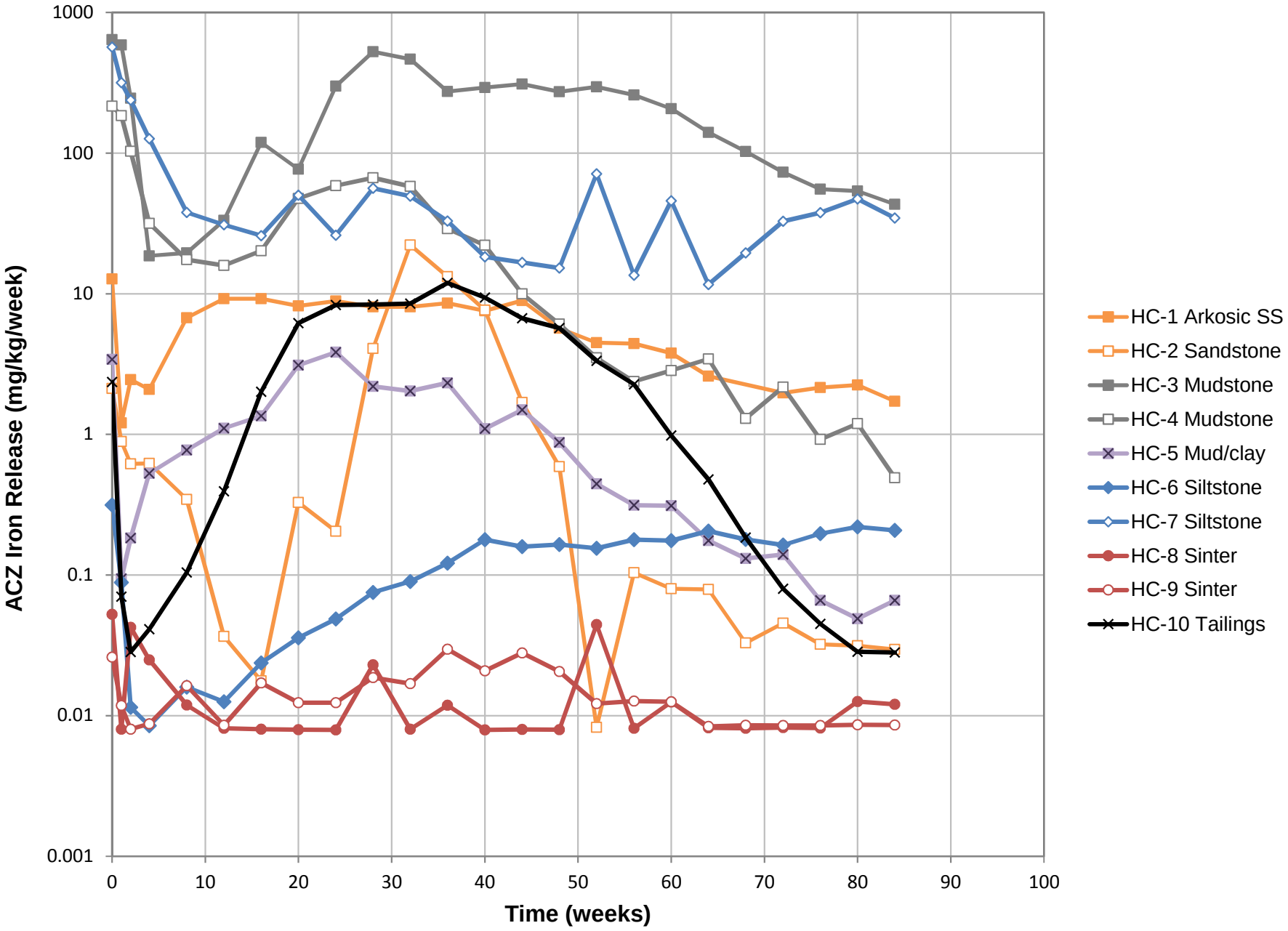

0.1
0.01
0.001
0.0001
0.00001
ACZ Cadmium Release (mg/kg/week)
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

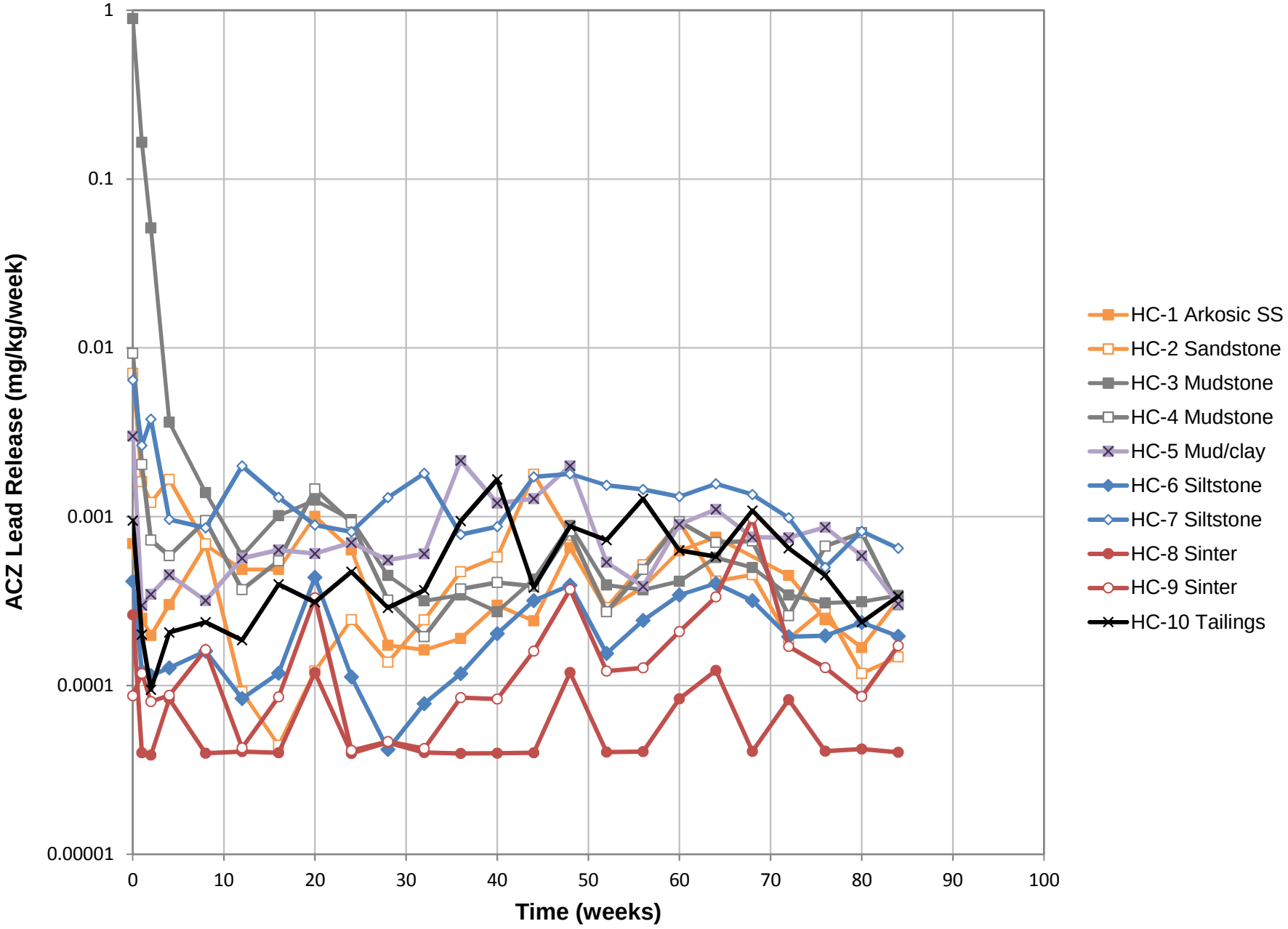

ACZ Chromium Release (mg/kg/week)
1
0.1
0.01
0.001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

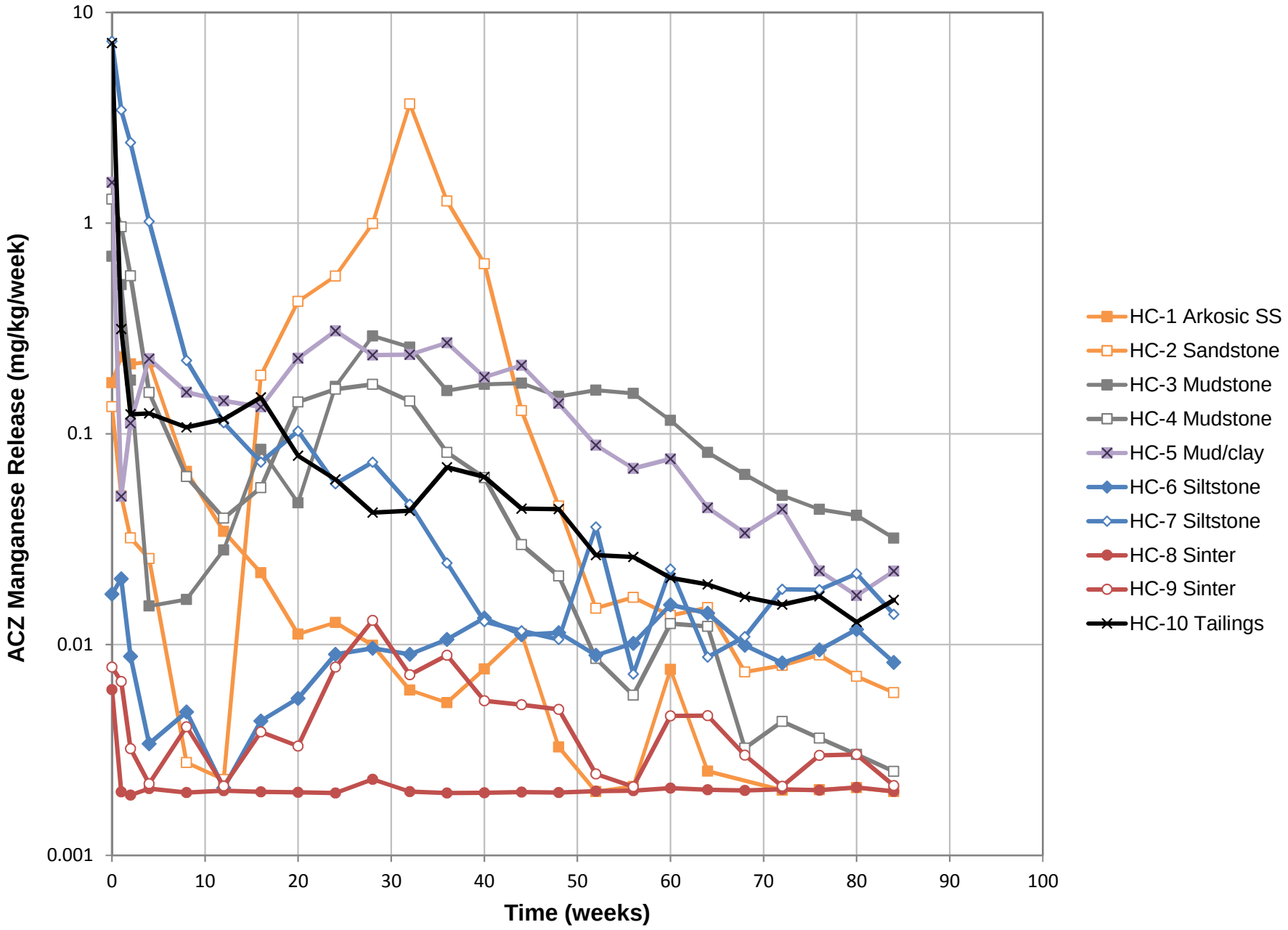

ACZ Chloride Release (mg/kg/week)
100
10
1
0.1
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

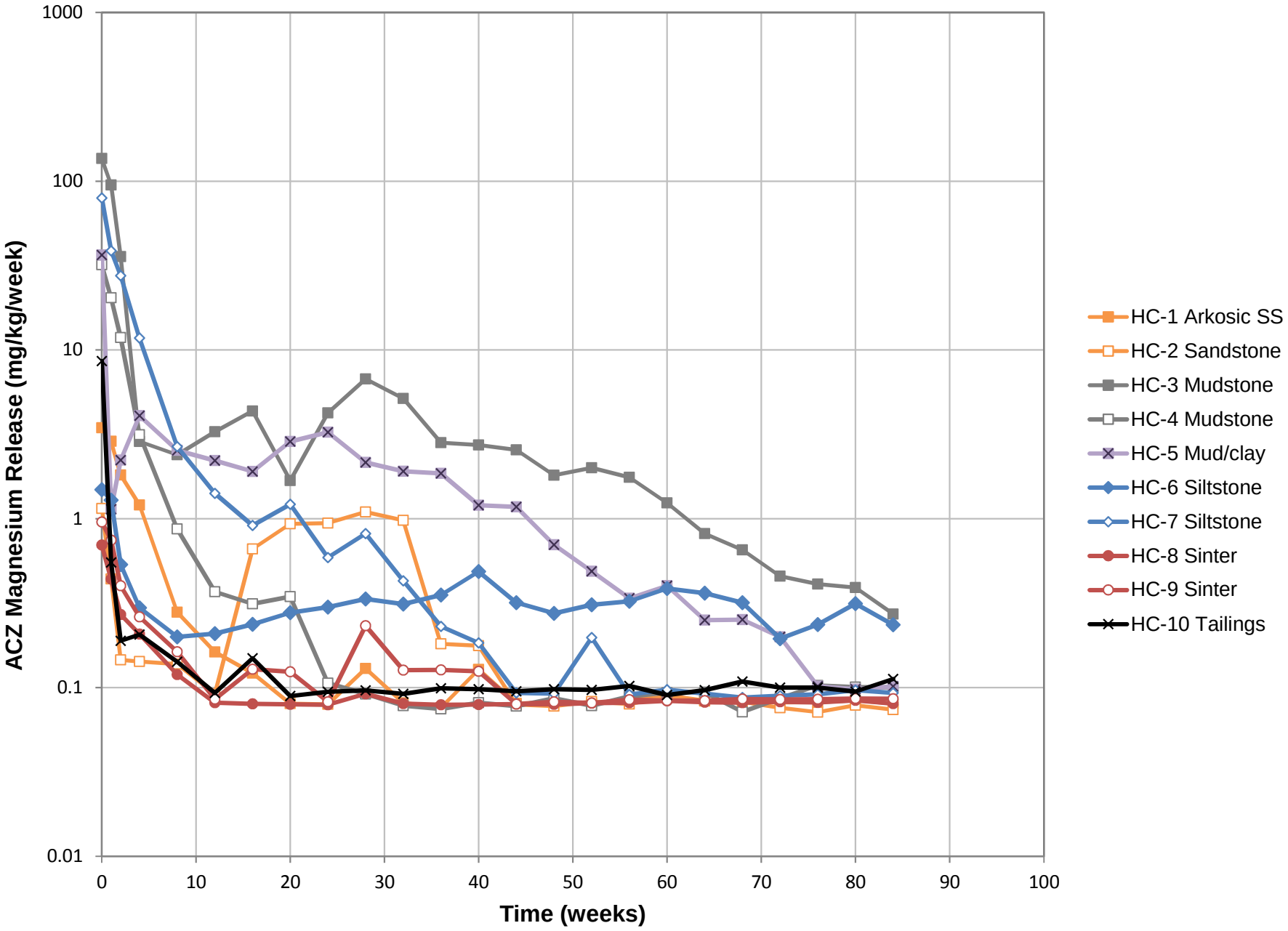

ACZ Copper Release (mg/kg/week)
100
10
1
0.1
0.01
0.001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

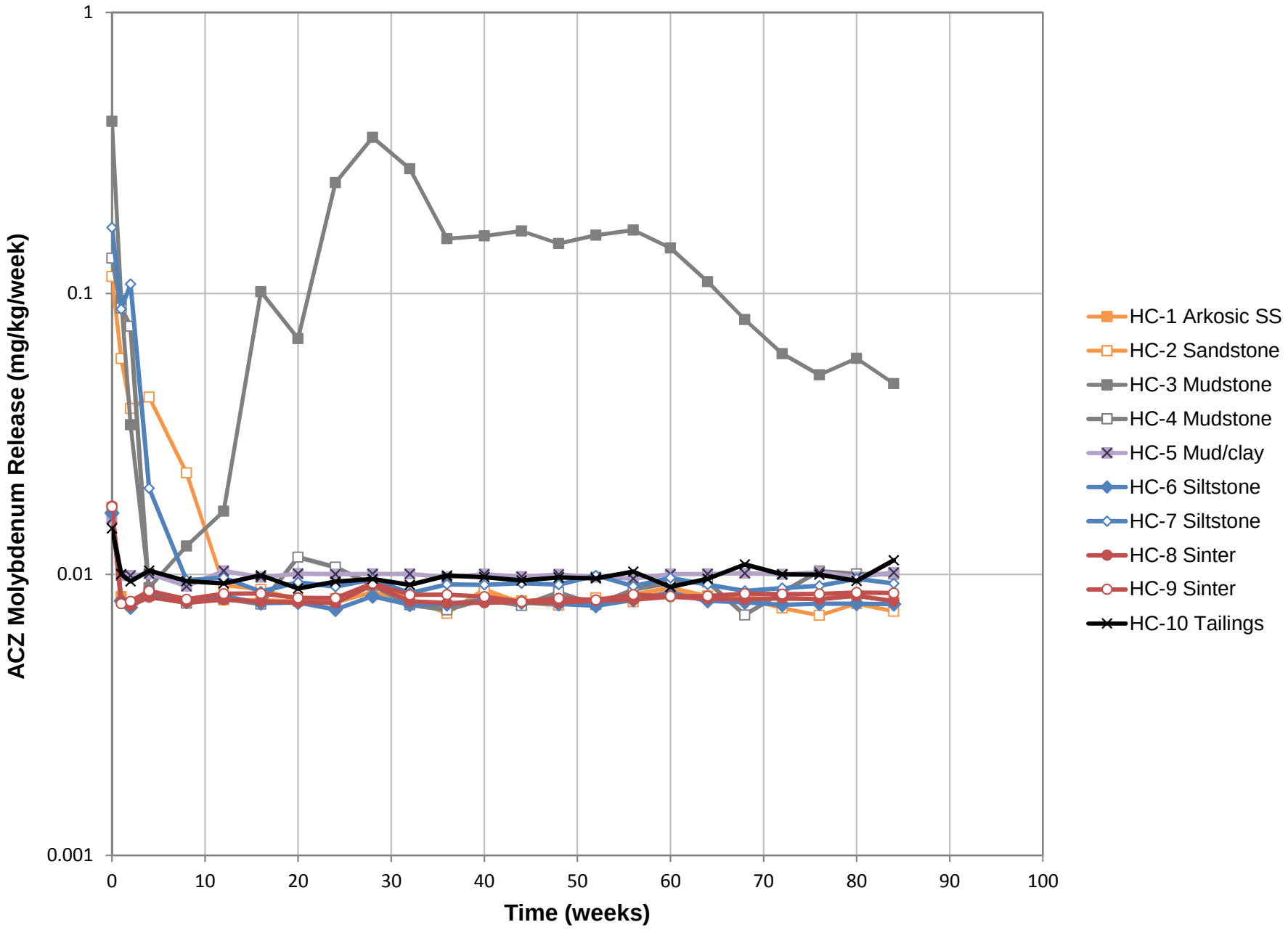

ACZ Fluoride Release (mg/kg/week)
100
10
1
0.1
0.01
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

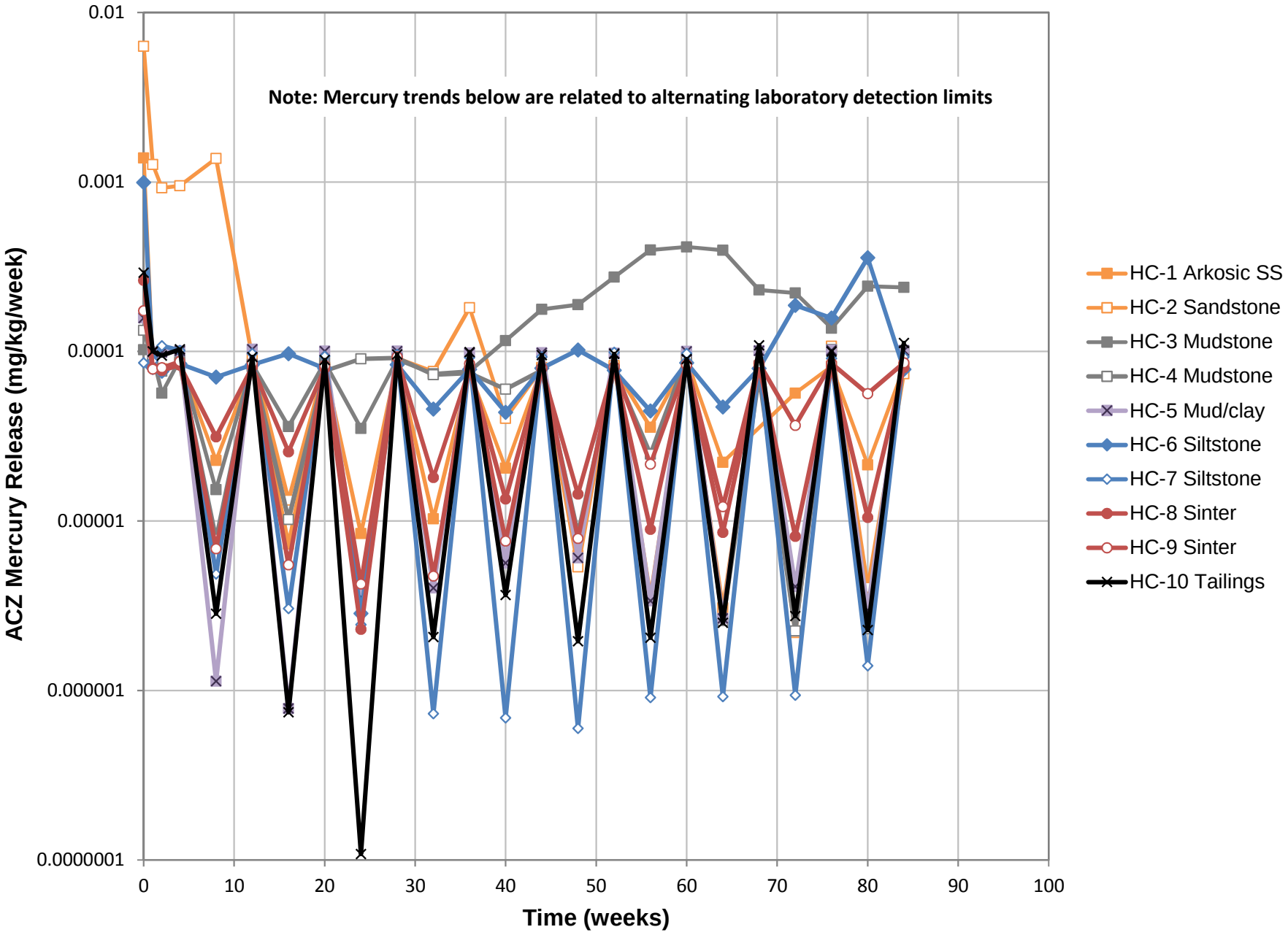

ACZ Iron Release (mg/kg/week)
1000
100
10
1
0.1
0.01
0.001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

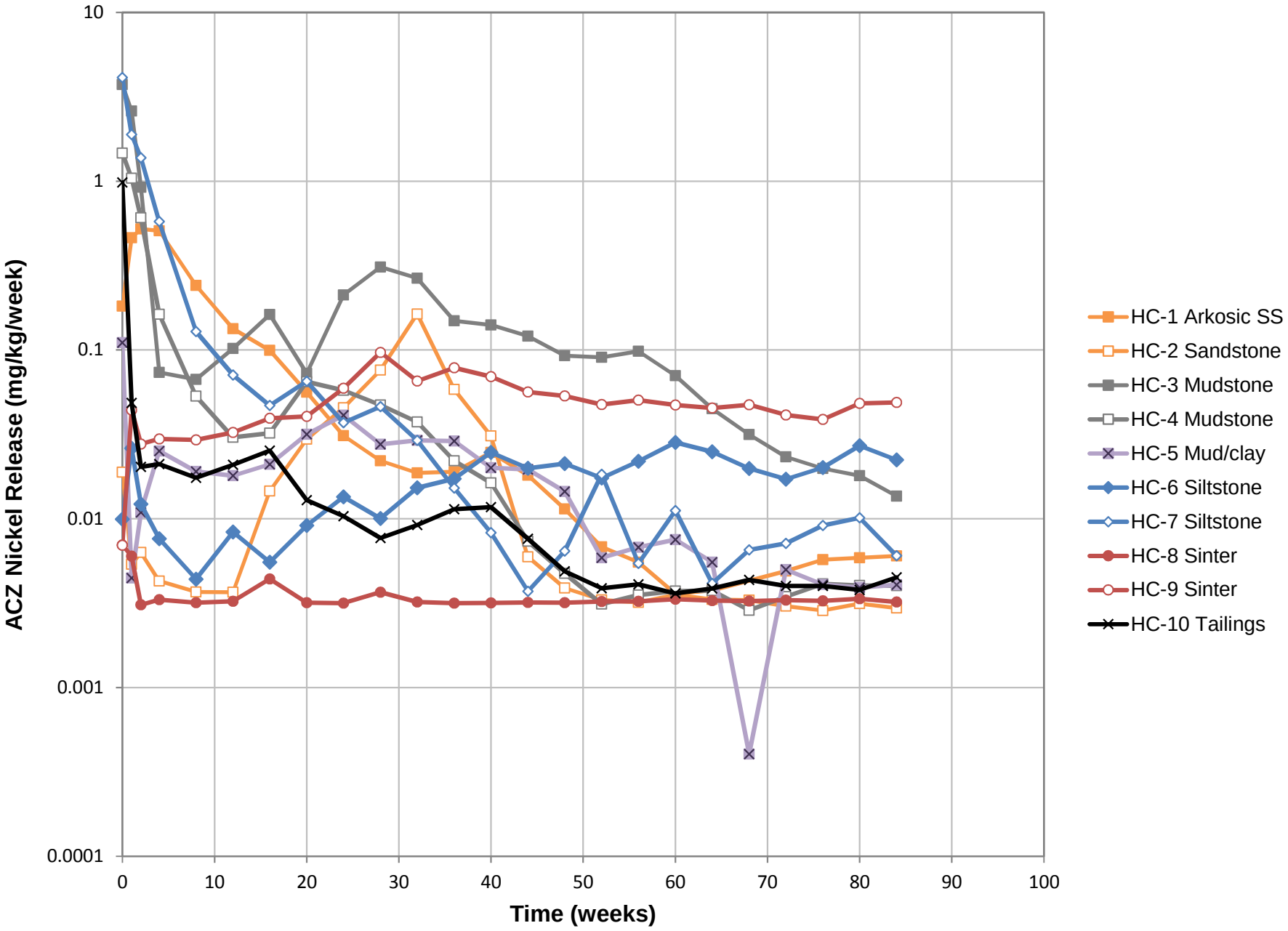

ACZ Lead Release (mg/kg/week)
1
0.1
0.01
0.001
0.0001
0.00001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

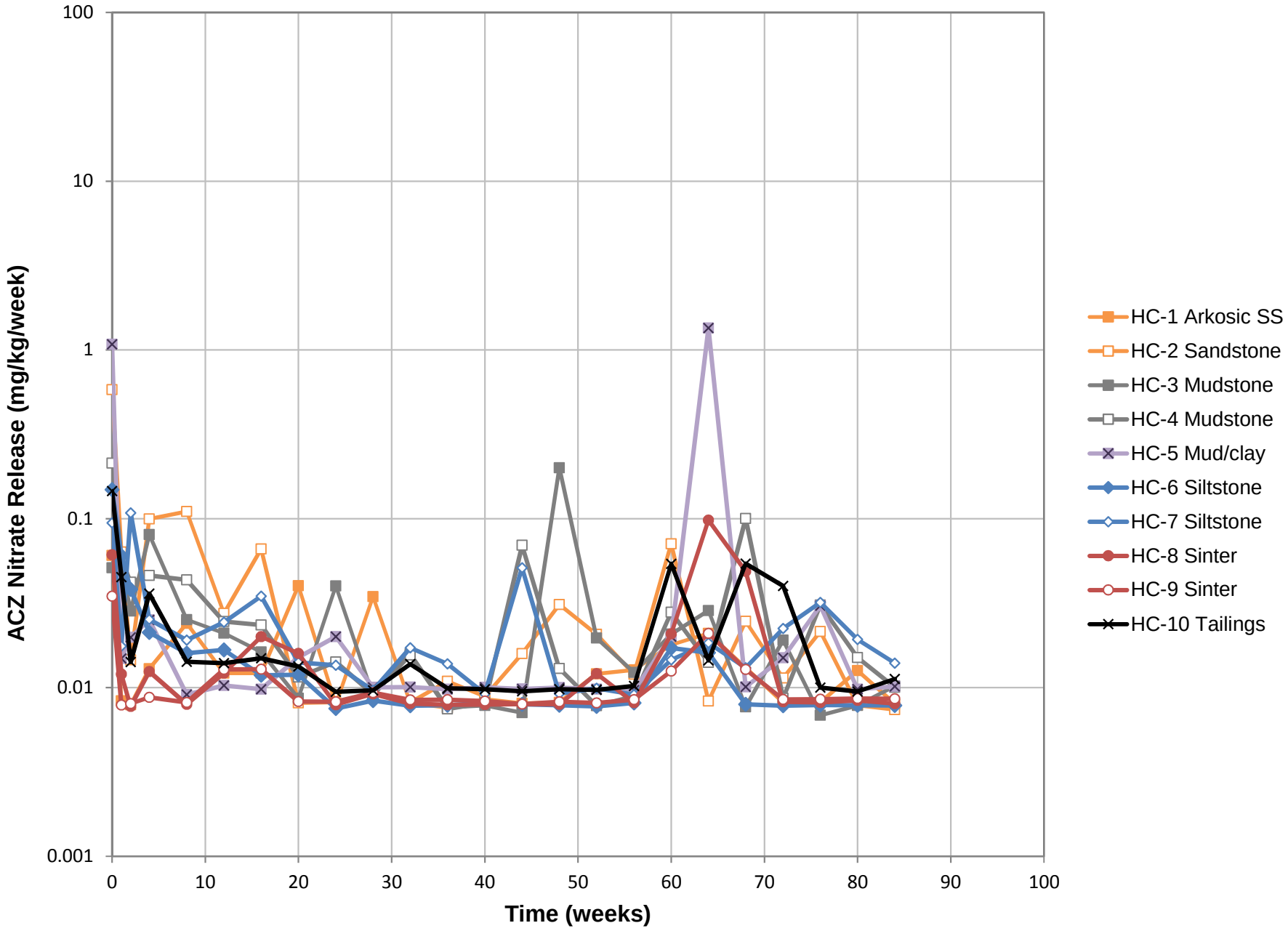

ACZ Manganese Release (mg/kg/week)
10
1
0.1
0.01
0.001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

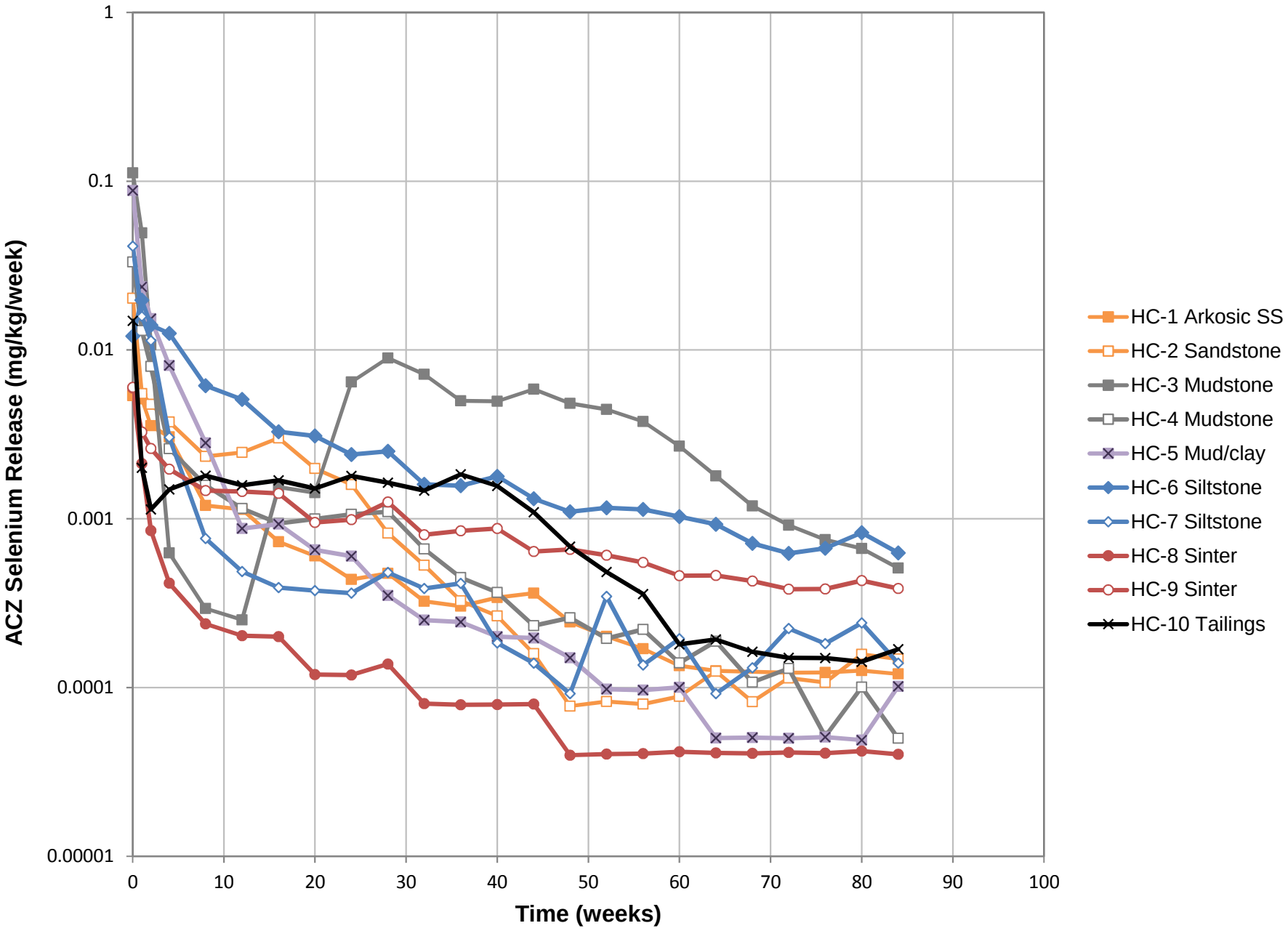

1000
100
10
1
0.1
0.01
ACZ Magnesium Release (mg/kg/week)
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

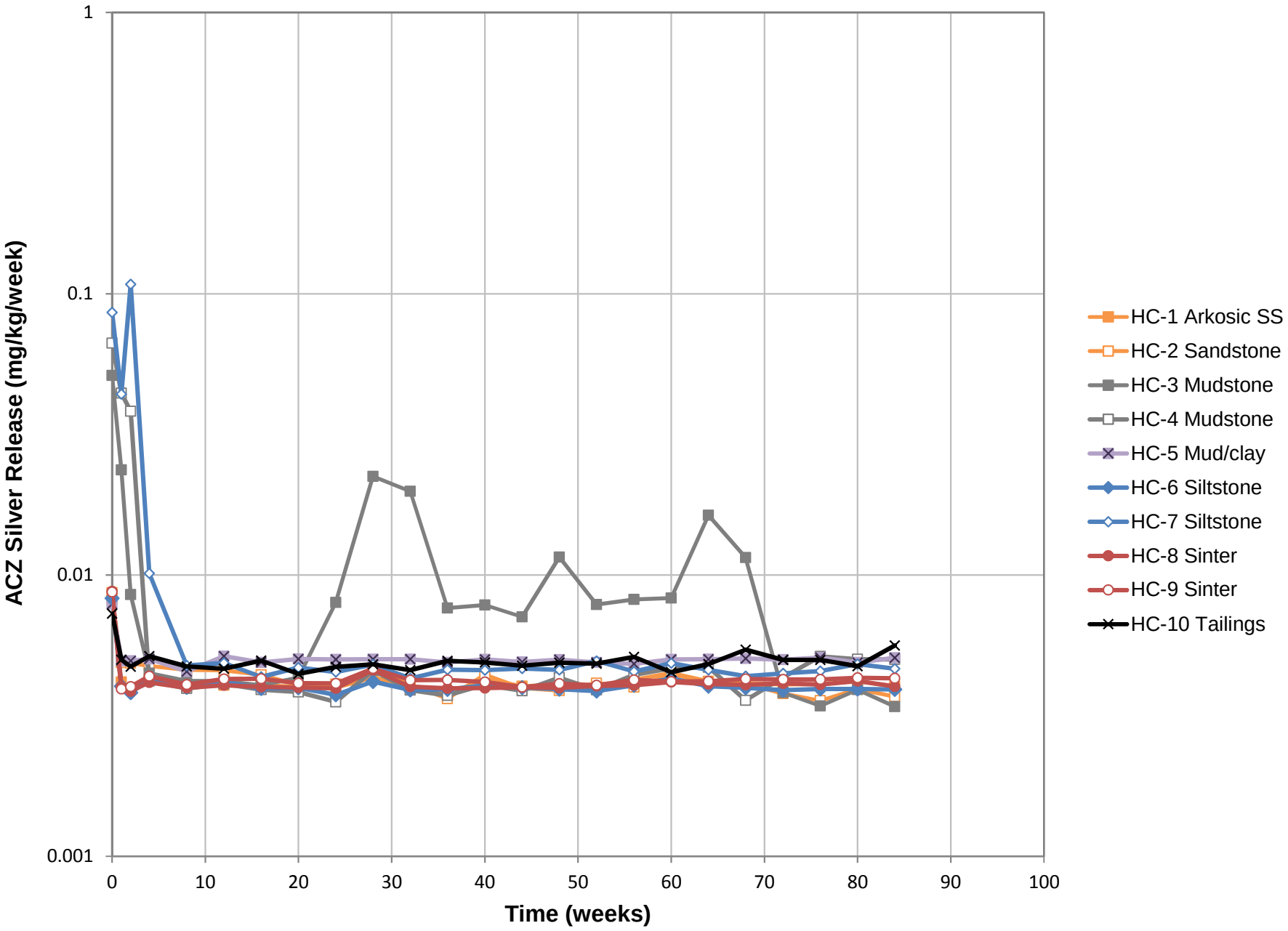

ACZ Molybdenum Release (mg/kg/week)
1
0.1
0.01
0.001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

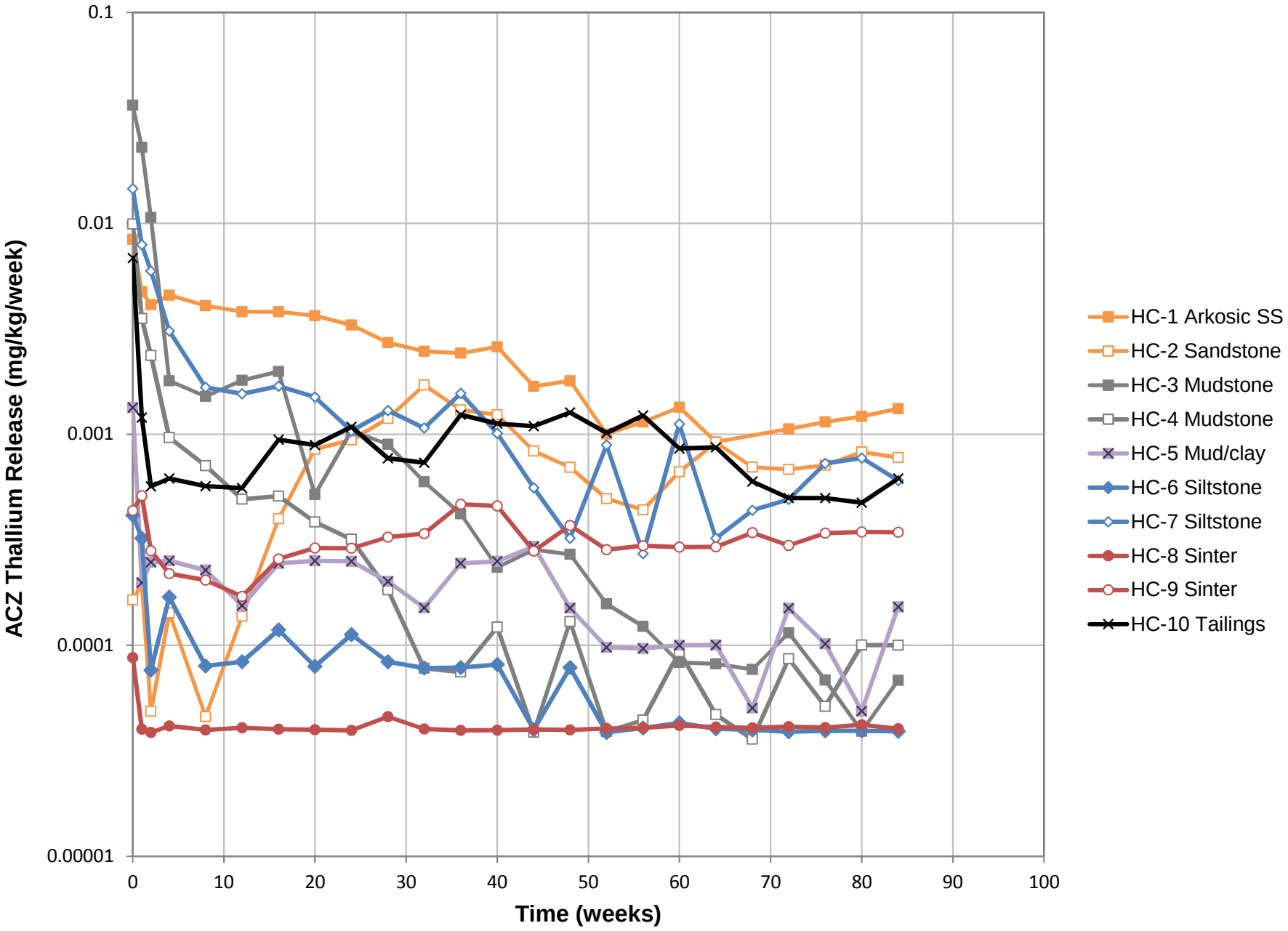

Note: Mercury trends below are related to alternating laboratory detection limits
ACZ Mercury Release (mg/kg/week)
0.01
0.001
0.0001
0.00001
0.000001
0.0000001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

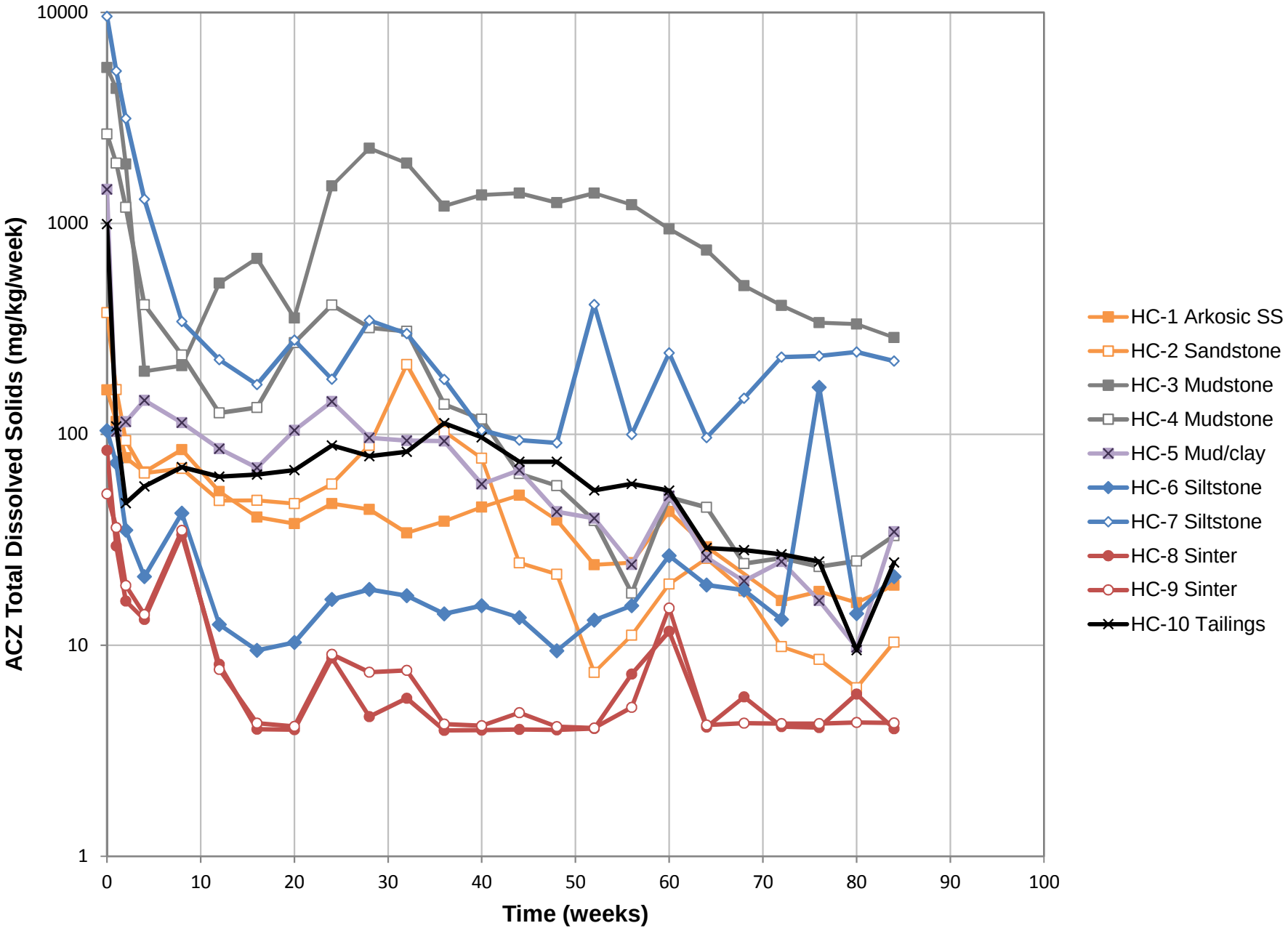

ACZ Nickel Release (mg/kg/week)
10
1
0.1
0.01
0.001
0.0001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

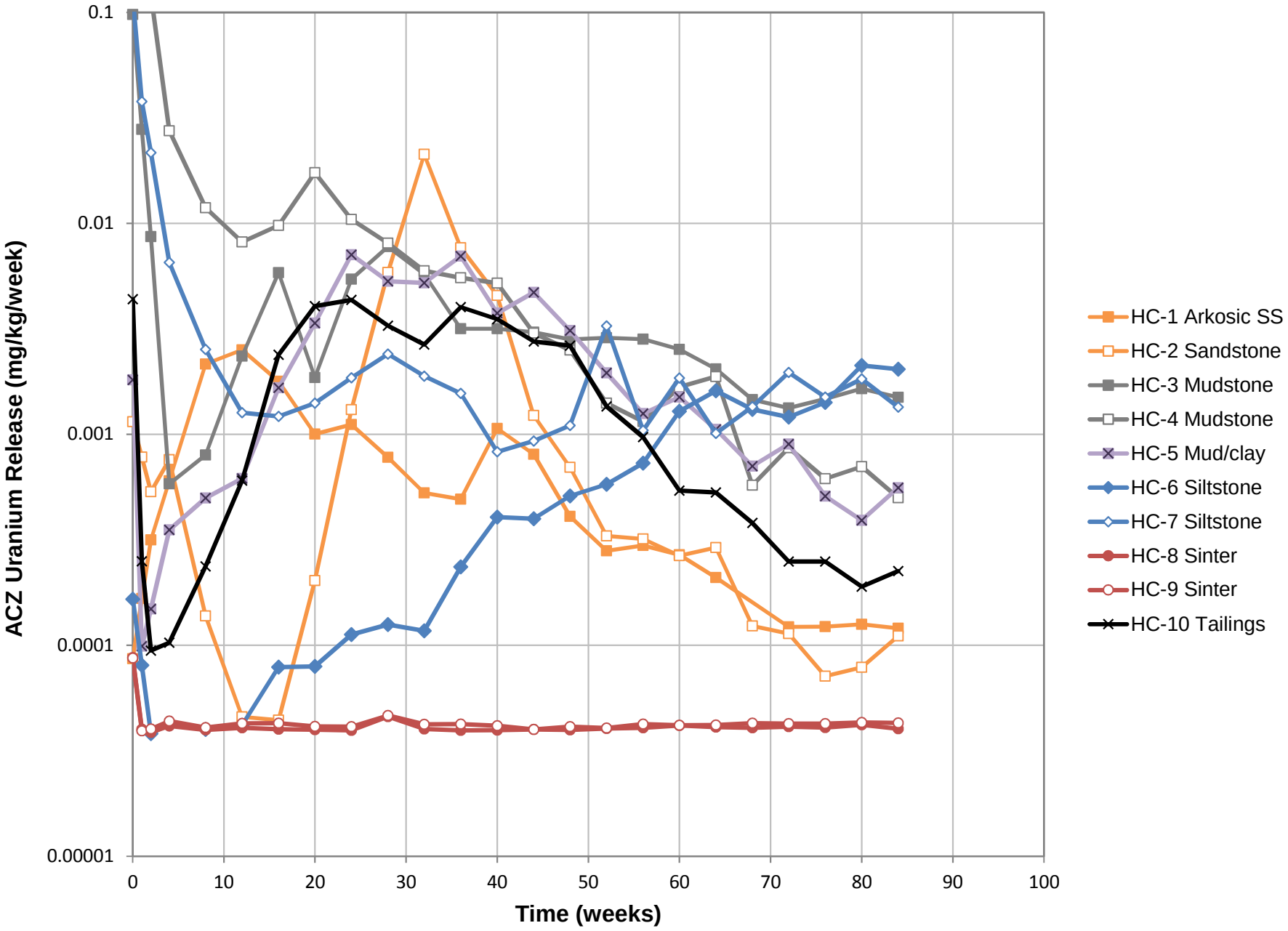

ACZ Nitrate Release (mg/kg/week)
100
10
1
0.1
0.01
0.001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

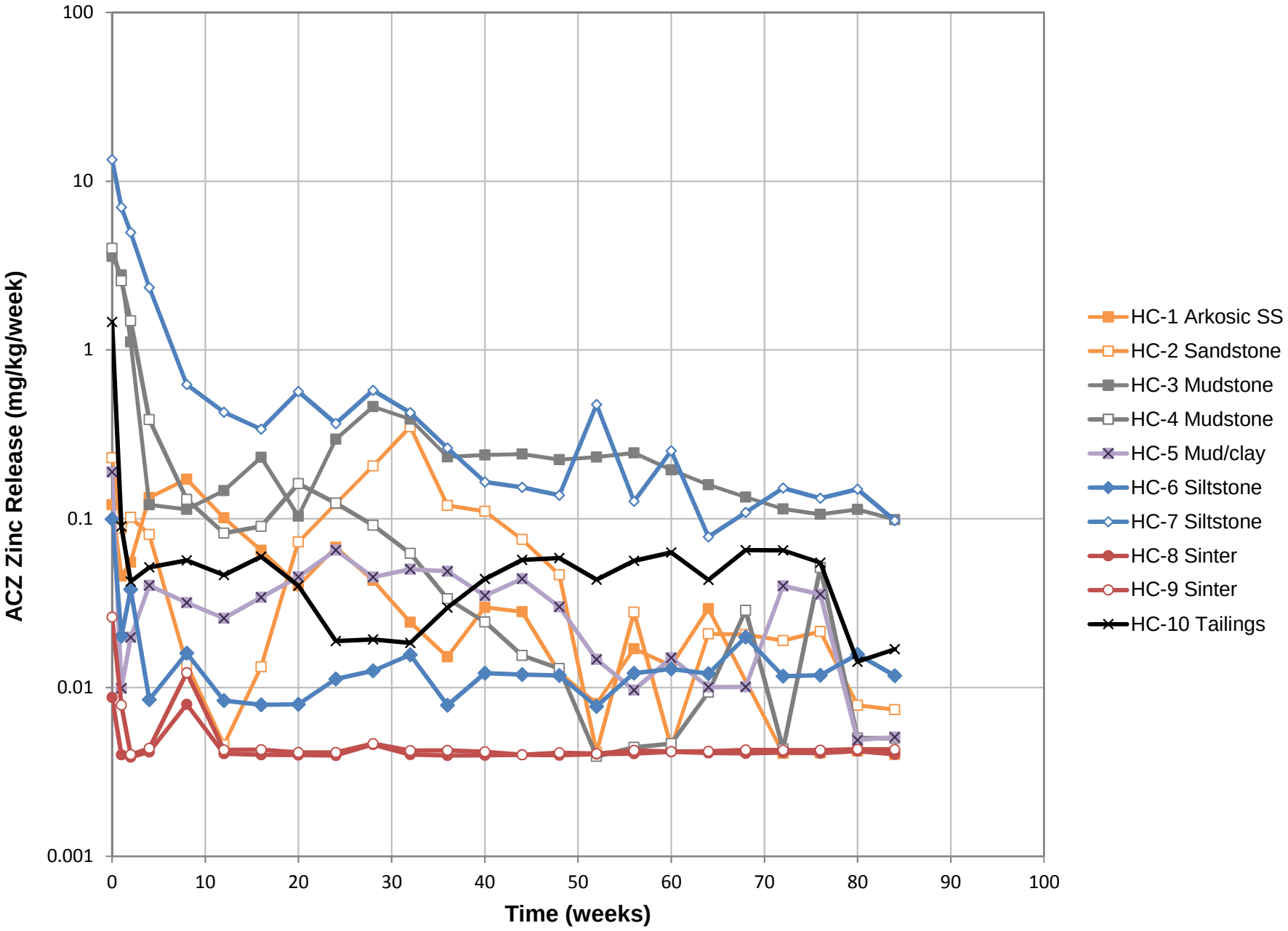

ACZ Selenium Release (mg/kg/week)
1
0.1
0.01
0.001
0.0001
0.00001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

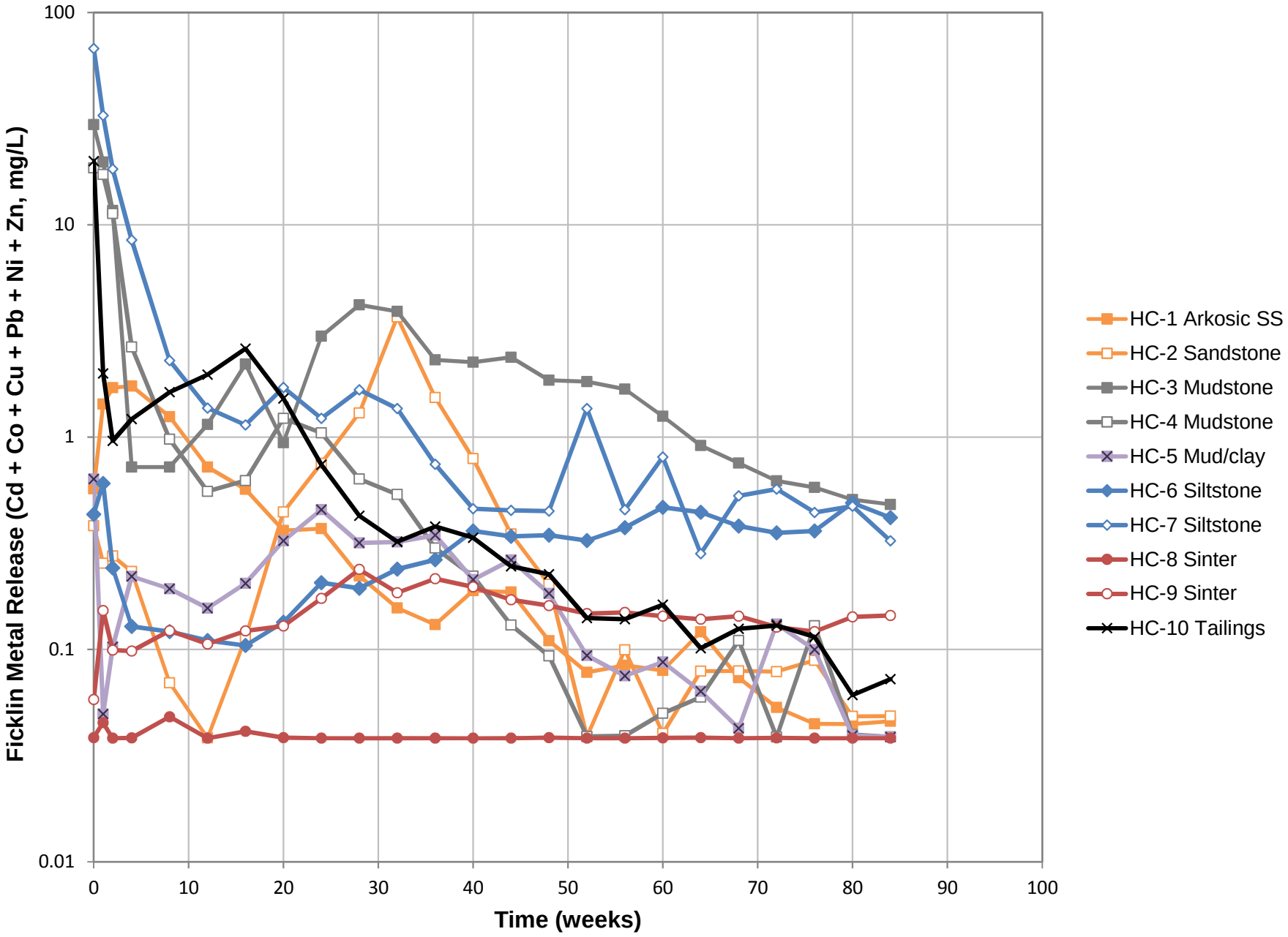

ACZ Silver Release (mg/kg/week)
1
0.1
0.01
0.001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings


0.1
0.01
0.001
0.0001
0.00001
ACZ Thallium Release (mg/kg/week)
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings


ACZ Total Dissolved Solids (mg/kg/week)
10000
1000
100
10
1
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings


ACZ Uranium Release (mg/kg/week)
0.1
0.01
0.001
0.0001
0.00001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings


ACZ Zinc Release (mg/kg/week)
100
10
1
0.1
0.01
0.001
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings


Ficklin Metal Release (Cd + Co + Cu + Pb + Ni + Zn, mg/L)
100
10
1
0.1
0.01
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

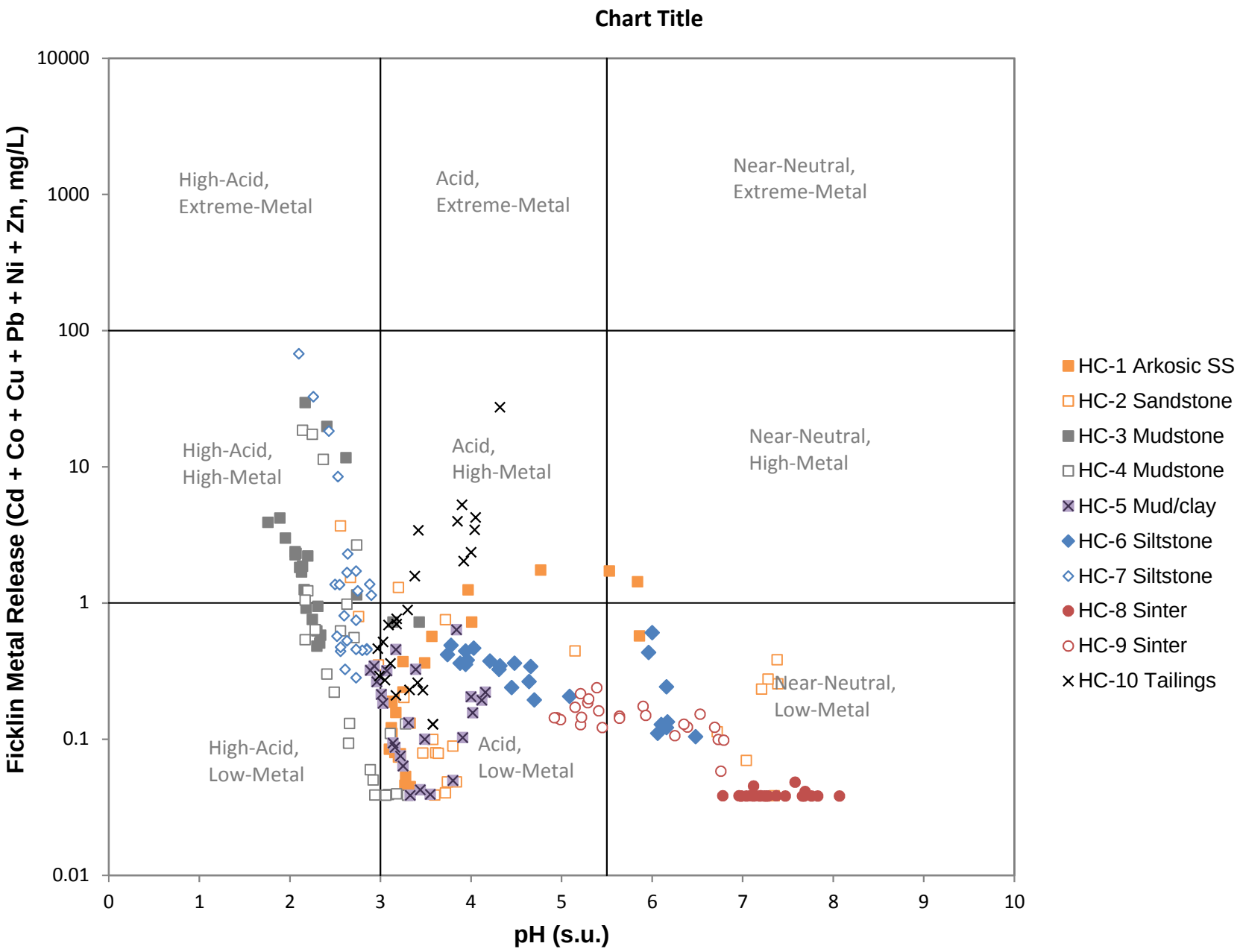
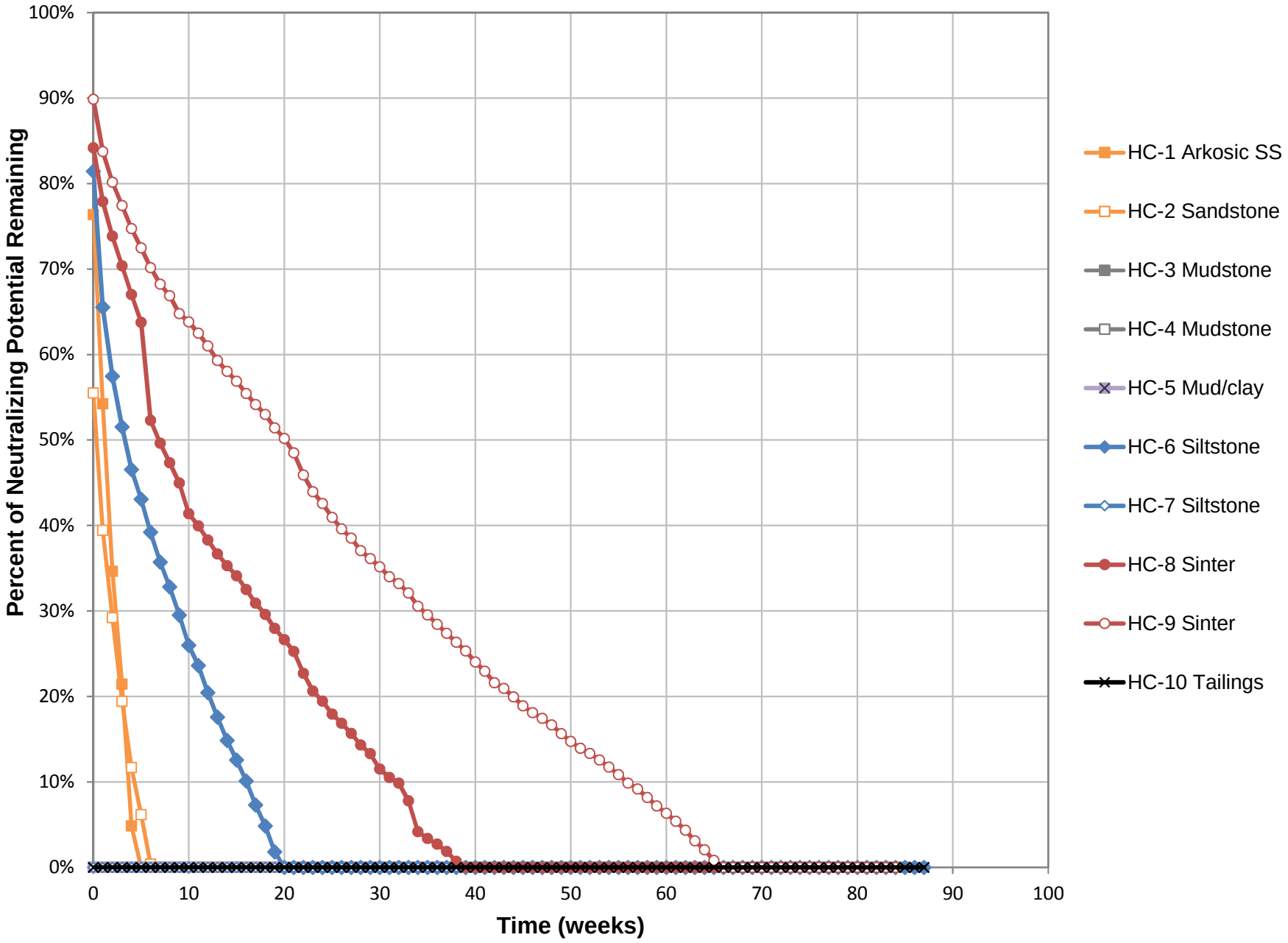


Chart Title
Ficklin Metal Release (Cd + Co + Cu + Pb + Ni + Zn, mg/L)
pH (s.u.)
10000
1000
100
10
1
0.1
0.01
0
1
2
3
4
5
6
7
8
9
10
High-Acid, Extreme-Metal
Acid, Extreme-Metal
Near-Neutral, Extreme-Metal
High-Acid, High-Metal
Acid, High-Metal
Near-Neutral, High-Metal
High-Acid, Low-Metal
Acid, Low-Metal
Near-Neutral, Low-Metal
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings


Percent of Neutralizing Potential Remaining
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0
10
20
30
40
50
60
70
80
90
100
Time (weeks)
HC-1 Arkosic SS
HC-2 Sandstone
HC-3 Mudstone
HC-4 Mudstone
HC-5 Mud/clay
HC-6 Siltstone
HC-7 Siltstone
HC-8 Sinter
HC-9 Sinter
HC-10 Tailings

Attachment D3

McClelland Laboratories Reports

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 1 . - Humidity Cell Analytical Results, CAL-002 (86-95) **(2.0166 Kg)**

					Total Fe					SO_4=			Ca			Mg				Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg		mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.744	5.86	166	357	10.54	9.115	9.115	2.05	8.49	72	62.27	62.27	23.64	20.44	20.44	3.76	3.25	3.25		0	0.00	0.00	7	6.05	6.05
1	0.840	5.84	182	365	2.93	1.220	10.335	1.82	1.11	150	62.48	124.75	39.52	16.46	36.90	7.07	2.94	6.19		11	4.58	4.58	3	1.25	7.30
2	0.797	5.53	253	302	5.56	2.197	12.532	2.11	3.45	140	55.33	180.08	25.56	10.10	47.00	4.48	1.77	7.96		19	7.51	12.09	3	1.19	8.49
3	0.798	4.89	291	258	5.53	2.188	14.720	1.82	3.71	95	37.59	217.67	29.55	11.69	58.69	4.74	1.88	9.84		17	6.73	18.82	1	0.40	8.89
4	0.868	4.77	283	235	5.40	2.324	17.044	2.11	3.29	110	47.35	265.02	24.53	10.56	69.25	3.18	1.37	11.21		21	9.04	27.86	1	0.43	9.32
5	0.832	4.43	419	260	8.00	3.301	20.345	2.31	5.69	86	35.48	300.50	20.37	8.40	77.65	2.30	0.95	12.16		35	14.44	42.30	0	0.00	9.32
6	0.885	4.28	397	256	10.18	4.468	24.813	2.48	7.70	120	52.66	353.16	14.28	6.27	83.92	1.36	0.60	12.76		45	19.75	62.05	0	0.00	9.32
7	0.880	4.06	298	270	14.72	6.423	31.236	3.11	11.61	96	41.89	395.05	13.07	5.70	89.62	1.01	0.44	13.20		52	22.69	84.74	0	0.00	9.32
8	0.805	3.97	467	253	17.89	7.141	38.377	4.11	13.78	120	47.90	442.95	10.27	4.10	93.72	0.78	0.31	13.51		59	23.55	108.29	0	0.00	9.32
9	0.800	4.08	308	256	15.45	6.129	44.506	14.43	1.02	93	36.89	479.84	5.72	2.27	95.99	0.52	0.21	13.72		62	24.60	132.89	0	0.00	9.32
10	0.826	4.11	301	262	20.32	8.323	52.829	15.21	5.11	81	33.18	513.02	6.82	2.79	98.78	0.63	0.26	13.98		71	29.08	161.97	0	0.00	9.32
11	0.826	4.07	476	236	19.13	7.836	60.665	10.34	8.79	74	30.31	543.33	5.94	2.43	101.21	0.49	0.20	14.18	*	57	23.35	185.32	0	0.00	9.32
12	0.818	4.01	397	292	21.11	8.563	69.228	15.21	5.90	97	39.35	582.68	5.17	2.10	103.31	0.49	0.20	14.38	*	69	27.99	213.30	0	0.00	9.32
13	0.842	3.78	352	281	23.32	9.737	78.965	13.65	9.67	88	36.74	619.42	5.02	2.10	105.41	0.49	0.20	14.58	*	83	34.66	247.96	0	0.00	9.32
14	0.886	3.64	384	315	25.39	11.155	90.120	16.06	9.33	100	43.94	663.36	5.14	2.26	107.67	0.49	0.22	14.80	*	95	41.74	289.70	0	0.00	9.32
15	0.811	3.36	431	281	24.50	9.853	99.973	15.73	8.77	81	32.58	695.94	3.84	1.54	109.21	0.49	0.20	15.00	*	86	34.59	324.28	0	0.00	9.32
16	0.818	3.57	391	281	21.76	8.827	108.800	12.87	8.89	76	30.83	726.77	3.29	1.33	110.54	0.49	0.20	15.20	*	85	34.48	358.76	0	0.00	9.32
17	0.768	3.65	349	298	24.27	9.243	118.043	14.95	9.32	86	32.75	759.52	3.05	1.16	111.70	0.49	0.19	15.39	*	88	33.51	392.28	0	0.00	9.32
18	0.785	3.62	370	268	23.32	9.078	127.121	14.36	8.96	81	31.53	791.05	2.47	0.96	112.66	0.49	0.19	15.58	*	80	31.14	423.42	0	0.00	9.32
19	0.859	3.55	377	312	26.10	11.118	138.239	16.12	9.98	96	40.89	831.94	3.23	1.38	114.04	0.49	0.21	15.79	*	90	38.34	461.76	0	0.00	9.32
20	0.809	3.49	384	282	18.93	7.594	145.833	13.72	5.21	70	28.08	860.02	2.08	0.83	114.87	0.49	0.20	15.99	*	71	28.48	490.24	0	0.00	9.32
21	0.822	3.41	410	309	19.94	8.128	153.961	12.48	7.46	88	35.87	895.89	2.47	1.01	115.88	0.49	0.20	16.19	*	88	35.87	526.11	0	0.00	9.32
22	0.949	3.32	387	379	23.50	11.059	165.020	10.85	12.65	110	51.77	947.66	3.17	1.49	117.37	0.49	0.23	16.42	*	104	48.94	575.05	0	0.00	9.32
23	0.958	3.24	443	401	23.27	11.055	176.075	11.83	11.44	110	52.26	999.92	2.67	1.27	118.64	0.49	0.23	16.65	*	103	48.93	623.98	0	0.00	9.32
24	0.802	3.25	416	350	20.72	8.240	184.315	10.66	10.06	98	38.97	1038.89	2.13	0.85	119.49	0.49	0.19	16.84	*	94	37.38	661.37	0	0.00	9.32
25	0.805	3.29	400	336	18.68	7.457	191.772	12.15	6.53	94	37.52	1076.41	1.39	0.55	120.04	0.49	0.20	17.04	*	88	35.13	696.49	0	0.00	9.32
26	0.814	3.29	401	296	20.80	8.396	200.168	11.05	9.75	86	34.71	1111.12	1.31	0.53	120.57	0.49	0.20	17.24	*	80	32.29	728.79	0	0.00	9.32
27	0.910	3.32	407	311	20.77	9.373	209.541	10.98	9.79	76	34.30	1145.42	1.44	0.65	121.22	0.49	0.22	17.46	*	91	41.06	769.85	0	0.00	9.32
28	0.871	3.25	410	310	16.88	7.291	216.832	10.53	6.35	86	37.14	1182.56	1.19	0.51	121.73	0.49	0.21	17.67	*	96	41.46	811.31	0	0.00	9.32
29	0.855	3.16	426	353	17.72	7.513	224.345	10.34	7.38	92	39.01	1221.57	1.36	0.58	122.31	0.49	0.21	17.88	*	116	49.18	860.50	0	0.00	9.32
30	0.816	3.19	419	340	20.54	8.311	232.656	10.20	10.34	91	36.82	1258.39	1.34	0.54	122.85	0.49	0.20	18.08	*	196	79.31	939.81	0	0.00	9.32
31	0.889	3.14	414	360	21.49	9.474	242.130	11.64	9.85	74	32.62	1291.01	1.17	0.52	123.37	0.49	0.22	18.30	*	115	50.70	990.50	0	0.00	9.32
32	0.818	3.17	412	307	19.39	7.865	249.995	10.73	8.66	77	31.23	1322.24	0.95	0.39	123.76	0.49	0.20	18.50	*	83	33.67	1024.17	0	0.00	9.32
33	0.824	3.16	379	283	17.34	7.085	257.080	9.36	7.98	75	30.65	1352.89	0.84	0.34	124.10	0.49	0.20	18.70	*	113	46.17	1070.34	0	0.00	9.32
34	0.979	3.34	397	342	17.09	8.297	265.377	13.65	3.44	67	32.53	1385.42	1.17	0.57	124.67	0.49	0.24	18.94	*	104	50.49	1120.83	0	0.00	9.32
35	0.809	3.34	416	297	15.20	6.098	271.475	9.43	5.77	56	22.47	1407.89	0.91	0.37	125.04	0.49	0.20	19.14	*	94	37.71	1158.54	0	0.00	9.32
36	0.765	3.33	408	326	18.68	7.086	278.561	12.81	5.87	67	25.42	1433.31	1.00	0.38	125.42	0.49	0.19	19.33	*	97	36.80	1195.34	0	0.00	9.32
37	0.835	3.36	404	310	21.40	8.861	287.422	13.78	7.62	89	36.85	1470.16	1.15	0.48	125.90	0.49	0.20	19.53	*	99	40.99	1236.33	0	0.00	9.32
38	0.909	3.23	432	363	19.64	8.853	296.275	13.39	6.25	90	40.57	1510.73	1.25	0.56	126.46	0.49	0.22	19.75	*	83	37.41	1273.75	0	0.00	9.32
39	0.813	3.13	435	353	15.77	6.358	302.633	9.94	5.83	76	30.64	1541.37	1.28	0.52	126.98	0.49	0.20	19.95	*	95	38.30	1312.05	0	0.00	9.32
40	0.860	3.13	468	429	17.46	7.446	310.079	11.38	6.08	80	34.12	1575.49	1.33	0.57	127.55	0.49	0.21	20.16	*	101	43.07	1355.12	0	0.00	9.32
41	0.823	3.17	459	394	17.57	7.171	317.250	11.24	6.33	73	29.79	1605.28	1.09	0.44	127.99	0.49	0.20	20.36	*	76	31.02	1386.13	0	0.00	9.32
42	0.830	2.86	497	494	20.13	8.285	325.535	8.06	12.07	93	38.11	1643.39	1.45	0.60	128.59	0.49	0.20	20.56	*	102	41.98	1428.12	0	0.00	9.32
43	0.820	2.91	491	497	20.61	8.381	333.916	8.52	12.09	86	34.97	1678.36	1.12	0.46	129.05	0.49	0.20	20.76	*	109	44.32	1472.44	0	0.00	9.32
44	0.811	3.06	491	487	21.96	8.831	342.747	8.52	13.44	84	33.78	1712.14	1.31	0.53	129.58	0.49	0.20	20.96	*	109	43.84	1516.27	0	0.00	9.32
45	0.875	3.00	506	569	24.96	10.830	353.577	7.34	17.62	121	52.50	1764.64	1.32	0.57	130.15	0.49	0.21	21.17	*	134	58.14	1574.42	0	0.00	9.32

Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 1 . - Humidity Cell Analytical Results, CAL-002 (86-95) **(2.0166 Kg)**

					Total Fe					SO_4=			Ca			Mg				Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg		mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.829	3.08	512	462	20.04	8.238	361.815	8.39	11.65	72	29.60	1794.24	0.94	0.39	130.54	0.49	0.20	21.37	*	109	44.81	1619.23	0	0.00	9.32
47	0.855	3.07	518	442	15.45	6.551	368.366	15.27	0.18	59	25.01	1819.25	0.93	0.39	130.93	0.49	0.21	21.58	*	98	41.55	1660.78	0	0.00	9.32
48	0.823	3.13	486	417	12.45	5.081	373.447	5.91	6.54	49	20.00	1839.25	0.83	0.34	131.27	0.49	0.20	21.78	*	80	32.65	1693.42	0	0.00	9.32
49	0.830	3.12	493	392	13.23	5.445	378.892	5.72	7.51	50	20.58	1859.83	0.68	0.28	131.55	0.49	0.20	21.98	*	96	39.51	1732.94	0	0.00	9.32
50	0.816	3.12	508	415	14.43	5.839	384.731	14.03	0.40	57	23.06	1882.89	0.63	0.25	131.80	0.49	0.20	22.18	*	99	40.06	1773.00	0	0.00	9.32
51	0.804	3.14	490	421	14.65	5.841	390.572	6.76	7.89	61	24.32	1907.21	0.61	0.24	132.04	0.49	0.20	22.38	*	83	33.09	1806.09	0	0.00	9.32
52	0.809	3.22	491	357	10.49	4.208	394.780	4.29	6.20	43	17.25	1924.46	0.51	0.20	132.24	0.49	0.20	22.58	*	68	27.28	1833.37	0	0.00	9.32
53	0.826	3.15	490	348	11.28	4.620	399.400	4.94	6.34	57	23.35	1947.81	0.74	0.30	132.54	0.49	0.20	22.78	*	69	28.26	1861.63	0	0.00	9.32
54	0.819	3.11	509	362	9.53	3.870	403.270	3.25	6.28	59	23.96	1971.77	0.64	0.26	132.80	0.49	0.20	22.98	*	94	38.18	1899.81	0	0.00	9.32
55	0.882	3.04	517	437	11.59	5.069	408.339	3.38	8.21	87	38.05	2009.82	0.88	0.38	133.18	0.49	0.21	23.19	*	84	36.74	1936.54	0	0.00	9.32
56	0.856	3.10	512	388	10.15	4.308	412.647	2.96	7.19	62	26.32	2036.14	1.36	0.58	133.76	0.49	0.21	23.40	*	73	30.99	1967.53	0	0.00	9.32
57	0.811	3.19	498	310	7.04	2.831	415.478	2.77	4.27	45	18.10	2054.24	0.52	0.21	133.97	0.49	0.20	23.60	*	91	36.60	2004.13	0	0.00	9.32
58	0.903	3.13	517	350	8.41	3.766	419.244	2.66	5.75	58	25.97	2080.21	0.55	0.25	134.22	0.49	0.22	23.82	*	70	31.35	2035.47	0	0.00	9.32
59	0.848	3.15	526	336	7.95	3.343	422.587	1.98	5.97	53	22.29	2102.50	0.77	0.32	134.54	0.49	0.21	24.03	*	62	26.07	2061.55	0	0.00	9.32
60	0.904	3.16	504	338	8.08	3.622	426.209	3.22	4.86	57	25.55	2128.05	0.65	0.29	134.83	0.49	0.22	24.25	*	65	29.14	2090.68	0	0.00	9.32
61	0.889	3.15	529	339	6.47	2.852	429.061	1.78	4.69	54	23.81	2151.86	0.49	0.22	135.05 *	0.49	0.22	24.47	*	86	37.91	2128.60	0	0.00	9.32
62	0.841	3.19	510	296	5.63	2.348	431.409	2.46	3.17	52	21.69	2173.55	0.49	0.20	135.25 *	0.49	0.20	24.67	*	93	38.79	2167.38	0	0.00	9.32
63	0.839	3.16	522	306	6.46	2.688	434.097	1.87	4.59	48	19.87	2193.42	0.52	0.22	135.47	0.49	0.20	24.87	*	94	39.11	2206.49	0	0.00	9.32
64	0.844	3.12	519	342	6.37	2.666	436.763	1.94	4.43	65	27.33	2220.75	0.94	0.39	135.86	0.49	0.21	25.08	*	92	38.50	2244.99	0	0.00	9.32
65	0.842	3.16	515	327	5.43	2.267	439.030	1.68	3.75	59	24.64	2245.39	0.49	0.20	136.06 *	0.49	0.20	25.28	*	57	23.80	2268.79	0	0.00	9.32
66	0.887	3.19	525	302	4.84	2.129	441.159	1.48	3.36	54	23.84	2269.23	0.51	0.22	136.28	0.49	0.22	25.50	*	52	22.99	2291.78	0	0.00	9.32
67	0.820	3.25	489	278	5.03	2.045	443.204	2.40	2.63	52	21.14	2290.37	0.49	0.20	136.48 *	0.49	0.20	25.70	*	94	38.22	2330.00	0	0.00	9.32
68	0.825	3.20	515	278	4.67	1.911	445.115	1.88	2.79	48	19.58	2309.95	0.49	0.20	136.68 *	0.49	0.20	25.90	*	89	36.41	2366.41	0	0.00	9.32
69	0.823	3.23	501	286	4.97	2.028	447.143	2.61	2.36	47	19.18	2329.13	0.60	0.24	136.92	0.49	0.20	26.10	*	82	33.47	2399.88	0	0.00	9.32
70	0.796	3.23	481	271	5.29	2.088	449.231	3.17	2.12	47	18.55	2347.68	0.55	0.22	137.14	0.49	0.19	26.29	*	88	34.74	2434.61	0	0.00	9.32
71	0.812	3.25	484	226	5.31	2.138	451.369	3.21	2.10	45	18.12	2365.80	0.65	0.26	137.40	0.49	0.20	26.49	*	51	20.54	2455.15	0	0.00	9.32
72	0.822	3.28	478	239	4.19	1.708	453.077	2.99	1.20	41	16.71	2382.51	0.49	0.20	137.60 *	0.49	0.20	26.69	*	48	19.57	2474.71	0	0.00	9.32
73	0.808	3.31	450	228	4.21	1.687	454.764	3.16	1.05	42	16.83	2399.34	0.64	0.26	137.86	0.49	0.20	26.89	*	44	17.63	2492.34	0	0.00	9.32
74	0.817	3.32	454	218	3.96	1.604	456.368	3.20	0.76	35	14.18	2413.52	0.54	0.22	138.08	0.49	0.20	27.09	*	42	17.02	2509.36	0	0.00	9.32
75	0.819	3.33	459	242	4.27	1.734	458.102	3.33	0.94	38	15.43	2428.95	0.76	0.31	138.39	0.49	0.20	27.29	*	44	17.87	2527.23	0	0.00	9.32
76	0.825	3.33	455	247	4.88	1.996	460.098	3.38	1.50	35	14.32	2443.27	0.82	0.34	138.73	0.49	0.20	27.49	*	44	18.00	2545.23	0	0.00	9.32
77	0.833	3.34	459	245	4.76	1.966	462.064	3.60	1.16	35	14.46	2457.73	0.49	0.20	138.93 *	0.49	0.20	27.69	*	43	17.76	2562.99	0	0.00	9.32
78	0.822	3.31	453	243	5.41	2.205	464.269	3.98	1.43	34	13.86	2471.59	0.65	0.26	139.19	0.49	0.20	27.89	*	44	17.94	2580.93	0	0.00	9.32
79	0.832	3.31	449	253	4.90	2.022	466.291	3.47	1.43	38	15.68	2487.27	0.57	0.24	139.43	0.49	0.20	28.09	*	43	17.74	2598.67	0	0.00	9.32
80	0.846	3.33	441	238	4.97	2.085	468.376	2.73	2.24	40	16.78	2504.05	0.67	0.28	139.71	0.49	0.21	28.30	*	45	18.88	2617.55	0	0.00	9.32
81	0.833	3.32	438	260	4.66	1.925	470.301	3.29	1.37	37	15.28	2519.33	0.72	0.30	140.01	0.49	0.20	28.50	*	42	17.35	2634.90	0	0.00	9.32
82	0.847	3.28	433	234	4.62	1.940	472.241	2.51	2.11	43	18.06	2537.39	0.68	0.29	140.30	0.49	0.21	28.71	*	45	18.90	2653.80	0	0.00	9.32
83	0.847	3.31	440	238	3.98	1.672	473.913	2.35	1.63	42	17.64	2555.03	0.81	0.34	140.64	0.49	0.21	28.92	*	43	18.06	2671.86	0	0.00	9.32
84	0.809	3.27	427	248	4.18	1.677	475.590	2.87	1.31	42	16.97	2572.00	0.77	0.31	140.95	0.49	0.20	29.12	*	43	17.25	2689.11	0	0.00	9.32
85	0.821	3.31	416	241	4.52	1.840	477.430	2.77	1.75	44	17.91	2589.91	1.10	0.45	141.40	0.49	0.20	29.32	*	38	15.47	2704.58	0	0.00	9.32
86	0.819	3.24	431	253	5.29	2.148	479.578	2.98	2.31	43	17.63	2607.54	1.10	0.45	141.85	0.49	0.20	29.52	*	46	18.68	2723.26	0	0.00	9.32
87	0.818	3.37	417	207	6.14	2.491	482.069	3.16	2.98	41	16.70	2624.24	1.00	0.41	142.26	0.49	0.20	29.72	*	42	17.04	2740.30	0	0.00	9.32

Testing terminated

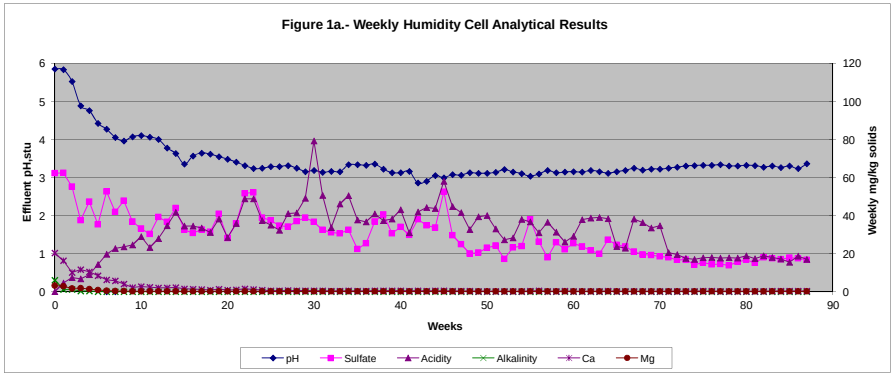
*Reported as <0.50

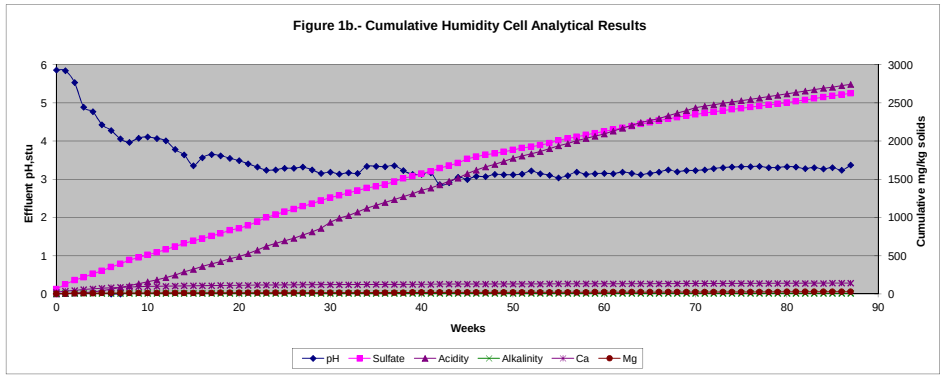
Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 1 . - Humidity Cell Analytical Results, CAL-002 (86-95) **(2.0166 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg





Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 2 . - Humidity Cell Analytical Results, CAL-004 (860-875) **(1.9868 Kg)**

					Total Fe					SO_4=			Ca			Mg				Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg		mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.630	7.38	361	384	2.48	2.035	2.035	0.20	2.28	64	52.51	52.51	15.48	12.70	12.70	1.64	1.35	1.35		0	0.00	0.00	96	78.76	78.76
1	0.970	7.39	268	203	3.97	1.938	3.973	0.29	3.68	43	20.99	73.50	6.14	3.00	15.70	0.81	0.40	1.75		0	0.00	0.00	54	26.36	105.12
2	0.966	7.28	310	133	2.32	1.128	5.101	0.18	2.14	26	12.64	86.14	2.66	1.29	16.99	0.49	0.24	1.99	*	0	0.00	0.00	36	17.50	122.62
3	0.982	7.17	323	113	2.06	1.018	6.119	0.22	1.84	33	16.31	102.45	3.16	1.56	18.55	0.49	0.24	2.23	*	0	0.00	0.00	25	12.36	134.98
4	0.943	7.21	310	95.6	2.02	0.959	7.078	0.10	1.92	23	10.92	113.37	2.55	1.21	19.76	0.49	0.23	2.46	*	0	0.00	0.00	25	11.87	146.85
5	0.892	7.08	335	75.1	1.27	0.570	7.648	0.16	1.11	19	8.53	121.90	1.60	0.72	20.48	0.49	0.22	2.68	*	0	0.00	0.00	17	7.63	154.48
6	0.965	7.05	329	75.5	1.41	0.685	8.333	0.16	1.25	18	8.74	130.64	0.76	0.37	20.85	0.49	0.24	2.92	*	0	0.00	0.00	17	8.26	162.74
7	0.900	7.08	374	70.3	1.12	0.507	8.840	<0.10	<1.12	21	9.51	140.15	1.24	0.56	21.41	0.49	0.22	3.14	*	0	0.00	0.00	17	7.70	170.44
8	0.913	7.04	395	131	1.58	0.726	9.566	<0.10	<1.58	37	17.00	157.15	1.35	0.62	22.03	0.49	0.23	3.37	*	0	0.00	0.00	22	10.11	180.55
9	0.861	8.94	216	59.7	0.43	0.186	9.752	<0.10	<0.43	27	11.70	168.85	0.49	0.21	22.24	* 0.49	0.21	3.58	*	0	0.00	0.00	45	19.50	200.05
10	0.978	7.69	244	360	1.29	0.635	10.387	<0.10	<1.29	95	46.76	215.61	0.78	0.38	22.62	0.49	0.24	3.82	*	0	0.00	0.00	58	28.55	228.60
11	0.850	7.11	363	142	0.23	0.098	10.485	<0.10	<0.23	42	17.97	233.58	0.70	0.30	22.92	0.49	0.21	4.03	*	3	1.28	1.28	23	9.84	238.44
12	0.910	7.35	292	165	0.14	0.064	10.549	<0.10	<0.14	56	25.65	259.23	0.67	0.31	23.23	0.49	0.22	4.25	*	0	0.00	1.28	15	6.87	245.31
13	0.874	6.59	378	175	<0.10	0.000	10.549	<0.10	<0.10	65	28.59	287.82	2.64	1.16	24.39	0.49	0.22	4.47	*	3	1.32	2.60	6	2.64	247.95
14	0.898	6.48	410	190	<0.10	0.000	10.549	<0.10	<0.10	73	32.99	320.81	4.65	2.10	26.49	0.70	0.32	4.79		4	1.81	4.41	4	1.81	249.76
15	0.780	6.61	330	193	0.13	0.051	10.600	<0.10	<0.13	77	30.23	351.04	7.97	3.13	29.62	1.24	0.49	5.28		5	1.96	6.37	3	1.18	250.94
16	0.878	6.72	271	170	0.12	0.053	10.653	<0.10	<0.12	63	27.84	378.88	8.72	3.85	33.47	1.62	0.72	6.00		13	5.75	12.12	4	1.77	252.71
17	0.879	6.64	253	172	0.20	0.088	10.741	0.14	0.06	63	27.87	406.75	11.65	5.15	38.62	2.05	0.91	6.91		6	2.66	14.77	4	1.77	254.48
18	0.815	6.15	215	193	0.37	0.152	10.893	0.19	0.18	67	27.48	434.23	13.01	5.34	43.96	2.29	0.94	7.85		15	6.15	20.93	3	1.23	255.71
19	0.876	5.38	318	260	0.94	0.414	11.307	0.48	0.46	110	48.50	482.73	21.79	9.61	53.57	3.63	1.60	9.45		13	5.73	26.66	2	0.88	256.59
20	0.805	5.15	303	181	0.84	0.340	11.647	0.48	0.36	65	26.34	509.07	13.16	5.33	58.90	2.38	0.96	10.41		17	6.89	33.55	2	0.81	257.40
21	0.835	4.83	379	206	1.44	0.605	12.252	0.47	0.97	82	34.46	543.53	17.23	7.24	66.14	2.92	1.23	11.64		13	5.46	39.01	1	0.42	257.82
22	0.972	4.95	327	169	1.49	0.729	12.981	0.73	0.76	64	31.31	574.84	13.23	6.47	72.61	2.08	1.02	12.66		11	5.38	44.39	2	0.98	258.80
23	0.926	4.32	420	183	1.79	0.834	13.815	0.62	1.17	66	30.76	605.60	12.70	5.92	78.53	1.95	0.91	13.57		13	6.06	50.45	0	0.00	258.80
24	0.813	3.72	483	249	0.53	0.217	14.032	0.10	0.43	86	35.19	640.79	17.11	7.00	85.53	2.43	0.99	14.56		20	8.18	58.64	0	0.00	258.80
25	0.743	3.46	451	369	3.92	1.466	15.498	1.31	2.61	140	52.36	693.15	22.62	8.46	93.99	3.28	1.23	15.79		43	16.08	74.72	0	0.00	258.80
26	0.840	3.28	475	389	5.46	2.308	17.806	0.99	4.47	140	59.19	752.34	20.41	8.63	102.62	3.18	1.34	17.13		56	23.68	98.39	0	0.00	258.80
27	0.951	3.29	468	364	5.53	2.647	20.453	1.20	4.33	99	47.39	799.73	15.52	7.43	110.05	2.38	1.14	18.27		52	24.89	123.28	0	0.00	258.80
28	0.908	3.20	482	436	8.15	3.725	24.178	1.50	6.65	140	63.98	863.71	16.06	7.34	117.39	2.37	1.08	19.35		111	50.73	174.01	0	0.00	258.80
29	0.894	3.03	510	580	11.04	4.968	29.146	1.56	9.48	190	85.49	949.20	20.70	9.31	126.70	2.80	1.26	20.61		118	53.10	227.11	0	0.00	258.80
30	0.764	2.77	500	926	26.63	10.240	39.386	1.74	24.89	370	142.28	1091.48	33.23	12.78	139.48	3.99	1.53	22.14		381	146.51	373.62	0	0.00	258.80
31	0.856	2.64	491	1146	39.42	16.984	56.370	2.70	36.72	320	137.87	1229.35	24.87	10.72	150.20	3.17	1.37	23.51		307	132.27	505.89	0	0.00	258.80
32	0.810	2.56	495	1188	52.76	21.510	77.880	2.92	49.84	450	183.46	1412.81	21.06	8.59	158.79	2.54	1.04	24.55		328	133.72	639.61	0	0.00	258.80
33	0.817	2.42	496	1182	46.32	19.047	96.927	2.81	43.51	440	180.93	1593.74	12.60	5.18	163.97	1.48	0.61	25.16		351	144.34	783.95	0	0.00	258.80
34	0.920	2.74	498	1050	28.46	13.179	110.106	4.42	24.04	220	101.87	1695.61	5.95	2.76	166.73	0.67	0.31	25.47		277	128.27	912.21	0	0.00	258.80
35	0.747	2.61	508	1305	41.88	15.746	125.852	13.45	28.43	300	112.79	1808.40	8.32	3.13	169.86	0.85	0.32	25.79		315	118.43	1030.65	0	0.00	258.80
36	0.721	2.67	508	1125	30.54	11.083	136.935	11.83	18.71	230	83.47	1891.87	4.94	1.79	171.65	0.51	0.19	25.98		262	95.08	1125.73	0	0.00	258.80
37	0.910	2.86	513	729	24.11	11.043	147.978	7.93	16.18	200	91.60	1983.47	3.28	1.50	173.15	0.49	0.22	26.20	*	179	81.99	1207.71	0	0.00	258.80
38	0.892	2.71	517	982	26.90	12.077	160.055	9.36	17.54	230	103.26	2086.73	2.89	1.30	174.45	0.49	0.22	26.42	*	211	94.73	1302.44	0	0.00	258.80
39	0.797	2.69	523	790	17.94	7.197	167.252	5.01	12.93	130	52.15	2138.88	2.31	0.93	175.38	0.49	0.20	26.62	*	157	62.98	1365.42	0	0.00	258.80
40	0.879	2.76	524	831	17.27	7.641	174.893	5.01	12.26	151	66.81	2205.69	2.55	1.13	176.51	0.49	0.22	26.84	*	163	72.11	1437.54	0	0.00	258.80
41	0.899	2.95	524	546	7.76	3.511	178.404	2.02	5.74	63	28.51	2234.20	1.49	0.67	177.18	0.49	0.22	27.06	*	92	41.63	1479.17	0	0.00	258.80
42	0.876	2.66	533	692	9.25	4.078	182.482	2.21	7.04	84	37.04	2271.24	1.57	0.69	177.87	0.49	0.22	27.28	*	127	56.00	1535.16	0	0.00	258.80
43	0.816	2.93	523	548	5.68	2.333	184.815	1.30	4.38	72	29.57	2300.81	1.35	0.55	178.42	0.49	0.20	27.48	*	91	37.38	1572.54	0	0.00	258.80
44	0.788	2.98	524	499	3.96	1.571	186.386	1.04	2.92	52	20.62	2321.43	1.33	0.53	178.95	0.49	0.19	27.67	*	81	32.13	1604.66	0	0.00	258.80
45	0.889	3.03	528	444	3.51	1.571	187.957	0.71	2.80	77	34.45	2355.88	0.73	0.33	179.28	0.49	0.22	27.89	*	78	34.90	1639.56	0	0.00	258.80

Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 2 . - Humidity Cell Analytical Results, CAL-004 (860-875) **(1.9868 Kg)**

					Total Fe					SO_4=			Ca				Mg				Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg		mg/l	mg/kg	Cum. mg/kg		mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.813	3.34	535	219	1.32	0.540	188.497	0.46	0.86	21	8.59	2364.47	0.49	0.20	179.48	*	0.49	0.20	28.09	*	89	36.42	1675.98	0	0.00	258.80
47	0.840	3.18	545	321	2.17	0.917	189.414	0.58	1.59	41	17.33	2381.80	0.67	0.28	179.76		0.49	0.21	28.30	*	79	33.40	1709.38	0	0.00	258.80
48	0.771	3.26	516	268	1.46	0.567	189.981	0.40	1.06	35	13.58	2395.38	0.90	0.35	180.11		0.49	0.19	28.49	*	44	17.08	1726.46	0	0.00	258.80
49	0.788	3.28	520	255	1.17	0.464	190.445	0.30	0.87	27	10.71	2406.09	0.49	0.19	180.30	*	0.49	0.19	28.68	*	55	21.81	1748.27	0	0.00	258.80
50	0.713	3.40	523	256	1.00	0.359	190.804	0.34	0.66	28	10.05	2416.14	0.49	0.18	180.48	*	0.49	0.18	28.86	*	49	17.59	1765.86	0	0.00	258.80
51	0.923	3.64	521	126	0.47	0.218	191.022	0.13	0.34	9.0	4.18	2420.32	0.49	0.23	180.71	*	0.49	0.23	29.09	*	17	7.90	1773.75	0	0.00	258.80
52	0.820	3.60	500	133	0.41	0.169	191.191	0.13	0.28	14	5.78	2426.10	0.49	0.20	180.91	*	0.49	0.20	29.29	*	19	7.84	1781.60	0	0.00	258.80
53	0.762	3.47	493	176	1.12	0.430	191.621	0.30	0.82	26	9.97	2436.07	0.57	0.22	181.13		0.49	0.19	29.48	*	27	10.36	1791.95	0	0.00	258.80
54	0.804	3.51	490	151	0.43	0.174	191.795	0.19	0.24	22	8.90	2444.97	0.49	0.20	181.33	*	0.49	0.20	29.68	*	75	30.35	1822.30	0	0.00	258.80
55	0.852	3.52	489	155	0.33	0.142	191.937	0.18	0.15	22	9.43	2454.40	0.55	0.24	181.57		0.49	0.21	29.89	*	22	9.43	1831.74	0	0.00	258.80
56	0.793	3.58	495	144	0.30	0.120	192.057	0.16	0.14	23	9.18	2463.58	0.68	0.27	181.84		0.49	0.20	30.09	*	21	8.38	1840.12	0	0.00	258.80
57	0.749	3.68	480	112	0.24	0.090	192.147	<0.10	<0.24	15	5.65	2469.23	0.49	0.18	182.02	*	0.49	0.18	30.27	*	83	31.29	1871.41	0	0.00	258.80
58	0.952	3.73	479	101	0.32	0.153	192.300	0.19	0.13	12	5.75	2474.98	0.49	0.23	182.25	*	0.49	0.23	30.50	*	17	8.15	1879.55	0	0.00	258.80
59	0.874	3.71	494	105	0.32	0.141	192.441	0.10	0.22	14	6.16	2481.14	0.62	0.27	182.52		0.49	0.22	30.72	*	17	7.48	1887.03	0	0.00	258.80
60	0.881	3.72	483	99	0.26	0.115	192.556	0.13	0.13	13	5.76	2486.90	0.49	0.22	182.74	*	0.49	0.22	30.94	*	17	7.54	1894.57	0	0.00	258.80
61	0.831	3.56	503	139	0.25	0.105	192.661	0.13	0.12	21	8.78	2495.68	0.55	0.23	182.97		0.49	0.20	31.14	*	82	34.30	1928.87	0	0.00	258.80
62	0.824	3.53	489	147	0.25	0.104	192.765	0.14	0.11	22	9.12	2504.80	0.49	0.20	183.17	*	0.49	0.20	31.34	*	88	36.50	1965.36	0	0.00	258.80
63	0.778	3.38	502	200	0.30	0.117	192.882	0.16	0.14	32	12.53	2517.33	0.49	0.19	183.36	*	0.49	0.19	31.53	*	59	23.10	1988.47	0	0.00	258.80
64	0.826	3.47	495	169	0.25	0.104	192.986	0.13	0.12	28	11.47	2528.80	0.86	0.36	183.72		0.49	0.20	31.73	*	90	37.42	2025.88	0	0.00	258.80
65	0.880	3.53	489	150	0.14	0.062	193.048	0.10	0.04	26	11.54	2540.34	0.86	0.38	184.10		0.49	0.22	31.95	*	20	8.86	2034.74	0	0.00	258.80
66	0.854	3.59	505	137	0.15	0.064	193.112	0.12	0.03	20	8.50	2548.84	0.49	0.21	184.31	*	0.49	0.21	32.16	*	20	8.60	2043.34	0	0.00	258.80
67	0.852	3.67	477	118	0.52	0.223	193.335	<0.10	<0.52	18	7.72	2556.56	0.49	0.21	184.52	*	0.49	0.21	32.37	*	87	37.31	2080.65	0	0.00	258.80
68	0.818	3.61	487	123	<0.10	0.000	193.335	<0.10	<0.10	19	7.82	2564.38	0.65	0.27	184.79		0.49	0.20	32.57	*	90	37.06	2117.70	0	0.00	258.80
69	0.789	3.60	493	123	0.12	0.048	193.383	<0.10	<0.12	17	6.75	2571.13	0.49	0.19	184.98	*	0.49	0.19	32.76	*	79	31.37	2149.07	0	0.00	258.80
70	0.805	3.62	466	123	0.13	0.053	193.436	<0.10	<0.13	16	6.48	2577.61	0.49	0.20	185.18	*	0.49	0.20	32.96	*	62	25.12	2174.20	0	0.00	258.80
71	0.781	3.66	480	98	0.13	0.051	193.487	0.12	0.01	14	5.50	2583.11	0.53	0.21	185.39		0.49	0.19	33.15	*	18	7.08	2181.27	0	0.00	258.80
72	0.753	3.64	469	116	0.11	0.042	193.529	0.10	0.01	18	6.90	2590.01	0.79	0.30	185.69		0.49	0.19	33.34	*	19	7.20	2188.47	0	0.00	258.80
73	0.713	3.72	459	110	0.18	0.065	193.594	0.16	0.02	19	6.82	2596.83	0.68	0.24	185.93		0.49	0.18	33.52	*	18	6.46	2194.93	0	0.00	258.80
74	0.727	3.76	456	100	0.11	0.040	193.634	0.12	-0.01	16	5.85	2602.68	0.58	0.21	186.14		0.49	0.18	33.70	*	17	6.22	2201.15	0	0.00	258.80
75	0.748	3.83	456	96	<0.10	0.000	193.634	<0.10	<0.10	19	7.15	2609.83	1.38	0.52	186.66		0.49	0.18	33.88	*	15	5.65	2206.80	0	0.00	258.80
76	0.710	3.80	460	97	<0.10	0.000	193.634	<0.10	<0.10	15	5.36	2615.19	0.92	0.33	186.99		0.49	0.18	34.06	*	15	5.36	2212.16	0	0.00	258.80
77	0.827	3.79	479	95	0.18	0.075	193.709	0.10	0.08	12	4.99	2620.18	0.54	0.22	187.21		0.49	0.20	34.26	*	15	6.24	2218.40	0	0.00	258.80
78	0.805	3.77	467	95	0.13	0.053	193.762	<0.10	<0.13	11	4.46	2624.64	0.58	0.24	187.45		0.49	0.20	34.46	*	15	6.08	2224.48	0	0.00	258.80
79	0.749	3.75	484	97	<0.10	0.000	193.762	<0.10	<0.10	13	4.90	2629.54	0.81	0.31	187.76		0.49	0.18	34.64	*	15	5.66	2230.14	0	0.00	258.80
80	0.781	3.84	478	85	<0.10	0.000	193.762	<0.10	<0.10	12	4.72	2634.26	0.49	0.19	187.95	*	0.49	0.19	34.83	*	15	5.90	2236.03	0	0.00	258.80
81	0.857	3.85	465	83	<0.10	0.000	193.762	<0.10	<0.10	11	4.74	2639.00	0.58	0.25	188.20		0.49	0.21	35.04	*	12	5.18	2241.21	0	0.00	258.80
82	0.760	3.84	462	75	<0.10	0.000	193.762	<0.10	<0.10	11	4.21	2643.21	0.53	0.20	188.40		0.49	0.19	35.23	*	14	5.36	2246.56	0	0.00	258.80
83	0.744	3.81	437	92	0.12	0.045	193.807	<0.10	<0.12	15	5.62	2648.83	0.56	0.21	188.61		0.49	0.18	35.41	*	15	5.62	2252.18	0	0.00	258.80
84	0.734	3.74	435	93	0.10	0.037	193.844	<0.10	<0.1	15	5.69	2654.52	0.55	0.20	188.81		0.49	0.18	35.59	*	15	5.52	2257.70	0	0.00	258.80
85	0.770	3.80	417	94	0.11	0.043	193.887	<0.10	<0.11	16	6.20	2660.72	0.92	0.36	189.17		0.49	0.19	35.78	*	18	6.98	2264.68	0	0.00	258.80
86	0.774	3.68	429	89	0.10	0.039	193.926	<0.10	<0.1	16	6.26	2666.98	0.54	0.21	189.38		0.49	0.19	35.97	*	17	6.68	2271.36	0	0.00	258.80
87	0.753	3.82	459	83	0.11	0.042	193.968	<0.10	<0.11	17	6.34	2673.32	0.49	0.19	189.57	*	0.49	0.19	36.16	*	15	5.69	2277.04	0	0.00	258.80

Testing terminated

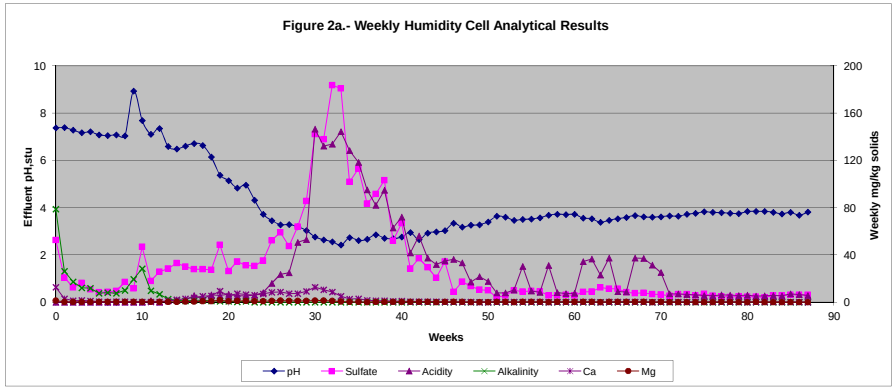
*Reported as <0.50

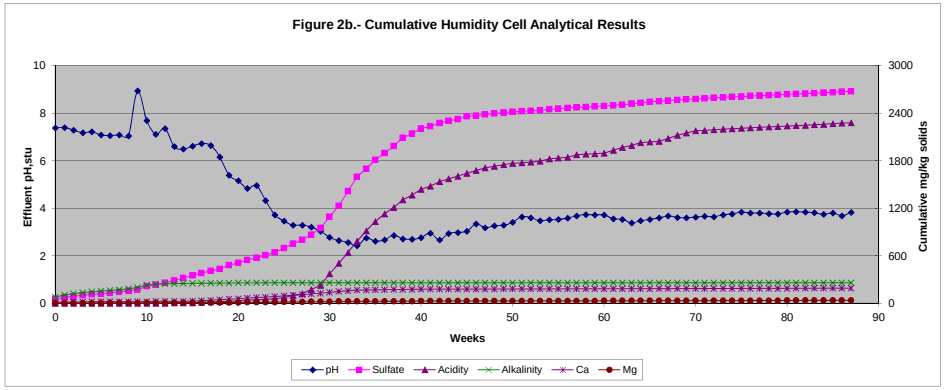
Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 2 . - Humidity Cell Analytical Results, CAL-004 (860-875) **(1.9868 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg





Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 3 . - Humidity Cell Analytical Results, CAL-003 (675-685) **(1.9724 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.010	2.17	440	9220	1292.50	661.846	661.846	167.00	1125.50	7870	4029.96	4029.96	495.44	253.70	253.70	249.15	127.58	127.58	4383	2244.39	2244.39	0	0.00	0.00
1	0.932	2.41	392	7880	1409.00	665.782	1327.628	315.00	1094.00	7800	3685.66	7715.62	534.92	252.76	506.46	258.44	122.12	249.70	3645	1722.34	3966.73	0	0.00	0.00
2	0.560	2.62	464	6300	932.00	264.612	1592.240	322.00	610.00	4600	1306.02	9021.64	464.37	131.84	638.30	158.65	45.04	294.74	2270	644.49	4611.22	0	0.00	0.00
3	0.847	3.60	466	686	54.92	23.584	1615.824	28.60	26.32	250	107.36	9129.00	75.53	32.43	670.73	8.43	3.62	298.36	105	45.09	4656.31	0	0.00	0.00
4	0.884	3.43	442	786	56.04	25.116	1640.940	31.20	24.84	370	165.83	9294.83	65.95	29.56	700.29	8.72	3.91	302.27	127	56.92	4713.23	0	0.00	0.00
5	0.857	3.42	507	749	42.78	18.588	1659.528	27.30	15.48	250	108.62	9403.45	52.93	23.00	723.29	6.84	2.97	305.24	117	50.84	4764.07	0	0.00	0.00
6	0.855	3.32	505	818	46.51	20.161	1679.689	29.90	16.61	400	173.39	9576.84	47.68	20.67	743.96	6.09	2.64	307.88	128	55.49	4819.55	0	0.00	0.00
7	0.866	3.21	376	905	45.28	19.881	1699.570	36.40	8.88	320	140.50	9717.34	44.73	19.64	763.60	6.13	2.69	310.57	161	70.69	4890.24	0	0.00	0.00
8	0.829	3.14	527	848	48.01	20.179	1719.749	28.60	19.41	300	126.09	9843.43	48.54	20.40	784.00	6.35	2.67	313.24	158	66.41	4956.65	0	0.00	0.00
9	0.797	3.19	405	949	49.66	20.066	1739.815	33.80	15.86	390	157.59	10001.02	42.43	17.14	801.14	6.12	2.47	315.71	185	74.75	5031.40	0	0.00	0.00
10	0.828	2.99	439	1093	64.01	26.871	1766.686	48.75	15.26	380	159.52	10160.54	47.47	19.93	821.07	8.03	3.37	319.08	234	98.23	5129.63	0	0.00	0.00
11	0.821	2.80	521	1126	67.17	27.959	1794.645	42.25	24.92	400	166.50	10327.04	48.83	20.33	841.40	7.99	3.33	322.41	240	99.90	5229.53	0	0.00	0.00
12	0.828	2.74	527	1319	74.07	31.094	1825.739	29.25	44.82	620	260.27	10587.31	43.18	18.13	859.53	8.11	3.40	325.81	293	123.00	5352.53	0	0.00	0.00
13	0.824	2.48	521	2220	148.41	62.001	1887.740	35.10	113.31	1000	417.77	11005.08	58.55	24.46	883.99	11.51	4.81	330.62	644	269.04	5621.57	0	0.00	0.00
14	0.838	2.44	517	2840	193.00	81.999	1969.739	45.50	147.50	1200	509.84	11514.92	50.57	21.49	905.48	12.10	5.14	335.76	1021	433.79	6055.36	0	0.00	0.00
15	0.797	2.10	512	2780	232.00	93.746	2063.485	50.70	181.30	1100	444.48	11959.40	54.04	21.84	927.32	11.02	4.45	340.21	1072	433.17	6488.53	0	0.00	0.00
16	0.800	2.20	512	3240	274.84	111.474	2174.959	62.40	212.44	1400	567.84	12527.24	45.38	18.41	945.73	12.06	4.89	345.10	1350	547.56	7036.08	0	0.00	0.00
17	0.797	2.26	504	3390	584.41	236.146	2411.105	72.80	511.61	1500	606.11	13133.35	202.84	81.96	1027.69	7.76	3.14	348.24	1422	574.60	7610.68	0	0.00	0.00
18	0.760	2.24	510	3730	472.00	181.870	2592.975	77.35	394.65	1900	732.10	13865.45	45.46	17.52	1045.21	13.43	5.17	353.41	1634	629.61	8240.29	0	0.00	0.00
19	0.807	2.06	510	4590	495.00	202.527	2795.502	95.55	399.45	2100	859.21	14724.66	45.79	18.73	1063.94	12.33	5.04	358.45	2170	887.85	9128.14	0	0.00	0.00
20	0.852	2.31	512	2111	192.93	83.338	2878.840	37.70	155.23	740	319.65	15044.31	14.21	6.14	1070.08	4.55	1.97	360.42	726	313.60	9441.74	0	0.00	0.00
21	0.784	1.97	503	6590	826.05	328.343	3207.183	137.80	688.25	3400	1351.45	16395.76	66.05	26.25	1096.33	17.23	6.85	367.27	3357	1334.36	10776.10	0	0.00	0.00
22	0.870	1.85	511	6710	986.63	435.190	3642.373	126.10	860.53	3900	1720.24	18116.00	64.67	28.53	1124.86	20.22	8.92	376.19	3966	1749.35	12525.45	0	0.00	0.00
23	0.884	1.89	515	6990	1099.65	492.847	4135.220	133.25	966.40	4300	1927.20	20043.20	68.49	30.70	1155.56	18.92	8.48	384.67	4152	1860.86	14386.31	0	0.00	0.00
24	0.788	1.95	504	5530	636.88	254.442	4389.662	126.10	510.78	3500	1398.30	21441.50	51.04	20.39	1175.95	10.51	4.20	388.87	3055	1220.51	15606.83	0	0.00	0.00
25	0.790	1.93	500	5730	657.43	263.319	4652.981	135.20	522.23	3600	1441.90	22883.40	44.17	17.69	1193.64	10.22	4.09	392.96	3174	1271.27	16878.10	0	0.00	0.00
26	0.787	2.01	498	5060	700.36	279.448	4932.429	134.55	565.81	3200	1276.82	24160.22	43.86	17.50	1211.14	11.59	4.62	397.58	2774	1106.84	17984.94	0	0.00	0.00
27	0.845	1.97	506	6070	655.20	280.696	5213.125	124.80	530.40	3100	1328.08	25488.30	35.66	15.28	1226.42	10.42	4.46	402.04	3389	1451.89	19436.83	0	0.00	0.00
28	0.885	1.89	509	7210	1000.00	448.692	5661.817	165.10	834.90	5100	2288.33	27776.63	52.24	23.44	1249.86	14.49	6.50	408.54	4595	2061.74	21498.57	0	0.00	0.00
29	0.949	1.95	508	6040	1010.00	485.951	6147.768	148.85	861.15	4200	2020.79	29797.42	60.29	29.01	1278.87	13.49	6.49	415.03	3634	1748.46	23247.03	0	0.00	0.00
30	0.825	1.97	508	5520	636.83	266.368	6414.136	108.55	528.28	3500	1463.95	31261.37	41.09	17.19	1296.06	8.02	3.35	418.38	3413	1427.56	24674.60	0	0.00	0.00
31	0.844	1.87	508	6590	1049.52	449.095	6863.231	150.15	899.37	3500	1497.67	32759.04	59.75	25.57	1321.63	13.83	5.92	424.30	4147	1774.52	26449.12	0	0.00	0.00
32	0.783	1.76	509	6890	1330.16	528.045	7391.276	166.40	1163.76	4300	1707.01	34466.05	80.82	32.08	1353.71	16.58	6.58	430.88	4568	1813.40	28262.52	0	0.00	0.00
33	0.797	1.67	509	6530	1225.37	495.143	7886.419	183.95	1041.42	4300	1737.53	36203.58	82.94	33.51	1387.22	16.17	6.53	437.41	4088	1651.86	29914.38	0	0.00	0.00
34	0.910	1.96	517	7370	1232.21	568.501	8454.920	226.20	1006.01	4800	2214.56	38418.14	84.85	39.15	1426.37	17.57	8.11	445.52	5414	2497.84	32412.22	0	0.00	0.00
35	0.796	2.16	521	4080	669.00	269.988	8724.908	78.00	591.00	2000	807.14	39225.28	56.47	22.79	1449.16	7.67	3.10	448.62	2101	847.90	33260.12	0	0.00	0.00
36	0.753	2.07	520	5040	475.00	181.340	8906.248	101.40	373.60	2600	992.60	40217.88	44.16	16.86	1466.02	7.41	2.83	451.45	2516	960.53	34220.65	0	0.00	0.00
37	0.803	2.14	525	4250	632.59	257.539	9163.787	76.70	555.89	2600	1058.51	41276.39	45.57	18.55	1484.57	7.09	2.89	454.34	2086	849.25	35069.90	0	0.00	0.00
38	0.811	1.93	525	6730	1390.69	571.816	9735.603	188.50	1202.19	2840	1167.73	42444.12	87.72	36.07	1520.64	15.61	6.42	460.76	4303	1769.28	36839.18	0	0.00	0.00
39	0.769	1.87	530	5910	861.76	335.983	10071.586	143.00	718.76	3210	1251.52	43695.64	55.32	21.57	1542.21	8.76	3.42	464.18	3380	1317.80	38156.98	0	0.00	0.00
40	0.771	2.06	534	4940	848.82	331.799	10403.385	100.10	748.72	2560	1000.69	44696.33	59.06	23.09	1565.30	9.09	3.55	467.73	2711	1059.72	39216.69	0	0.00	0.00
41	0.728	2.05	527	4900	844.00	311.515	10714.900	94.90	749.10	1970	727.11	45423.44	68.48	25.28	1590.58	9.35	3.45	471.18	2567	947.46	40164.15	0	0.00	0.00
42	0.745	1.77	528	5760	895.63	338.291	11053.191	120.90	774.73	3450	1303.11	46726.55	62.23	23.51	1614.09	9.89	3.74	474.92	3492	1318.97	41483.13	0	0.00	0.00
43	0.746	1.79	526	5640	1203.41	455.153	11508.344	118.30	1085.11	2920	1104.40	47830.95	75.85	28.69	1642.78	11.67	4.41	479.33	3497	1322.63	42805.76	0	0.00	0.00
44	0.700	2.06	528	5000	954.62	338.792	11847.136	97.50	857.12	2330	826.91	48657.86	62.75	22.27	1665.05	9.54	3.39	482.72	2967	1052.98	43858.74	0	0.00	0.00
45	0.769	2.27	533	5150	1047.00	408.205	12255.341	87.10	959.90	2914	1136.11	49793.97	68.61	26.75	1691.80	10.02	3.91	486.63	3167	1234.75	45093.49	0	0.00	0.00

Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 3 . - Humidity Cell Analytical Results, CAL-003 (675-685) **(1.9724 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.761	2.05	541	5030	1026.00	395.856	12651.197	75.40	950.60	3029	1168.66	50962.63	63.14	24.36	1716.16	8.71	3.36	489.99	3218	1241.58	46335.07	0	0.00	0.00
47	0.796	2.05	552	5270	1259.00	508.094	13159.291	70.20	1188.80	3897	1572.71	52535.34	83.80	33.82	1749.98	11.00	4.44	494.43	3387	1366.89	47701.96	0	0.00	0.00
48	0.761	2.14	534	4300	693.00	267.376	13426.667	53.00	640.00	2325	897.04	53432.38	61.16	23.60	1773.58	5.95	2.30	496.73	2413	930.99	48632.96	0	0.00	0.00
49	0.761	2.09	537	4860	854.15	329.552	13756.219	55.90	798.25	3541	1366.20	54798.58	62.73	24.20	1797.78	6.94	2.68	499.41	2808	1083.40	49716.35	0	0.00	0.00
50	0.765	2.37	552	4550	679.16	263.414	14019.633	54.60	624.56	2808	1089.09	55887.67	52.55	20.38	1818.16	5.73	2.22	501.63	2584	1002.21	50718.56	0	0.00	0.00
51	0.756	2.11	543	4870	893.98	342.653	14362.286	53.30	840.68	2665	1021.47	56909.14	75.09	28.78	1846.94	7.16	2.74	504.37	2625	1006.14	51724.70	0	0.00	0.00
52	0.775	2.11	548	4660	1011.12	397.292	14759.578	71.50	939.62	2388	938.30	57847.44	92.20	36.23	1883.17	7.88	3.10	507.47	2662	1045.96	52770.66	0	0.00	0.00
53	0.712	2.12	540	4490	938.03	338.612	15098.190	71.50	866.53	2757	995.23	58842.67	93.03	33.58	1916.75	7.25	2.62	510.09	2367	854.44	53625.10	0	0.00	0.00
54	0.772	2.11	556	4330	802.75	314.197	15412.387	50.70	752.05	2855	1117.45	59960.12	77.67	30.40	1947.15	6.38	2.50	512.59	2409	942.89	54567.99	0	0.00	0.00
55	0.804	2.12	561	4420	772.85	315.033	15727.420	50.05	722.80	1940	790.79	60750.91	78.72	32.09	1979.24	5.51	2.25	514.84	2326	948.14	55516.12	0	0.00	0.00
56	0.808	2.13	563	4350	799.15	327.374	16054.794	49.40	749.75	2623	1074.52	61825.43	83.78	34.32	2013.56	5.33	2.18	517.02	2287	936.88	56453.00	0	0.00	0.00
57	0.751	2.16	565	3970	641.30	244.178	16298.972	40.95	600.35	2544	968.64	62794.07	67.55	25.72	2039.28	5.02	1.91	518.93	1994	759.22	57212.22	0	0.00	0.00
58	0.805	2.17	571	3700	517.24	211.102	16510.074	34.45	482.79	2001	816.67	63610.74	62.70	25.59	2064.87	3.85	1.57	520.50	1765	720.35	57932.58	0	0.00	0.00
59	0.809	2.21	573	3460	554.12	227.278	16737.352	25.35	528.77	1687	691.94	64302.68	69.71	28.59	2093.46	3.91	1.60	522.10	1569	643.54	58576.12	0	0.00	0.00
60	0.817	2.16	572	3740	570.44	236.285	16973.637	33.15	537.29	2158	893.88	65196.56	71.75	29.72	2123.18	4.10	1.70	523.80	1773	734.41	59310.52	0	0.00	0.00
61	0.817	2.17	576	3620	462.55	191.596	17165.233	25.35	437.20	2032	841.69	66038.25	64.16	26.58	2149.76	3.33	1.38	525.18	1648	682.63	59993.15	0	0.00	0.00
62	0.759	2.19	575	3540	435.94	167.754	17332.987	24.70	411.24	1704	655.72	66693.97	60.52	23.29	2173.05	2.98	1.15	526.33	1534	590.30	60583.45	0	0.00	0.00
63	0.815	2.17	577	3570	491.86	203.238	17536.225	23.40	468.46	1636	676.00	67369.97	63.00	26.03	2199.08	3.19	1.32	527.65	1587	655.75	61239.20	0	0.00	0.00
64	0.805	2.18	573	3470	561.42	229.134	17765.359	22.75	538.67	1509	615.87	67985.84	81.91	33.43	2232.51	3.15	1.29	528.94	1463	597.10	61836.30	0	0.00	0.00
65	0.767	2.20	572	3410	344.22	133.856	17899.215	18.85	325.37	1496	581.74	68567.58	58.47	22.74	2255.25	2.10	0.82	529.76	1376	535.08	62371.38	0	0.00	0.00
66	0.807	2.25	580	3050	310.60	127.081	18026.296	14.95	295.65	1310	535.98	69103.56	54.30	22.22	2277.47	2.27	0.93	530.69	1135	464.38	62835.76	0	0.00	0.00
67	0.775	2.26	573	3000	297.31	116.820	18143.116	14.56	282.75	1227	482.12	69585.68	49.24	19.35	2296.82	1.99	0.78	531.47	1112	436.93	63272.69	0	0.00	0.00
68	0.758	2.25	575	2970	252.37	96.987	18240.103	13.13	239.24	1164	447.33	70033.01	49.53	19.03	2315.85	1.61	0.62	532.09	1097	421.58	63694.27	0	0.00	0.00
69	0.765	2.27	579	2850	279.08	108.242	18348.345	11.83	267.25	1107	429.35	70462.36	58.16	22.56	2338.41	1.85	0.72	532.81	1029	399.10	64093.37	0	0.00	0.00
70	0.733	2.32	573	2490	203.47	75.615	18423.960	15.99	187.48	906	336.70	70799.06	39.23	14.58	2352.99	1.28	0.48	533.29	875	325.18	64418.54	0	0.00	0.00
71	0.737	2.29	574	2600	232.94	87.040	18511.000	14.69	218.25	913	340.96	71140.02	48.86	18.26	2371.25	1.52	0.57	533.86	883	329.94	64748.48	0	0.00	0.00
72	0.752	2.30	578	2600	190.71	72.710	18583.710	8.97	181.74	936	356.86	71496.88	52.54	20.03	2391.28	1.47	0.56	534.42	873	332.84	65081.32	0	0.00	0.00
73	0.581	2.34	555	2410	270.21	79.594	18663.304	23.92	246.29	1103	324.91	71821.79	65.45	19.28	2410.56	1.91	0.56	534.98	952	280.43	65361.75	0	0.00	0.00
74	0.607	2.26	562	2760	307.23	94.549	18757.853	21.71	285.52	1304	401.30	72223.09	62.77	19.32	2429.88	2.11	0.65	535.63	1107	340.68	65702.43	0	0.00	0.00
75	0.712	2.28	579	2770	234.00	84.470	18842.323	13.52	220.48	1033	372.89	72595.98	59.77	21.58	2451.46	1.81	0.65	536.28	927	334.63	66037.06	0	0.00	0.00
76	0.675	2.34	583	2470	219.09	74.978	18917.301	11.31	207.78	804	275.15	72871.13	53.00	18.14	2469.60	1.67	0.57	536.85	777	265.91	66302.96	0	0.00	0.00
77	0.765	2.28	585	2920	223.67	86.751	19004.052	7.28	216.39	959	371.95	73243.08	54.10	20.98	2490.58	1.50	0.58	537.43	922	357.60	66660.56	0	0.00	0.00
78	0.723	2.24	586	3010	212.95	78.059	19082.111	10.66	202.29	1770	648.81	73891.89	48.32	17.71	2508.29	1.49	0.55	537.98	954	349.70	67010.26	0	0.00	0.00
79	0.701	2.24	575	3080	203.80	72.431	19154.542	6.76	197.04	964	342.61	74234.50	50.29	17.87	2526.16	1.36	0.48	538.46	931	330.88	67341.14	0	0.00	0.00
80	0.772	2.33	585	2570	139.00	54.405	19208.947	6.37	132.63	779	304.90	74539.40	39.04	15.28	2541.44	0.49	0.19	538.65 *	731	286.11	67627.26	0	0.00	0.00
81	0.786	2.30	586	2730	143.44	57.161	19266.108	7.15	136.29	837	333.54	74872.94	39.19	15.62	2557.06	1.05	0.42	539.07	771	307.24	67934.50	0	0.00	0.00
82	0.732	2.30	575	2640	153.36	56.915	19323.023	5.07	148.29	898	333.27	75206.21	42.91	15.92	2572.98	1.14	0.42	539.49	740	274.63	68209.13	0	0.00	0.00
83	0.705	2.32	574	2640	120.49	43.067	19366.090	4.30	116.19	984	351.71	75557.92	36.10	12.90	2585.88	1.00	0.36	539.85	685	244.84	68453.97	0	0.00	0.00
84	0.672	2.30	564	2620	141.10	48.073	19414.163	8.45	132.65	911	310.21	75868.13	39.00	13.29	2599.17	1.10	0.37	540.22	711	242.24	68696.21	0	0.00	0.00
85	0.684	2.30	566	2620	132.82	46.060	19460.223	5.07	127.75	894	309.85	76177.98	42.00	14.56	2613.73	1.20	0.42	540.64	690	239.42	68935.63	0	0.00	0.00
86	0.714	2.31	571	2580	124.49	45.065	19505.288	4.55	119.94	835	302.09	76480.07	37.00	13.39	2627.12	1.20	0.43	541.07	659	238.71	69174.34	0	0.00	0.00
87	0.671	2.29	545	2520	132.86	45.198	19550.486	13.00	119.86	834	283.55	76763.62	40.00	13.61	2640.73	1.30	0.44	541.51	660	224.53	69398.87	0	0.00	0.00

Testing terminated

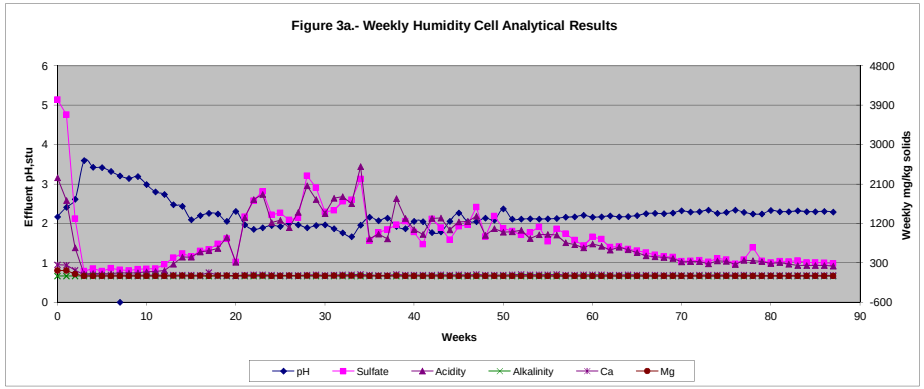
*Reported as <0.50

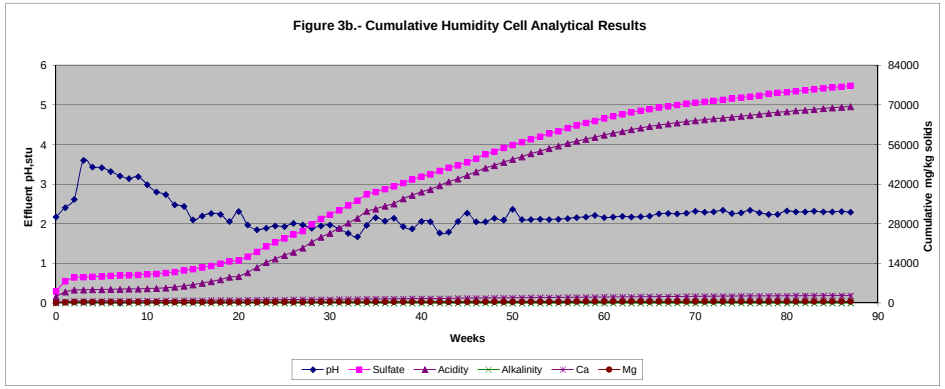
Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 3 . - Humidity Cell Analytical Results, CAL-003 (675-685) **(1.9724 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCI)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg





Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 4 . - Humidity Cell Analytical Results, GMC-012 (832-851) **(1.4814 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	0.988	2.14	468	5100	350.68	233.881	233.881	112.00	238.68	2936	1958.13	1958.13	214.17	142.84	142.84	53.69	35.81	35.81	2811	1874.76	1874.76	0	0.00	0.00
1	0.656	2.25	427	4770	209.30	92.683	326.564	34.64	174.66	3600	1594.17	3552.30	156.50	69.30	212.14	42.60	18.86	54.67	2303	1019.82	2894.58	0	0.00	0.00
2	0.566	2.37	436	3910	141.70	54.139	380.703	28.82	112.88	2900	1108.01	4660.31	182.10	69.58	281.72	34.00	12.99	67.66	1576	602.14	3496.73	0	0.00	0.00
3	0.606	2.52	485	2700	74.10	30.312	411.015	20.66	53.44	1400	572.70	5233.01	177.80	72.73	354.45	24.50	10.02	77.68	800	327.26	3823.99	0	0.00	0.00
4	0.622	2.74	504	1607	62.40	26.200	437.215	8.77	53.63	540	226.73	5459.74	103.70	43.54	397.99	8.70	3.65	81.33	384	161.23	3985.22	0	0.00	0.00
5	0.614	2.77	535	1554	62.40	25.863	463.078	35.10	27.30	580	240.39	5700.13	95.59	39.62	437.61	6.04	2.50	83.83	298	123.51	4108.73	0	0.00	0.00
6	0.640	2.78	531	1318	59.27	25.606	488.684	32.50	26.77	640	276.50	5976.63	64.67	27.94	465.55	3.20	1.38	85.21	230	99.37	4208.09	0	0.00	0.00
7	0.647	2.70	436	1446	41.65	18.191	506.875	35.75	5.90	460	200.90	6177.53	58.75	25.66	491.21	2.62	1.14	86.35	257	112.24	4320.34	0	0.00	0.00
8	0.585	2.63	546	1373	61.47	24.274	531.149	30.55	30.92	650	256.68	6434.21	89.19	35.22	526.43	3.27	1.29	87.64	272	107.41	4427.75	0	0.00	0.00
9	0.556	2.79	469	1339	39.00	14.638	545.787	34.54	4.46	450	168.89	6603.10	55.60	20.87	547.30	1.52	0.57	88.21	236	88.58	4516.33	0	0.00	0.00
10	0.614	2.72	421	1248	37.35	15.481	561.268	28.60	8.75	310	128.49	6731.59	42.58	17.65	564.95	1.39	0.58	88.79	231	95.74	4612.07	0	0.00	0.00
11	0.567	2.58	540	1113	37.57	14.380	575.648	26.00	11.57	280	107.17	6838.76	31.67	12.12	577.07	1.17	0.45	89.24	216	82.67	4694.74	0	0.00	0.00
12	0.608	2.71	459	1205	37.56	15.415	591.063	29.25	8.31	350	143.65	6982.41	24.89	10.22	587.29	0.99	0.41	89.65	226	92.76	4787.50	0	0.00	0.00
13	0.617	2.70	437	1192	47.37	19.730	610.793	27.95	19.42	370	154.10	7136.51	27.52	11.46	598.75	1.01	0.42	90.07	241	100.38	4887.87	0	0.00	0.00
14	0.604	2.72	437	1524	49.80	20.305	631.098	29.90	19.90	400	163.09	7299.60	25.11	10.24	608.99	0.99	0.40	90.47	331	134.96	5022.83	0	0.00	0.00
15	0.541	2.37	487	1440	54.49	19.899	650.997	29.90	24.59	350	127.82	7427.42	33.56	12.26	621.25	0.93	0.34	90.81	329	120.15	5142.98	0	0.00	0.00
16	0.580	2.56	453	1398	52.30	20.477	671.474	34.45	17.85	330	129.20	7556.62	21.94	8.59	629.84	0.82	0.32	91.13	330	129.20	5272.18	0	0.00	0.00
17	0.546	2.65	442	1453	33.64	12.399	683.873	38.35	-4.71	370	136.37	7692.99	4.22	1.56	631.40	1.14	0.42	91.55	339	124.95	5397.13	0	0.00	0.00
18	0.527	2.46	451	1928	85.21	30.313	714.186	52.00	33.21	560	199.22	7892.21	24.96	8.88	640.28	1.06	0.38	91.93	480	170.76	5567.88	0	0.00	0.00
19	0.599	2.37	464	2240	87.40	35.340	749.526	53.30	34.10	640	258.78	8150.99	21.06	8.52	648.80	0.91	0.37	92.30	590	238.57	5806.45	0	0.00	0.00
20	0.569	2.20	468	2830	120.94	46.453	795.979	67.60	53.34	750	288.07	8439.06	21.66	8.32	657.12	0.96	0.37	92.67	763	293.07	6099.51	0	0.00	0.00
21	0.583	2.18	473	3010	163.04	64.164	860.143	59.80	103.24	920	362.06	8801.12	21.35	8.40	665.52	0.99	0.39	93.06	910	358.13	6457.64	0	0.00	0.00
22	0.679	2.12	487	3390	204.03	93.517	953.660	68.25	135.78	1100	504.19	9305.31	16.96	7.77	673.29	0.83	0.38	93.44	1138	521.60	6979.24	0	0.00	0.00
23	0.677	2.15	499	3690	248.00	113.336	1066.996	76.05	171.95	1400	639.80	9945.11	14.49	6.62	679.91	0.65	0.30	93.74	1248	570.34	7549.58	0	0.00	0.00
24	0.524	2.17	482	3130	126.73	44.827	1111.823	73.45	53.28	1300	459.84	10404.95	7.94	2.81	682.72	0.49	0.17	93.91	* 971	343.46	7893.04	0	0.00	0.00
25	0.541	2.21	477	3100	145.79	53.242	1165.065	63.70	82.09	1200	438.23	10843.18	5.58	2.04	684.76	0.49	0.18	94.09	* 995	363.37	8256.41	0	0.00	0.00
26	0.567	2.21	477	2690	173.79	66.517	1231.582	65.00	108.79	1000	382.75	11225.93	5.56	2.13	686.89	0.49	0.19	94.28	* 879	336.43	8592.84	0	0.00	0.00
27	0.650	2.32	486	2570	108.00	47.388	1278.970	54.60	53.40	680	298.37	11524.30	2.96	1.30	688.19	0.49	0.21	94.49	* 778	341.37	8934.21	0	0.00	0.00
28	0.678	2.28	500	2520	127.76	58.473	1337.443	39.65	88.11	920	421.06	11945.36	2.54	1.16	689.35	0.49	0.22	94.71	* 820	375.29	9309.50	0	0.00	0.00
29	0.648	2.23	499	2730	175.62	76.820	1414.263	40.75	134.87	1100	481.17	12426.53	3.30	1.44	690.79	0.49	0.21	94.92	* 904	395.43	9704.94	0	0.00	0.00
30	0.603	2.23	495	2610	129.05	52.529	1466.792	41.60	87.45	910	370.41	12796.94	2.46	1.00	691.79	0.49	0.20	95.12	* 1002	407.86	10112.80	0	0.00	0.00
31	0.902	2.31	497	2060	118.01	71.854	1538.646	28.60	89.41	470	286.18	13083.12	1.56	0.95	692.74	0.49	0.30	95.42	* 660	401.86	10514.66	0	0.00	0.00
32	0.577	2.17	492	2360	165.78	64.571	1603.217	50.05	115.73	1100	428.45	13511.57	1.62	0.63	693.37	0.49	0.19	95.61	* 744	289.79	10804.44	0	0.00	0.00
33	0.553	2.00	483	2710	153.29	57.222	1660.439	60.45	92.84	960	358.36	13869.93	2.05	0.77	694.14	0.49	0.18	95.79	* 855	319.17	11123.61	0	0.00	0.00
34	0.716	2.31	498	2650	144.38	69.783	1730.222	52.65	91.73	720	348.00	14217.93	1.42	0.69	694.83	0.49	0.24	96.03	* 775	374.58	11498.19	0	0.00	0.00
35	0.591	2.48	490	1649	62.73	25.026	1755.248	25.35	37.38	310	123.67	14341.60	3.45	1.38	696.21	0.49	0.20	96.23	* 358	142.82	11641.01	0	0.00	0.00
36	0.553	2.41	489	2010	65.87	24.589	1779.837	36.40	29.47	400	149.32	14490.92	1.20	0.45	696.66	0.49	0.18	96.41	* 469	175.08	11816.09	0	0.00	0.00
37	0.621	2.43	488	1861	69.63	29.189	1809.026	38.35	31.28	580	243.13	14734.05	1.00	0.42	697.08	0.49	0.21	96.62	* 443	185.71	12001.79	0	0.00	0.00
38	0.650	2.40	499	1993	89.83	39.415	1848.441	37.05	52.78	511	224.21	14958.26	0.92	0.40	697.48	0.49	0.21	96.83	* 476	208.86	12210.65	0	0.00	0.00
39	0.615	2.25	498	2070	73.09	30.343	1878.784	31.20	41.89	451	187.23	15145.49	0.84	0.35	697.83	0.49	0.20	97.03	* 474	196.78	12407.43	0	0.00	0.00
40	0.603	2.49	491	1561	51.63	21.016	1899.800	26.00	25.63	280	113.97	15259.46	1.02	0.42	698.25	0.49	0.20	97.23	* 335	136.36	12543.79	0	0.00	0.00
41	0.625	2.49	483	1565	47.23	19.926	1919.726	27.30	19.93	345	145.55	15405.01	0.55	0.23	698.48	0.49	0.21	97.44	* 330	139.23	12683.02	0	0.00	0.00
42	0.627	2.33	483	1446	39.12	16.557	1936.283	20.80	18.32	184	77.96	15482.97	0.89	0.38	698.86	0.49	0.21	97.65	* 286	121.05	12804.07	0	0.00	0.00
43	0.637	2.41	485	1212	29.47	12.672	1948.955	15.60	13.87	182	78.26	15561.23	1.04	0.45	699.31	0.49	0.21	97.86	* 236	101.48	12905.55	0	0.00	0.00
44	0.574	2.66	481	1052	23.61	9.148	1958.103	15.60	8.01	123	47.66	15608.89	0.61	0.24	699.55	0.49	0.19	98.05	* 201	77.88	12983.43	0	0.00	0.00
45	0.626	2.72	477	1183	28.29	11.955	1970.058	18.20	10.09	156	65.92	15674.81	0.49	0.21	699.76 *	0.49	0.21	98.26	* 230	97.19	13080.62	0	0.00	0.00

Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 4 . - Humidity Cell Analytical Results, GMC-012 (832-851) **(1.4814 Kg)**

					Total Fe					SO_4=			Ca				Mg				Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2+} mg/l	Fe^{3+} mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg		mg/l	mg/kg	Cum. mg/kg		mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.604	2.59	485	1170	25.03	10.205	1980.263	16.90	8.13	155	63.20	15738.01	0.49	0.20	699.96	*	0.49	0.20	98.46	*	231	94.18	13174.80	0	0.00	0.00
47	0.688	2.62	504	1115	23.80	11.053	1991.316	13.65	10.15	199	92.42	15830.43	0.57	0.26	700.22		0.49	0.23	98.69	*	218	101.25	13276.05	0	0.00	0.00
48	0.640	2.65	477	1057	17.20	7.431	1998.747	11.70	5.50	160	69.12	15899.55	0.58	0.25	700.47		0.49	0.21	98.90	*	183	79.06	13355.11	0	0.00	0.00
49	0.630	2.76	477	838	12.74	5.418	2004.165	9.75	2.99	115	48.91	15948.46	0.49	0.21	700.68	*	0.49	0.21	99.11	*	151	64.22	13419.33	0	0.00	0.00
50	0.601	2.87	477	654	11.70	4.747	2008.912	9.39	2.31	81	32.86	15981.32	0.49	0.20	700.88	*	0.49	0.20	99.31	*	117	47.47	13466.79	0	0.00	0.00
51	0.605	2.84	476	728	11.18	4.566	2013.478	9.36	1.82	87	35.53	16016.85	0.49	0.20	701.08	*	0.49	0.20	99.51	*	115	46.97	13513.76	0	0.00	0.00
52	0.578	2.94	471	559	8.11	3.164	2016.642	6.50	1.61	54	21.07	16037.92	0.49	0.19	701.27	*	0.49	0.19	99.70	*	91	35.51	13549.26	0	0.00	0.00
53	0.455	2.86	461	666	10.05	3.087	2019.729	7.41	2.64	94	28.87	16066.79	0.49	0.15	701.42	*	0.49	0.15	99.85	*	106	32.56	13581.82	0	0.00	0.00
54	0.678	2.99	462	481	6.06	2.774	2022.503	5.33	0.73	60	27.46	16094.25	0.49	0.22	701.64	*	0.49	0.22	100.07	*	96	43.94	13625.76	0	0.00	0.00
55	0.646	3.01	463	481	5.31	2.316	2024.819	4.81	0.50	52	22.68	16116.93	0.49	0.21	701.85	*	0.49	0.21	100.28	*	74	32.27	13658.03	0	0.00	0.00
56	0.655	3.09	476	427	5.37	2.374	2027.193	4.16	1.21	48	21.22	16138.15	0.49	0.22	702.07	*	0.49	0.22	100.50	*	67	29.62	13687.65	0	0.00	0.00
57	0.619	3.00	470	495	5.47	2.286	2029.479	4.94	0.53	61	25.49	16163.64	0.49	0.20	702.27	*	0.49	0.20	100.70	*	96	40.11	13727.76	0	0.00	0.00
58	0.692	2.88	478	627	7.31	3.415	2032.894	5.98	1.33	85	39.71	16203.35	0.49	0.23	702.50	*	0.49	0.23	100.93	*	98	45.78	13773.54	0	0.00	0.00
59	0.679	2.91	479	582	6.25	2.865	2035.759	5.20	1.05	81	37.13	16240.48	0.49	0.22	702.72	*	0.49	0.22	101.15	*	91	41.71	13815.25	0	0.00	0.00
60	0.690	2.92	475	550	5.82	2.711	2038.470	4.68	1.14	75	34.93	16275.41	0.49	0.23	702.95	*	0.49	0.23	101.38	*	83	38.66	13853.91	0	0.00	0.00
61	0.649	2.95	476	526	5.46	2.392	2040.862	4.81	0.65	72	31.54	16306.95	0.49	0.21	703.16	*	0.49	0.21	101.59	*	99	43.37	13897.28	0	0.00	0.00
62	0.623	3.10	468	395	4.30	1.808	2042.670	4.29	0.01	56	23.55	16330.50	0.49	0.21	703.37	*	0.49	0.21	101.80	*	93	39.11	13936.39	0	0.00	0.00
63	0.638	3.07	469	417	5.38	2.317	2044.987	4.94	0.44	51	21.96	16352.46	0.49	0.21	703.58	*	0.49	0.21	102.01	*	95	40.91	13977.31	0	0.00	0.00
64	0.695	2.89	473	611	7.65	3.589	2048.576	6.76	0.89	44	20.44	16372.90	0.49	0.23	703.81	*	0.49	0.23	102.24	*	93	43.63	14020.94	0	0.00	0.00
65	0.596	3.15	467	344	3.25	1.308	2049.884	3.08	0.17	50	20.00	16392.90	0.49	0.20	704.01	*	0.49	0.20	102.44	*	51	20.52	14041.46	0	0.00	0.00
66	0.630	3.07	466	431	4.82	2.050	2051.934	4.81	0.01	64	27.40	16420.30	0.49	0.21	704.22	*	0.49	0.21	102.65	*	65	27.64	14069.10	0	0.00	0.00
67	0.713	3.03	471	472	4.54	2.185	2054.119	4.42	0.12	70	33.69	16453.99	0.49	0.24	704.46	*	0.49	0.24	102.89	*	72	34.65	14103.75	0	0.00	0.00
68	0.531	3.11	463	386	3.77	1.351	2055.470	3.22	0.55	56	20.07	16474.06	0.49	0.18	704.64	*	0.49	0.18	103.07	*	95	34.05	14137.81	0	0.00	0.00
69	0.661	3.07	460	426	4.81	2.146	2057.616	4.65	0.16	61	27.22	16501.28	0.49	0.22	704.86	*	0.49	0.22	103.29	*	93	41.50	14179.30	0	0.00	0.00
70	0.660	3.00	458	489	5.80	2.584	2060.200	5.20	0.60	57	25.39	16526.67	0.49	0.22	705.08	*	0.49	0.22	103.51	*	95	42.33	14221.63	0	0.00	0.00
71	0.700	3.08	467	407	3.96	1.871	2062.071	3.77	0.19	60	28.35	16555.02	0.49	0.23	705.31	*	0.49	0.23	103.74	*	66	31.19	14252.82	0	0.00	0.00
72	0.640	3.06	458	427	4.55	1.966	2064.037	4.12	0.43	63	27.22	16582.24	0.49	0.21	705.52	*	0.49	0.21	103.95	*	69	29.81	14282.63	0	0.00	0.00
73	0.632	3.00	469	482	5.93	2.530	2066.567	5.46	0.47	63	26.88	16609.12	0.49	0.21	705.73	*	0.49	0.21	104.16	*	81	34.56	14317.18	0	0.00	0.00
74	0.680	3.09	468	385	4.41	2.024	2068.591	3.64	0.77	59	27.08	16636.20	0.49	0.22	705.95	*	0.49	0.22	104.38	*	66	30.30	14347.48	0	0.00	0.00
75	0.686	3.40	482	202	0.88	0.408	2068.999	0.74	0.14	28	12.97	16649.17	1.70	0.79	706.74		0.49	0.23	104.61	*	32	14.82	14362.30	0	0.00	0.00
76	0.761	3.28	488	264	1.63	0.837	2069.836	1.12	0.51	33	16.95	16666.12	0.83	0.43	707.17		0.49	0.25	104.86	*	42	21.58	14383.87	0	0.00	0.00
77	0.737	3.24	499	292	1.71	0.851	2070.687	0.99	0.72	34	16.92	16683.04	0.57	0.28	707.45		0.49	0.24	105.10	*	44	21.89	14405.76	0	0.00	0.00
78	0.740	3.11	498	390	2.69	1.344	2072.031	1.57	1.12	44	21.98	16705.02	0.49	0.24	707.69	*	0.49	0.24	105.34	*	58	28.97	14434.74	0	0.00	0.00
79	0.732	3.13	494	369	2.51	1.240	2073.271	1.59	0.92	49	24.21	16729.23	0.50	0.25	707.94		0.49	0.24	105.58	*	55	27.18	14461.91	0	0.00	0.00
80	0.744	3.18	502	341	1.98	0.994	2074.265	1.46	0.52	46	23.10	16752.33	0.49	0.25	708.19	*	0.49	0.25	105.83	*	53	26.62	14488.53	0	0.00	0.00
81	0.741	3.22	500	307	1.62	0.810	2075.075	1.07	0.55	40	20.01	16772.34	0.49	0.25	708.44	*	0.49	0.25	106.08	*	49	24.51	14513.04	0	0.00	0.00
82	0.770	3.30	488	246	1.21	0.629	2075.704	0.85	0.36	36	18.71	16791.05	0.49	0.25	708.69	*	0.49	0.25	106.33	*	38	19.75	14532.79	0	0.00	0.00
83	0.715	3.36	506	231	0.74	0.357	2076.061	0.27	0.47	31	14.96	16806.01	0.49	0.24	708.93	*	0.49	0.24	106.57	*	34	16.41	14549.20	0	0.00	0.00
84	0.742	3.30	500	254	0.90	0.451	2076.512	0.47	0.43	48	24.04	16830.05	0.49	0.25	709.18	*	0.49	0.25	106.82	*	38	18.82	14568.03	0	0.00	0.00
85	0.740	3.19	509	302	1.09	0.544	2077.056	0.52	0.57	44	22.09	16852.14	0.49	0.24	709.42	*	0.49	0.24	107.06	*	61	30.47	14598.50	0	0.00	0.00
86	0.740	3.11	511	360	2.24	1.119	2078.175	0.65	1.59	52	25.98	16878.12	0.49	0.24	709.66	*	0.49	0.24	107.30	*	54	26.79	14625.29	0	0.00	0.00
87	0.742	3.18	507	298	0.90	0.451	2078.626	0.46	0.44	44	22.04	16900.16	0.49	0.25	709.91	*	0.49	0.25	107.55	*	45	22.54	14647.83	0	0.00	0.00

Testing terminated

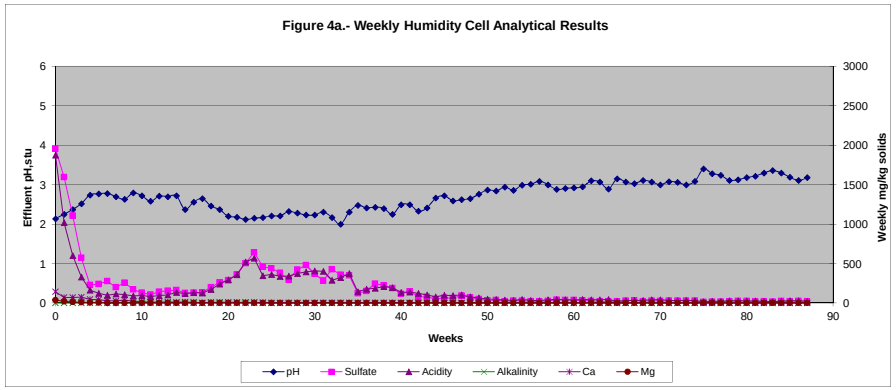
*Reported as <0.50

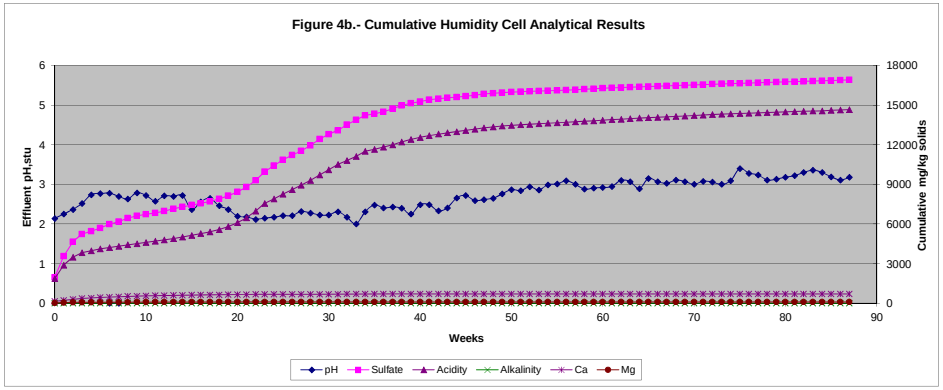
Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 4 . - Humidity Cell Analytical Results, GMC-012 (832-851) **(1.4814 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg





Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 5 . - Humidity Cell Analytical Results, CAL-004 (295-315) **(1.9775 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.559	3.84	364	2320	1.44	1.135	1.135	0.13	1.31	1300	1024.88	1024.88	122.40	96.50	96.50	28.40	22.39	22.39	131	103.28	103.28	0	0.00	0.00
1	0.980	3.80	406	262	0.40	0.198	1.333	0.19	0.21	110	54.51	1079.39	10.71	5.31	101.81	2.40	1.19	23.58	57	28.25	131.52	0	0.00	0.00
2	0.979	3.91	470	329	0.33	0.163	1.496	0.29	0.04	150	74.26	1153.65	19.16	9.49	111.30	4.34	2.15	25.73	45	22.28	153.80	0	0.00	0.00
3	0.934	3.96	495	442	0.96	0.453	1.949	0.26	0.70	190	89.74	1243.39	41.30	19.51	130.81	9.51	4.49	30.22	31	14.64	168.44	0	0.00	0.00
4	0.995	4.16	474	402	1.10	0.553	2.502	0.70	0.40	180	90.57	1333.96	40.82	20.54	151.35	9.02	4.54	34.76	20	10.06	178.51	0	0.00	0.00
5	0.957	4.27	467	348	1.02	0.494	2.996	0.74	0.28	140	67.75	1401.71	34.43	16.66	168.01	7.94	3.84	38.60	21	10.16	188.67	0	0.00	0.00
6	0.965	4.22	471	351	1.21	0.590	3.586	0.94	0.27	150	73.20	1474.91	31.29	15.27	183.28	6.44	3.14	41.74	20	9.76	198.43	0	0.00	0.00
7	0.991	4.16	398	395	1.86	0.932	4.518	1.37	0.49	170	85.19	1560.10	37.10	18.59	201.87	7.88	3.95	45.69	27	13.53	211.96	0	0.00	0.00
8	0.898	4.12	472	278	1.75	0.795	5.313	1.14	0.61	110	49.95	1610.05	26.21	11.90	213.77	5.87	2.67	48.36	25	11.35	223.31	0	0.00	0.00
9	0.999	4.19	432	266	1.56	0.788	6.101	1.56	<0.1	110	55.57	1665.62	20.30	10.26	224.03	4.49	2.27	50.63	24	12.12	235.44	0	0.00	0.00
10	0.830	4.07	389	271	1.99	0.835	6.936	1.51	0.48	100	41.97	1707.59	25.03	10.51	234.54	5.29	2.22	52.85	27	11.33	246.77	0	0.00	0.00
11	0.920	4.11	479	253	2.37	1.103	8.039	1.66	0.71	410	190.75	1898.34	25.95	12.07	246.61	5.54	2.58	55.43	24	11.17	257.94	0	0.00	0.00
12	1.018	4.02	461	246	1.93	0.994	9.033	1.52	0.41	95	48.91	1947.25	19.40	9.99	256.60	4.25	2.19	57.62	24	12.36	270.29	0	0.00	0.00
13	0.987	3.95	421	258	2.74	1.368	10.401	1.91	0.83	100	49.91	1997.16	25.30	12.63	269.23	5.18	2.59	60.21	29	14.47	284.77	0	0.00	0.00
14	0.989	4.02	391	295	3.08	1.540	11.941	2.66	0.42	110	55.01	2052.17	24.17	12.09	281.32	5.33	2.67	62.88	28	14.00	298.77	0	0.00	0.00
15	0.956	3.70	490	263	3.68	1.779	13.720	2.55	1.13	94	45.44	2097.61	25.16	12.16	293.48	4.97	2.40	65.28	33	15.95	314.72	0	0.00	0.00
16	0.967	4.00	433	236	2.75	1.345	15.065	1.92	0.83	82	40.10	2137.71	17.60	8.61	302.09	4.09	2.00	67.28	33	16.14	330.86	0	0.00	0.00
17	1.009	3.91	383	297	4.09	2.087	17.152	2.70	1.39	110	56.13	2193.84	24.45	12.48	314.57	5.28	2.69	69.97	37	18.88	349.74	0	0.00	0.00
18	0.980	3.62	422	354	4.95	2.453	19.605	2.78	2.17	140	69.38	2263.22	25.58	12.68	327.25	5.66	2.80	72.77	49	24.28	374.02	0	0.00	0.00
19	0.988	3.53	429	372	5.37	2.683	22.288	3.56	1.81	140	69.95	2333.17	27.57	13.77	341.02	5.81	2.90	75.67	53	26.48	400.50	0	0.00	0.00
20	0.994	3.39	437	396	5.67	2.850	25.138	3.42	2.25	130	65.35	2398.52	26.48	13.31	354.33	5.42	2.72	78.39	52	26.14	426.64	0	0.00	0.00
21	0.980	3.43	490	383	5.09	2.522	27.660	3.09	2.00	130	64.42	2462.94	23.22	11.51	365.84	5.01	2.48	80.87	58	28.74	455.38	0	0.00	0.00
22	0.980	3.33	449	455	6.12	3.033	30.693	1.48	4.64	170	84.25	2547.19	30.65	15.19	381.03	7.00	3.47	84.34	70	34.69	490.07	0	0.00	0.00
23	0.981	3.33	538	427	5.69	2.823	33.516	1.56	4.13	150	74.41	2621.60	26.09	12.94	393.97	5.30	2.63	86.97	65	32.25	522.32	0	0.00	0.00
24	0.990	3.17	470	545	7.44	3.725	37.241	1.94	5.50	200	100.13	2721.73	35.34	17.69	411.66	6.56	3.28	90.25	84	42.05	564.37	0	0.00	0.00
25	0.980	3.08	474	606	7.56	3.747	40.988	2.03	5.53	240	118.94	2840.67	35.04	17.36	429.02	6.89	3.41	93.66	90	44.60	608.97	0	0.00	0.00
26	0.984	3.06	485	601	5.80	2.886	43.874	1.94	3.86	230	114.45	2955.12	29.68	14.77	443.79	6.55	3.26	96.92	87	43.29	652.26	0	0.00	0.00
27	0.994	3.10	485	530	4.86	2.443	46.317	1.81	3.05	130	65.35	3020.47	21.59	10.85	454.64	4.74	2.38	99.30	112	56.30	708.56	0	0.00	0.00
28	0.992	3.07	498	545	3.99	2.002	48.319	1.60	2.39	160	80.26	3100.73	20.21	10.14	464.78	4.25	2.13	101.43	113	56.69	765.25	0	0.00	0.00
29	0.976	3.00	490	587	4.60	2.270	50.589	1.99	2.61	120	59.23	3159.96	23.34	11.52	476.30	4.50	2.22	103.65	112	55.28	820.52	0	0.00	0.00
30	0.976	3.01	509	579	4.34	2.142	52.731	1.35	2.99	180	88.84	3248.80	24.91	12.29	488.59	4.05	2.00	105.65	202	99.70	920.22	0	0.00	0.00
31	1.004	2.96	502	492	3.84	1.950	54.681	1.51	2.33	100	50.77	3299.57	16.27	8.26	496.85	3.12	1.58	107.23	101	51.28	971.50	0	0.00	0.00
32	0.993	2.89	522	556	3.77	1.893	56.574	1.08	2.69	150	75.32	3374.89	19.54	9.81	506.66	3.70	1.86	109.09	115	57.75	1029.25	0	0.00	0.00
33	0.962	2.75	526	621	4.01	1.951	58.525	0.88	3.13	170	82.70	3457.59	19.53	9.50	516.16	3.86	1.88	110.97	124	60.32	1089.57	0	0.00	0.00
34	0.981	3.08	505	562	3.07	1.523	60.048	1.59	1.48	100	49.61	3507.20	14.04	6.96	523.12	2.70	1.34	112.31	114	56.55	1146.12	0	0.00	0.00
35	1.016	3.12	511	471	2.86	1.469	61.517	1.22	1.64	89	45.73	3552.93	12.87	6.61	529.73	2.26	1.16	113.47	99	50.86	1196.99	0	0.00	0.00
36	0.967	2.93	537	722	3.91	1.912	63.429	1.05	2.86	180	88.02	3640.95	18.01	8.81	538.54	3.62	1.77	115.24	110	53.79	1250.78	0	0.00	0.00
37	0.970	2.95	552	688	5.03	2.467	65.896	0.70	4.33	190	93.20	3734.15	20.30	9.96	548.50	3.80	1.86	117.10	112	54.94	1305.72	0	0.00	0.00
38	0.984	2.88	537	765	6.20	3.085	68.981	1.59	4.61	191	95.04	3829.19	21.07	10.48	558.98	4.00	1.99	119.09	100	49.76	1355.48	0	0.00	0.00
39	1.018	2.92	498	527	3.31	1.704	70.685	2.04	1.27	95	48.91	3878.10	9.89	5.09	564.07	1.72	0.89	119.98	99	50.96	1406.44	0	0.00	0.00
40	0.990	3.01	547	541	2.05	1.026	71.711	0.36	1.69	98	49.06	3927.16	12.15	6.08	570.15	2.52	1.26	121.24	98	49.06	1455.50	0	0.00	0.00
41	0.986	3.01	538	557	2.44	1.217	72.928	0.46	1.98	97	48.37	3975.53	12.73	6.35	576.50	2.43	1.21	122.45	99	49.36	1504.86	0	0.00	0.00
42	0.981	2.79	549	610	2.75	1.364	74.292	0.44	2.31	141	69.95	4045.48	14.87	7.38	583.88	2.79	1.38	123.83	96	47.62	1552.49	0	0.00	0.00
43	0.986	2.74	532	683	3.93	1.960	76.252	0.65	3.28	121	60.33	4105.81	16.55	8.25	592.13	3.26	1.63	125.46	93	46.37	1598.86	0	0.00	0.00
44	0.970	2.96	548	608	2.80	1.373	77.625	0.38	2.42	98	48.07	4153.88	13.02	6.39	598.52	2.60	1.28	126.74	86	42.19	1641.04	0	0.00	0.00
45	1.005	2.99	521	633	4.22	2.145	79.770	1.29	2.93	116	58.95	4212.83	14.11	7.17	605.69	2.84	1.44	128.18	99	50.31	1691.36	0	0.00	0.00

Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 5 . - Humidity Cell Analytical Results, CAL-004 (295-315) **(1.9775 Kg)**

					Total Fe					SO$_4$=			Ca			Mg			Acidity, CaCO$_3$ Equivalents			Alkalinity, CaCO$_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2+} mg/l	Fe^{3+} mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.972	3.01	571	502	1.68	0.826	80.596	0.22	1.46	68	33.42	4246.25	9.01	4.43	610.12	1.76	0.87	129.05	86	42.27	1733.63	0	0.00	0.00
47	0.992	2.98	562	548	2.28	1.144	81.740	0.49	1.79	85	42.64	4288.89	10.17	5.10	615.22	2.19	1.10	130.15	99	49.66	1783.29	0	0.00	0.00
48	0.989	3.03	548	506	1.37	0.685	82.425	0.16	1.21	64	32.01	4320.90	8.58	4.29	619.51	1.54	0.77	130.92	68	34.01	1817.30	0	0.00	0.00
49	0.993	3.08	546	446	1.17	0.588	83.013	0.17	1.00	49	24.61	4345.51	7.23	3.63	623.14	1.40	0.70	131.62	87	43.69	1860.99	0	0.00	0.00
50	0.991	3.21	562	384	1.19	0.596	83.609	<0.10	<1.19	66	33.08	4378.59	5.78	2.90	626.04	1.23	0.62	132.24	136	68.16	1929.14	0	0.00	0.00
51	0.978	3.11	533	445	1.42	0.702	84.311	0.13	1.29	76	37.59	4416.18	6.11	3.02	629.06	1.19	0.59	132.83	55	27.20	1956.35	0	0.00	0.00
52	0.966	3.14	556	374	0.88	0.430	84.741	<0.10	<0.88	37	18.07	4434.25	5.55	2.71	631.77	0.98	0.48	133.31	50	24.43	1980.77	0	0.00	0.00
53	1.007	3.06	544	456	1.25	0.637	85.378	0.23	1.02	70	35.65	4469.90	6.49	3.30	635.07	1.32	0.67	133.98	71	36.16	2016.93	0	0.00	0.00
54	0.983	3.09	568	416	0.99	0.492	85.870	<0.10	<0.99	62	30.82	4500.72	6.59	3.28	638.35	1.19	0.59	134.57	96	47.72	2064.65	0	0.00	0.00
55	0.995	3.15	559	374	0.72	0.362	86.232	<0.10	<0.72	48	24.15	4524.87	5.06	2.55	640.90	0.85	0.43	135.00	48	24.15	2088.80	0	0.00	0.00
56	0.955	3.22	524	332	0.65	0.314	86.546	<0.10	<0.65	42	20.28	4545.15	4.28	2.07	642.97	0.75	0.36	135.36	45	21.73	2110.53	0	0.00	0.00
57	1.019	3.16	557	360	0.72	0.371	86.917	<0.10	<0.72	47	24.22	4569.37	4.23	2.18	645.15	0.85	0.44	135.80	91	46.89	2157.42	0	0.00	0.00
58	0.986	3.25	559	290	0.51	0.254	87.171	<0.10	<0.51	46	22.94	4592.31	3.22	1.61	646.76	0.60	0.30	136.10	39	19.45	2176.87	0	0.00	0.00
59	0.958	3.22	564	320	0.66	0.320	87.491	<0.10	<0.66	52	25.19	4617.50	4.04	1.96	648.72	0.72	0.35	136.45	42	20.35	2197.22	0	0.00	0.00
60	0.990	3.16	567	339	0.65	0.325	87.816	<0.10	<0.65	60	30.04	4647.54	4.27	2.14	650.86	0.79	0.40	136.85	48	24.03	2221.25	0	0.00	0.00
61	0.955	3.24	567	295	0.42	0.203	88.019	<0.10	<0.42	48	23.18	4670.72	3.15	1.52	652.38	0.59	0.28	137.13	91	43.95	2265.19	0	0.00	0.00
62	0.977	3.23	570	303	0.45	0.222	88.241	<0.10	<0.45	47	23.22	4693.94	3.16	1.56	653.94	0.60	0.30	137.43	89	43.97	2309.16	0	0.00	0.00
63	0.971	3.19	574	326	0.55	0.270	88.511	<0.10	<0.55	52	25.53	4719.47	3.27	1.61	655.55	0.65	0.32	137.75	92	45.17	2354.34	0	0.00	0.00
64	0.993	3.25	557	283	0.38	0.191	88.702	<0.10	<0.38	44	21.87	4741.34	2.90	1.46	657.01	0.52	0.26	138.01	93	46.70	2401.04	0	0.00	0.00
65	0.994	3.28	556	269	0.31	0.156	88.858	<0.10	<0.31	43	21.42	4762.76	2.40	1.21	658.22	0.49	0.25	138.26 *	36	18.10	2419.13	0	0.00	0.00
66	0.959	3.77	525	102	0.11	0.053	88.911	<0.10	<0.11	15	7.31	4770.07	1.04	0.50	658.72	0.49	0.24	138.50 *	17	8.24	2427.38	0	0.00	0.00
67	0.986	3.63	534	136	0.16	0.080	88.991	<0.10	<0.16	21	10.47	4780.54	1.32	0.66	659.38	0.49	0.24	138.74 *	85	42.38	2469.76	0	0.00	0.00
68	0.998	3.44	550	196	0.23	0.116	89.107	<0.10	<0.23	30	15.14	4795.68	2.04	1.03	660.41	0.49	0.25	138.99 *	90	45.42	2515.18	0	0.00	0.00
69	0.982	3.47	547	184	0.21	0.104	89.211	<0.10	<0.21	27	13.41	4809.09	1.92	0.95	661.36	0.49	0.24	139.23 *	85	42.21	2557.39	0	0.00	0.00
70	0.985	3.33	536	252	0.33	0.164	89.375	<0.10	<0.33	35	17.43	4826.52	2.50	1.25	662.61	0.49	0.24	139.47 *	91	45.33	2602.72	0	0.00	0.00
71	0.974	3.37	543	217	0.28	0.138	89.513	0.10	0.18	30	14.78	4841.30	2.47	1.22	663.83	0.49	0.24	139.71 *	33	16.25	2618.97	0	0.00	0.00
72	0.988	3.31	545	250	0.24	0.120	89.633	<0.10	<0.24	39	19.49	4860.79	2.95	1.47	665.30	0.49	0.24	139.95 *	37	18.49	2637.46	0	0.00	0.00
73	0.992	3.38	531	220	0.26	0.130	89.763	<0.10	<0.26	31	15.55	4876.34	2.56	1.28	666.58	0.49	0.25	140.20 *	33	16.55	2654.01	0	0.00	0.00
74	0.963	3.58	522	136	0.14	0.068	89.831	<0.10	<0.14	21	10.23	4886.57	1.35	0.66	667.24	0.49	0.24	140.44 *	22	10.71	2664.73	0	0.00	0.00
75	0.996	3.42	542	201	0.15	0.076	89.907	<0.10	<0.15	31	15.61	4902.18	2.76	1.39	668.63	0.49	0.25	140.69 *	30	15.11	2679.84	0	0.00	0.00
76	1.006	3.49	535	176	0.12	0.061	89.968	<0.10	<0.12	20	10.17	4912.35	1.82	0.93	669.56	0.49	0.25	140.94 *	26	13.23	2693.06	0	0.00	0.00
77	0.991	3.51	551	172	0.16	0.080	90.048	<0.10	<0.16	24	12.03	4924.38	1.58	0.79	670.35	0.49	0.25	141.19 *	24	12.03	2705.09	0	0.00	0.00
78	0.970	3.55	538	156	0.15	0.074	90.122	<0.10	<0.15	20	9.81	4934.19	1.30	0.64	670.99	0.49	0.24	141.43 *	23	11.28	2716.37	0	0.00	0.00
79	1.011	3.44	544	203	0.18	0.092	90.214	<0.10	<0.18	27	13.80	4947.99	1.60	0.82	671.81	0.49	0.25	141.68 *	27	13.80	2730.18	0	0.00	0.00
80	0.966	3.55	516	153	<0.10	0.000	90.214	<0.10	<0.10	22	10.75	4958.74	1.22	0.60	672.41	0.49	0.24	141.92 *	25	12.21	2742.39	0	0.00	0.00
81	1.008	3.28	556	273	0.24	0.122	90.336	<0.10	<0.24	42	21.41	4980.15	2.35	1.20	673.61	0.49	0.25	142.17 *	41	20.90	2763.29	0	0.00	0.00
82	0.960	3.40	550	198	0.15	0.073	90.409	<0.10	<0.15	31	15.05	4995.20	1.69	0.82	674.43	0.49	0.24	142.41 *	30	14.56	2777.85	0	0.00	0.00
83	0.996	3.31	549	270	0.21	0.106	90.515	<0.10	<0.21	42	21.15	5016.35	1.88	0.95	675.38	0.49	0.25	142.66 *	42	21.15	2799.00	38	19.14	19.14
84	1.004	3.33	549	245	0.14	0.071	90.586	<0.10	<0.14	41	20.82	5037.17	1.70	0.86	676.24	0.49	0.25	142.91 *	34	17.26	2816.27	0	0.00	19.14
85	0.983	3.46	535	193	0.12	0.060	90.646	<0.10	<0.12	31	15.22	5052.39	1.50	0.75	676.99	0.49	0.24	143.15 *	30	14.91	2831.18	0	0.00	19.14
86	0.986	3.38	539	203	1.88	0.937	91.583	<0.10	<1.88	30	15.17	5067.56	1.50	0.75	677.74	0.49	0.24	143.39 *	28	14.01	2845.19	0	0.00	19.14
87	0.977	3.41	539	192	<0.10	0.000	91.583	<0.10	<0.10	28	13.95	5081.51	1.20	0.59	678.33	0.49	0.24	143.63 *	28	13.88	2859.07	0	0.00	19.14

Testing terminated

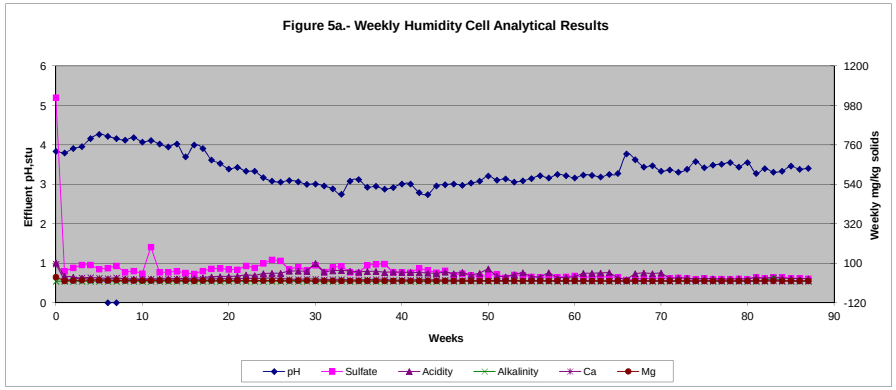
*Reported as <0.50

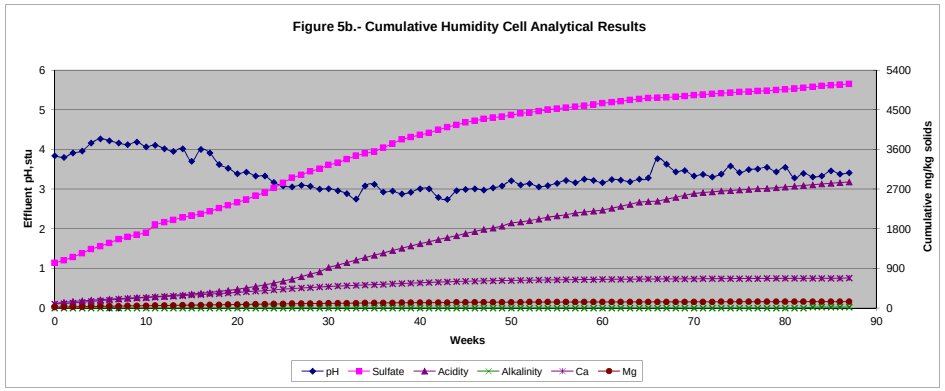
Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 5 . - Humidity Cell Analytical Results, CAL-004 (295-315) **(1.9775 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg





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Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 6 . - Humidity Cell Analytical Results, CAL-001 (750-762) **(2.0376 Kg)**

					Total Fe					SO_4=			Ca			Mg				Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg		mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.685	5.96	253	219	0.22	0.182	0.182	0.10	0.12	56	46.31	46.31	7.00	5.79	5.79	1.30	1.08	1.08		0	0.00	0.00	9	7.44	7.44
1	0.820	6.00	276	262	0.27	0.109	0.291	<0.10	<0.27	110	44.27	90.58	19.71	7.93	13.72	3.16	1.27	2.35		7	2.82	2.82	4	1.61	9.05
2	0.778	6.16	304	141	<0.10	0.000	0.291	<0.10	<0.10	57	21.76	112.34	7.47	2.85	16.57	1.37	0.52	2.87		7	2.67	5.49	4	1.53	10.58
3	0.832	6.24	329	97.5	<0.10	0.000	0.291	<0.10	<0.10	39	15.92	128.26	6.60	2.69	19.26	1.04	0.42	3.29		5	2.04	7.53	3	1.22	11.80
4	0.863	6.10	331	72.2	<0.10	0.000	0.291	<0.10	<0.10	31	13.13	141.39	4.39	1.86	21.12	0.79	0.33	3.62		7	2.97	10.50	3	1.27	13.07
5	0.851	6.10	372	69.2	<0.10	0.000	0.291	<0.10	<0.10	20	8.35	149.74	3.87	1.62	22.74	0.68	0.28	3.90		8	3.34	13.84	4	1.67	14.74
6	0.880	6.03	382	57.9	<0.10	0.000	0.291	<0.10	<0.10	23	9.93	159.67	2.91	1.26	24.00	0.49	0.21	4.11	*	7	3.02	16.86	3	1.30	16.04
7	0.899	6.25	355	57.9	<0.10	0.000	0.291	<0.10	<0.10	19	8.38	168.05	3.01	1.33	25.33	0.52	0.23	4.34		9	3.97	20.83	4	1.76	17.80
8	0.813	6.16	402	50.1	<0.10	0.000	0.291	<0.10	<0.10	17	6.78	174.83	2.67	1.07	26.40	0.53	0.21	4.55		7	2.79	23.63	4	1.60	19.40
9	0.813	6.20	342	54.0	<0.10	0.000	0.291	<0.10	<0.10	20	7.98	182.81	2.65	1.06	27.46	0.49	0.20	4.75	*	9	3.59	27.22	4	1.60	21.00
10	0.837	5.83	356	56.4	<0.10	0.000	0.291	<0.10	<0.10	19	7.80	190.61	3.48	1.43	28.89	0.67	0.28	5.03		9	3.70	30.91	6	2.46	23.46
11	0.827	5.95	405	42.3	<0.10	0.000	0.291	<0.10	<0.10	13	5.28	195.89	2.61	1.06	29.95	0.49	0.20	5.23	*	5	2.03	32.94	4	1.62	25.08
12	0.851	6.06	361	51.7	<0.10	0.000	0.291	<0.10	<0.10	18	7.52	203.41	2.65	1.11	31.06	0.52	0.22	5.45		5	2.09	35.03	4	1.67	26.75
13	0.849	6.28	324	46.9	<0.10	0.000	0.291	<0.10	<0.10	15	6.25	209.66	3.06	1.28	32.34	0.52	0.22	5.67		5	2.08	37.11	5	2.08	28.83
14	0.850	5.82	370	53.0	<0.10	0.000	0.291	<0.10	<0.10	16	6.67	216.33	3.07	1.28	33.62	0.57	0.24	5.91		4	1.67	38.78	3	1.25	30.08
15	0.792	5.95	309	43.3	<0.10	0.000	0.291	<0.10	<0.10	15	5.83	222.16	3.49	1.36	34.98	0.55	0.21	6.12		5	1.94	40.73	2	0.78	30.86
16	0.804	6.48	243	48.5	<0.10	0.000	0.291	<0.10	<0.10	14	5.52	227.68	2.92	1.15	36.13	0.56	0.22	6.34		9	3.55	44.28	4	1.58	32.44
17	0.828	6.86	255	50.0	<0.10	0.000	0.291	<0.10	<0.10	16	6.50	234.18	3.03	1.23	37.36	0.57	0.23	6.57		4	1.63	45.90	4	1.63	34.07
18	0.762	6.52	230	38.3	<0.10	0.000	0.291	<0.10	<0.10	16	5.98	240.16	2.44	0.91	38.27	0.49	0.18	6.75	*	7	2.62	48.52	3	1.12	35.19
19	0.817	6.35	296	61.3	0.10	0.040	0.331	<0.10	<0.1	19	7.62	247.78	3.07	1.23	39.50	0.59	0.24	6.99		6	2.41	50.93	3	1.20	36.39
20	0.809	6.17	316	59.9	0.11	0.044	0.375	<0.10	<0.11	18	7.15	254.93	3.79	1.50	41.00	0.71	0.28	7.27		15	5.96	56.88	3	1.19	37.58
21	0.818	6.21	218	64.8	0.14	0.056	0.431	0.12	0.02	24	9.63	264.56	4.24	1.70	42.70	0.79	0.32	7.59		10	4.02	60.90	4	1.61	39.19
22	0.935	6.38	221	74.7	0.18	0.083	0.514	<0.10	<0.18	30	13.77	278.33	5.73	2.63	45.33	1.11	0.51	8.10		6	2.75	63.65	4	1.84	41.03
23	0.937	5.82	316	68.3	0.12	0.055	0.569	<0.10	<0.12	21	9.66	287.99	4.47	2.06	47.39	0.83	0.38	8.48		5	2.30	65.95	3	1.38	42.41
24	0.764	5.09	358	66.9	0.14	0.052	0.621	<0.10	<0.14	27	10.12	298.11	5.15	1.93	49.32	0.86	0.32	8.80		12	4.50	70.45	2	0.75	43.16
25	0.794	5.17	302	71.2	0.19	0.074	0.695	<0.10	<0.19	27	10.52	308.63	5.11	1.99	51.31	0.83	0.32	9.12		7	2.73	73.18	2	0.78	43.94
26	0.779	4.69	368	60.5	0.18	0.069	0.764	<0.10	<0.18	24	9.18	317.81	4.43	1.69	53.00	0.84	0.32	9.44		7	2.68	75.85	1	0.38	44.32
27	0.885	4.78	321	62.2	0.17	0.074	0.838	<0.10	<0.17	19	8.25	326.06	3.89	1.69	54.69	0.74	0.32	9.76		5	2.17	78.02	1	0.43	44.75
28	0.852	4.70	293	65.4	0.20	0.084	0.922	<0.10	<0.2	26	10.87	336.93	4.17	1.74	56.43	0.74	0.31	10.07		5	2.09	80.11	1	0.42	45.17
29	0.839	4.59	299	68.4	0.37	0.152	1.074	0.30	0.07	18	7.41	344.34	4.60	1.89	58.32	0.82	0.34	10.41		5	2.06	82.17	0	0.00	45.17
30	0.792	5.11	243	61.4	0.22	0.086	1.160	<0.10	<0.22	24	9.33	353.67	3.98	1.55	59.87	0.67	0.26	10.67		5	1.94	84.12	1	0.39	45.56
31	0.844	4.36	311	79.5	0.28	0.116	1.276	<0.10	<0.28	23	9.53	363.20	5.47	2.27	62.14	0.94	0.39	11.06		8	3.31	87.43	0	0.00	45.56
32	0.796	4.45	296	65.3	0.28	0.109	1.385	<0.10	<0.28	25	9.77	372.97	4.70	1.84	63.98	0.79	0.31	11.37		7	2.74	90.17	0	0.00	45.56
33	0.795	4.86	244	61.9	0.23	0.090	1.475	<0.10	<0.23	24	9.36	382.33	3.63	1.42	65.40	0.62	0.24	11.61		2	0.78	90.95	5	1.95	47.51
34	0.991	4.91	259	77.9	0.27	0.131	1.606	0.18	0.09	22	10.70	393.03	4.41	2.14	67.54	0.83	0.40	12.01		12	5.84	96.78	4	1.95	49.46
35	0.766	4.57	290	68.8	0.29	0.109	1.715	0.14	0.15	19	7.14	400.17	4.29	1.61	69.15	0.76	0.29	12.30		8	3.01	99.79	2	0.75	50.21
36	0.799	4.64	294	77.9	0.27	0.106	1.821	0.17	0.10	27	10.59	410.76	4.76	1.87	71.02	0.83	0.33	12.63		6	2.35	102.14	1	0.39	50.60
37	0.806	4.74	259	79.6	0.38	0.150	1.971	0.17	0.21	30	11.87	422.63	5.54	2.19	73.21	0.96	0.38	13.01		5	1.98	104.12	0	0.00	50.60
38	0.866	4.44	318	86.3	0.50	0.213	2.184	0.22	0.28	27	11.48	434.11	6.42	2.73	75.94	1.19	0.51	13.52		7	2.98	107.09	0	0.00	50.60
39	0.781	4.46	281	94.8	0.40	0.153	2.337	0.18	0.22	27	10.35	444.46	5.59	2.14	78.08	1.01	0.39	13.91		7	2.68	109.78	0	0.00	50.60
40	0.826	4.48	315	93.4	0.41	0.166	2.503	0.21	0.20	24	9.73	454.19	5.22	2.12	80.20	0.98	0.40	14.31		17	6.89	116.67	0	0.00	50.60
41	0.760	4.37	339	82.9	0.34	0.127	2.630	0.21	0.13	20	7.46	461.65	4.69	1.75	81.95	0.84	0.31	14.62		17	6.34	123.01	0	0.00	50.60
42	0.809	4.33	349	88.4	0.39	0.155	2.785	0.16	0.23	27	10.72	472.37	5.65	2.24	84.19	1.07	0.42	15.04		17	6.75	129.76	0	0.00	50.60
43	0.808	4.35	326	84.9	0.41	0.163	2.948	0.15	0.26	22	8.72	481.09	5.25	2.08	86.27	0.89	0.35	15.39		7	2.78	132.54	0	0.00	50.60
44	0.811	4.66	286	85.0	0.36	0.143	3.091	0.17	0.19	20	7.96	489.05	4.99	1.99	88.26	0.93	0.37	15.76		7	2.79	135.32	0	0.00	50.60
45	0.807	4.29	382	74.9	0.44	0.174	3.265	0.19	0.25	20	7.92	496.97	5.13	2.03	90.29	0.99	0.39	16.15		8	3.17	138.49	0	0.00	50.60

Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 6 . - Humidity Cell Analytical Results, CAL-001 (750-762) **(2.0376 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.805	4.29	416	97.6	0.48	0.190	3.455	0.22	0.26	24	9.48	506.45	6.25	2.47	92.76	1.12	0.44	16.59	9	3.56	142.05	0	0.00	50.60
47	0.808	4.40	464	88.3	0.45	0.178	3.633	0.22	0.23	22	8.72	515.17	5.20	2.06	94.82	0.99	0.39	16.98	9	3.57	145.61	0	0.00	50.60
48	0.800	4.32	410	89.5	0.41	0.161	3.794	0.21	0.20	21	8.24	523.41	5.06	1.99	96.81	0.90	0.35	17.33	15	5.89	151.50	0	0.00	50.60
49	0.783	4.36	392	84.1	0.39	0.150	3.944	0.16	0.23	19	7.30	530.71	4.71	1.81	98.62	0.82	0.32	17.65	11	4.23	155.73	0	0.00	50.60
50	0.807	4.31	410	91.4	0.42	0.166	4.110	0.18	0.24	24	9.51	540.22	5.29	2.10	100.72	0.95	0.38	18.03	9	3.56	159.29	0	0.00	50.60
51	0.788	4.28	454	95.9	0.40	0.155	4.265	0.21	0.19	22	8.51	548.73	4.58	1.77	102.49	0.88	0.34	18.37	9	3.48	162.78	0	0.00	50.60
52	0.788	4.31	403	89.6	0.37	0.143	4.408	0.19	0.18	21	8.12	556.85	4.84	1.87	104.36	0.77	0.30	18.67	9	3.48	166.26	0	0.00	50.60
53	0.777	4.20	404	96.2	0.43	0.164	4.572	0.18	0.25	26	9.91	566.76	5.12	1.95	106.31	0.87	0.33	19.00	9	3.43	169.69	0	0.00	50.60
54	0.811	4.23	384	90.8	0.42	0.167	4.739	0.21	0.21	26	10.35	577.11	4.97	1.98	108.29	0.84	0.33	19.33	14	5.57	175.26	0	0.00	50.60
55	0.829	4.11	390	104.7	0.46	0.187	4.926	0.25	0.21	28	11.39	588.50	5.51	2.24	110.53	0.90	0.37	19.70	10	4.07	179.33	0	0.00	50.60
56	0.826	4.21	442	94.9	0.44	0.178	5.104	0.19	0.25	25	10.13	598.63	4.60	1.86	112.39	0.86	0.35	20.05	11	4.46	183.79	0	0.00	50.60
57	0.787	4.22	386	84.6	0.35	0.135	5.239	0.19	0.16	22	8.50	607.13	3.85	1.49	113.88	0.71	0.27	20.32	8	3.09	186.88	0	0.00	50.60
58	0.844	4.14	404	93.8	0.47	0.195	5.434	0.21	0.26	26	10.77	617.90	4.48	1.86	115.74	0.77	0.32	20.64	10	4.14	191.02	0	0.00	50.60
59	0.812	4.06	405	104.2	0.60	0.239	5.673	0.25	0.35	28	11.16	629.06	5.26	2.10	117.84	0.97	0.39	21.03	11	4.38	195.40	0	0.00	50.60
60	0.874	4.03	409	107.1	0.43	0.184	5.857	0.21	0.22	29	12.44	641.50	5.29	2.27	120.11	0.94	0.40	21.43	12	5.15	200.55	0	0.00	50.60
61	0.852	3.99	416	114.2	0.40	0.167	6.024	0.25	0.15	33	13.80	655.30	5.62	2.35	122.46	0.93	0.39	21.82	11	4.60	205.15	0	0.00	50.60
62	0.835	3.97	405	117.4	0.52	0.213	6.237	0.43	0.09	34	13.93	669.23	5.72	2.34	124.80	0.97	0.40	22.22	13	5.33	210.48	0	0.00	50.60
63	0.806	3.98	407	106.6	0.58	0.229	6.466	0.42	0.16	31	12.26	681.49	5.06	2.00	126.80	0.93	0.37	22.59	16	6.33	216.81	0	0.00	50.60
64	0.820	3.94	413	117.0	0.54	0.217	6.683	0.39	0.15	33	13.10	694.59	5.69	2.29	129.09	0.96	0.39	22.98	15	6.04	222.84	0	0.00	50.60
65	0.812	3.94	411	118.2	0.54	0.215	6.898	0.42	0.12	34	13.51	708.10	5.12	2.04	131.13	0.90	0.36	23.34	13	5.18	228.03	0	0.00	50.60
66	0.840	3.98	428	110.7	0.40	0.165	7.063	0.32	0.08	33	13.41	721.51	5.36	2.21	133.34	0.87	0.36	23.70	13	5.36	233.38	0	0.00	50.60
67	0.826	4.03	405	106.8	0.47	0.191	7.254	0.38	0.09	31	12.57	734.08	4.61	1.87	135.21	0.76	0.31	24.01	11	4.46	237.84	0	0.00	50.60
68	0.810	3.96	408	103.8	0.41	0.163	7.417	0.32	0.09	28	11.13	745.21	4.83	1.92	137.13	0.71	0.28	24.29	15	5.96	243.81	0	0.00	50.60
69	0.786	3.97	411	104.8	0.46	0.177	7.594	0.34	0.12	25	9.64	754.85	4.54	1.75	138.88	0.74	0.29	24.58	15	5.79	249.59	0	0.00	50.60
70	0.813	3.90	402	118.8	0.57	0.227	7.821	0.42	0.15	30	11.97	766.82	5.00	1.99	140.87	0.84	0.34	24.92	16	6.38	255.98	0	0.00	50.60
71	0.814	3.91	407	112.2	0.48	0.192	8.013	0.42	0.06	28	11.19	778.01	5.24	2.09	142.96	0.84	0.34	25.26	15	5.99	261.97	0	0.00	50.60
72	0.794	3.94	403	100.7	0.37	0.144	8.157	0.34	0.03	24	9.35	787.36	4.28	1.67	144.63	0.67	0.26	25.52	14	5.46	267.42	0	0.00	50.60
73	0.785	3.99	410	100.9	0.46	0.177	8.334	0.34	0.12	27	10.40	797.76	4.68	1.80	146.43	0.75	0.29	25.81	15	5.78	273.20	0	0.00	50.60
74	0.805	3.93	404	98.0	0.39	0.154	8.488	0.35	0.04	25	9.88	807.64	4.35	1.72	148.15	0.64	0.25	26.06	14	5.53	278.73	0	0.00	50.60
75	0.718	3.90	402	101.9	0.43	0.152	8.640	0.34	0.09	24	8.46	816.10	4.27	1.50	149.65	0.67	0.24	26.30	15	5.29	284.02	0	0.00	50.60
76	0.802	3.88	411	114.5	0.49	0.193	8.833	0.36	0.13	23	9.05	825.15	3.90	1.54	151.19	0.65	0.26	26.56	16	6.30	290.32	0	0.00	50.60
77	0.796	3.86	426	144.7	0.48	0.188	9.021	0.29	0.19	26	10.16	835.31	4.30	1.68	152.87	0.67	0.26	26.82	16	6.25	296.57	0	0.00	50.60
78	0.784	3.79	423	128.2	0.52	0.200	9.221	0.39	0.13	27	10.39	845.70	4.77	1.84	154.71	0.64	0.25	27.07	17	6.54	303.11	0	0.00	50.60
79	0.798	3.79	426	139.5	0.55	0.215	9.436	0.44	0.11	30	11.75	857.45	4.54	1.78	156.49	0.72	0.28	27.35	17	6.66	309.77	0	0.00	50.60
80	0.801	3.78	452	137.3	0.49	0.193	9.629	0.30	0.19	33	12.97	870.42	4.88	1.92	158.41	0.79	0.31	27.66	20	7.86	317.63	0	0.00	50.60
81	0.803	3.82	428	126.0	0.45	0.177	9.806	0.32	0.13	28	11.03	881.45	4.08	1.61	160.02	0.78	0.31	27.97	19	7.49	325.12	0	0.00	50.60
82	0.800	3.70	424	146.0	0.67	0.263	10.069	0.39	0.28	34	13.35	894.80	5.25	2.06	162.08	0.83	0.33	28.30	21	8.25	333.36	0	0.00	50.60
83	0.799	3.80	414	139.0	0.54	0.212	10.281	0.26	0.28	30	11.76	906.56	3.93	1.54	163.62	0.69	0.27	28.57	19	7.45	340.81	0	0.00	50.60
84	0.798	3.74	418	144.0	0.53	0.208	10.489	0.35	0.18	31	12.14	918.70	4.40	1.72	165.34	0.71	0.28	28.85	19	7.44	348.25	0	0.00	50.60
85	0.794	3.77	412	151.0	0.61	0.238	10.727	0.42	0.19	34	13.21	931.91	5.10	1.99	167.33	0.80	0.31	29.16	18	7.01	355.27	0	0.00	50.60
86	0.814	3.65	415	158.2	0.64	0.256	10.983	0.48	0.16	40	16.01	947.92	4.90	1.96	169.29	0.84	0.34	29.50	20	8.15	363.41	0	0.00	50.60
87	0.815	3.71	413	153.0	0.67	0.268	11.251	0.42	0.25	38	15.20	963.12	4.60	1.84	171.13	0.78	0.31	29.81	20	8.00	371.41	0	0.00	50.60

Testing terminated

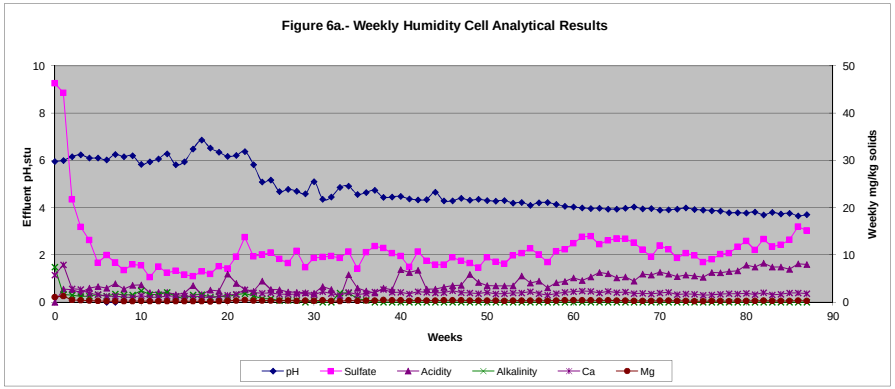
*Reported as <0.50

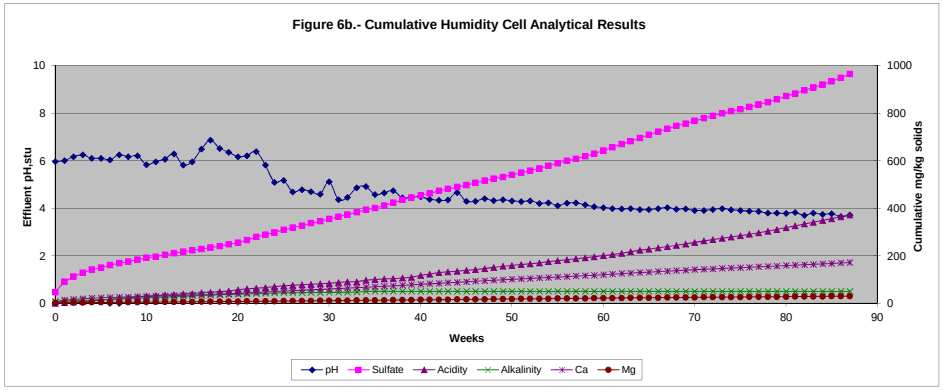
Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 6 . - Humidity Cell Analytical Results, CAL-001 (750-762) **(2.0376 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg





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Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 7 . - Humidity Cell Analytical Results, GMC-014 (176-184) **(1.5076 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	0.647	2.10	442	12160	1527.90	655.712	655.712	720.00	807.90	16250	6973.83	6973.83	435.30	186.81	186.81	229.77	98.61	98.61	12873	5524.56	5524.56	0	0.00	0.00
1	0.663	2.26	399	8090	849.60	373.630	1029.342	832.00	17.60	11000	4837.49	11811.32	341.83	150.33	337.14	109.04	47.95	146.56	6390	2810.14	8334.71	0	0.00	0.00
2	0.815	2.43	509	5230	492.00	265.972	1295.314	260.00	232.00	3900	2108.32	13919.64	193.95	104.85	441.99	58.66	31.71	178.27	3169	1713.14	10047.85	0	0.00	0.00
3	0.675	2.43	525	4110	441.00	197.450	1492.764	156.00	285.00	3000	1343.19	15262.83	188.59	84.44	526.43	48.34	21.64	199.91	2047	916.51	10964.35	0	0.00	0.00
4	0.764	2.53	514	3210	347.54	176.121	1668.885	182.00	165.54	2600	1317.59	16580.42	155.34	78.72	605.15	33.09	16.77	216.68	1391	704.91	11669.27	0	0.00	0.00
5	0.712	2.75	533	1649	96.21	45.437	1714.322	61.10	35.11	810	382.54	16962.96	53.12	25.09	630.24	11.16	5.27	221.95	490	231.41	11900.68	0	0.00	0.00
6	0.736	2.85	533	1155	59.38	28.989	1743.311	35.10	24.28	420	205.04	17168.00	29.98	14.64	644.88	5.34	2.61	224.56	288	140.60	12041.28	0	0.00	0.00
7	0.689	2.85	465	1037	40.68	18.591	1761.902	29.25	11.43	330	150.82	17318.82	20.79	9.50	654.38	4.01	1.83	226.39	251	114.71	12155.99	0	0.00	0.00
8	0.719	2.64	559	1335	94.88	45.250	1807.152	48.75	46.13	480	228.92	17547.74	37.80	18.03	672.41	6.93	3.31	229.70	403	192.20	12348.19	0	0.00	0.00
9	0.715	2.83	494	1216	68.18	32.335	1839.487	45.50	22.68	490	232.39	17780.13	24.31	11.53	683.94	4.48	2.12	231.82	357	169.31	12517.50	0	0.00	0.00
10	0.717	2.77	431	1180	76.69	36.473	1875.960	48.10	28.59	410	194.99	17975.12	25.45	12.10	696.04	4.62	2.20	234.02	335	159.32	12676.82	0	0.00	0.00
11	0.714	2.69	542	1071	72.62	34.393	1910.353	48.75	23.87	360	170.50	18145.62	22.14	10.49	706.53	3.96	1.88	235.90	306	144.92	12821.75	0	0.00	0.00
12	0.734	2.88	476	1050	60.06	29.241	1939.594	33.15	26.91	370	180.14	18325.76	17.67	8.60	715.13	3.11	1.51	237.41	265	129.02	12950.77	0	0.00	0.00
13	0.701	2.94	439	970	60.20	27.992	1967.586	30.55	29.65	340	158.09	18483.85	16.34	7.60	722.73	2.57	1.19	238.60	243	112.99	13063.76	0	0.00	0.00
14	0.717	2.99	427	990	59.29	28.198	1995.784	35.29	24.00	290	137.92	18621.77	15.17	7.21	729.94	2.61	1.24	239.84	270	128.41	13192.16	0	0.00	0.00
15	0.724	2.70	502	886	64.03	30.749	2026.533	35.75	28.28	260	124.86	18746.63	15.46	7.42	737.36	2.30	1.10	240.94	255	122.46	13314.62	0	0.00	0.00
16	0.655	2.90	450	914	59.05	25.655	2052.188	40.30	18.75	270	117.31	18863.94	13.01	5.65	743.01	2.18	0.95	241.89	265	115.13	13429.76	0	0.00	0.00
17	0.715	2.96	425	990	70.93	33.640	2085.828	39.00	31.93	320	151.76	19015.70	15.28	7.25	750.26	2.32	1.10	242.99	280	132.79	13562.55	0	0.00	0.00
18	0.708	2.91	426	1009	77.62	36.452	2122.280	40.95	36.67	370	173.76	19189.46	14.28	6.71	756.97	2.24	1.05	244.04	306	143.70	13706.26	0	0.00	0.00
19	0.720	2.84	432	1056	77.79	37.151	2159.431	53.30	24.49	370	176.70	19366.16	14.29	6.82	763.79	2.17	1.04	245.08	323	154.26	13860.51	0	0.00	0.00
20	0.707	2.73	431	1253	98.57	46.225	2205.656	59.80	38.77	420	196.96	19563.12	17.22	8.08	771.87	2.78	1.30	246.38	395	185.24	14045.75	0	0.00	0.00
21	0.676	2.74	474	1317	99.34	44.544	2250.200	66.95	32.39	520	233.17	19796.29	17.25	7.73	779.60	2.66	1.19	247.57	454	203.57	14249.32	0	0.00	0.00
22	0.728	2.76	438	1297	110.07	53.151	2303.351	55.90	54.17	550	265.59	20061.88	16.87	8.15	787.75	2.63	1.27	248.84	471	227.44	14476.76	0	0.00	0.00
23	0.774	2.74	498	1295	96.08	49.327	2352.678	55.25	40.83	550	282.37	20344.25	14.36	7.37	795.12	2.23	1.14	249.98	446	228.98	14705.74	0	0.00	0.00
24	0.682	2.75	468	1069	53.15	24.044	2376.722	22.75	30.40	390	176.43	20520.68	10.20	4.61	799.73	1.50	0.68	250.66	514	232.52	14938.26	0	0.00	0.00
25	0.687	2.65	447	1412	112.62	51.320	2428.042	59.80	52.82	630	287.09	20807.77	14.71	6.70	806.43	2.25	1.03	251.69	526	239.69	15177.95	0	0.00	0.00
26	0.748	2.68	449	1271	95.62	47.442	2475.484	53.95	41.67	560	277.85	21085.62	11.50	5.71	812.14	1.89	0.94	252.63	469	232.70	15410.65	0	0.00	0.00
27	0.682	2.66	452	1444	107.00	48.404	2523.888	59.15	47.85	480	217.14	21302.76	11.63	5.26	817.40	1.99	0.90	253.53	524	237.04	15647.69	0	0.00	0.00
28	0.724	2.63	449	1489	116.00	55.707	2579.595	52.65	63.35	660	316.95	21619.71	10.65	5.11	822.51	1.74	0.84	254.37	538	258.37	15906.06	0	0.00	0.00
29	0.294	2.60	459	1502	109.31	21.317	2600.912	53.95	55.36	440	85.81	21705.52	12.00	2.34	824.85	1.79	0.35	254.72	576	112.33	16018.39	0	0.00	0.00
30	0.687	2.57	448	1623	136.77	62.325	2663.237	74.75	62.02	730	332.65	22038.17	12.32	5.61	830.46	1.64	0.75	255.47	779	354.98	16373.37	0	0.00	0.00
31	0.701	2.47	445	1701	167.79	78.019	2741.256	68.25	99.54	500	232.49	22270.66	11.89	5.53	835.99	1.71	0.80	256.27	674	313.40	16686.76	0	0.00	0.00
32	0.647	2.50	453	1421	126.49	54.284	2795.540	57.20	69.29	550	236.04	22506.70	8.37	3.59	839.58	1.21	0.52	256.79	501	215.01	16901.77	0	0.00	0.00
33	0.698	2.46	449	1173	88.33	40.896	2836.436	35.10	53.23	430	199.08	22705.78	5.32	2.46	842.04	0.82	0.38	257.17	399	184.73	17086.51	0	0.00	0.00
34	0.691	2.78	450	1079	61.56	28.216	2864.652	34.45	27.11	260	119.17	22824.95	3.24	1.49	843.53	0.57	0.26	257.43	356	163.17	17249.68	0	0.00	0.00
35	0.651	2.73	454	1125	67.52	29.156	2893.808	34.45	33.07	270	116.59	22941.54	4.30	1.86	845.39	0.60	0.26	257.69	287	123.93	17373.61	0	0.00	0.00
36	0.694	2.73	449	1172	56.72	26.110	2919.918	39.65	17.07	390	179.53	23121.07	3.16	1.45	846.84	0.49	0.23	257.92 *	316	145.47	17519.07	0	0.00	0.00
37	0.680	2.76	455	1069	65.06	29.345	2949.263	40.95	24.11	410	184.93	23306.00	3.48	1.57	848.41	0.55	0.25	258.17	299	134.86	17653.94	0	0.00	0.00
38	0.676	2.77	458	1015	59.63	26.738	2976.001	33.15	26.48	280	125.55	23431.55	2.99	1.34	849.75	0.52	0.23	258.40	255	114.34	17768.28	0	0.00	0.00
39	0.708	2.68	451	981	49.06	23.040	2999.041	34.45	14.61	250	117.41	23548.96	2.16	1.01	850.76	0.49	0.23	258.63 *	236	110.83	17879.11	0	0.00	0.00
40	0.692	2.85	458	814	46.32	21.261	3020.302	23.40	22.92	159	72.98	23621.94	1.19	0.55	851.31	0.49	0.22	258.85 *	186	85.38	17964.48	0	0.00	0.00
41	0.710	2.81	451	900	51.30	24.160	3044.462	31.85	19.45	203	95.60	23717.54	2.00	0.94	852.25	0.49	0.23	259.08 *	226	106.43	18070.92	0	0.00	0.00
42	0.707	2.55	450	1054	56.05	26.285	3070.747	33.15	22.90	279	130.84	23848.38	2.35	1.10	853.35	0.49	0.23	259.31 *	264	123.81	18194.72	0	0.00	0.00
43	0.744	2.64	449	891	46.76	23.076	3093.823	33.80	12.96	189	93.27	23941.65	1.56	0.77	854.12	0.49	0.24	259.55 *	213	105.12	18299.84	0	0.00	0.00
44	0.701	2.85	452	789	33.88	15.753	3109.576	21.45	12.43	124	57.66	23999.31	1.52	0.71	854.83	0.49	0.23	259.78 *	182	84.63	18384.46	0	0.00	0.00
45	0.737	2.83	452	1057	65.51	32.025	3141.601	37.05	28.46	274	133.95	24133.26	1.91	0.93	855.76	0.49	0.24	260.02 *	289	141.28	18525.74	0	0.00	0.00

Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 7 . - Humidity Cell Analytical Results, GMC-014 (176-184) **(1.5076 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.695	2.77	471	901	42.83	19.745	3161.346	24.05	18.78	176	81.14	24214.40	1.31	0.60	856.36	0.49	0.23	260.25 *	233	107.41	18633.15	0	0.00	0.00
47	0.723	2.72	473	1150	75.42	36.169	3197.515	39.00	36.42	213	102.15	24316.55	2.02	0.97	857.33	0.49	0.23	260.48 *	333	159.70	18792.85	0	0.00	0.00
48	0.693	2.80	461	846	30.41	13.979	3211.494	18.20	12.21	138	63.43	24379.98	1.16	0.53	857.86	0.49	0.23	260.71 *	193	88.72	18881.57	0	0.00	0.00
49	0.726	2.59	444	1568	114.26	55.023	3266.517	64.35	49.91	400	192.62	24572.60	2.66	1.28	859.14	0.53	0.26	260.97	501	241.26	19122.83	0	0.00	0.00
50	0.704	2.66	466	1257	67.62	31.576	3298.093	48.10	19.52	263	122.81	24695.41	1.69	0.79	859.93	0.49	0.23	261.20 *	722	337.15	19459.98	0	0.00	0.00
51	0.672	2.85	478	1082	36.94	16.466	3314.559	24.70	12.24	166	73.99	24769.40	0.89	0.40	860.33	0.49	0.22	261.42 *	242	107.87	19567.85	0	0.00	0.00
52	0.746	2.55	436	1863	135.00	66.802	3381.361	109.20	25.80	592	292.94	25062.34	2.68	1.33	861.66	0.49	0.24	261.66 *	928	459.20	20027.05	0	0.00	0.00
53	0.723	2.57	450	1562	134.50	64.502	3445.863	70.85	63.65	469	224.92	25287.26	2.18	1.05	862.71	0.49	0.23	261.89 *	463	222.04	20249.09	0	0.00	0.00
54	0.681	2.58	456	1499	118.59	53.568	3499.431	63.05	55.54	455	205.53	25492.79	2.02	0.91	863.62	0.49	0.22	262.11 *	446	201.46	20450.55	0	0.00	0.00
55	0.723	2.62	460	1324	73.14	35.076	3534.507	42.25	30.89	306	146.75	25639.54	1.11	0.53	864.15	0.49	0.23	262.34 *	333	159.70	20610.25	0	0.00	0.00
56	0.684	2.73	476	962	37.12	16.841	3551.348	20.80	16.32	204	92.56	25732.10	0.49	0.22	864.37 *	0.49	0.22	262.56 *	208	94.37	20704.62	0	0.00	0.00
57	0.667	2.50	454	1856	167.00	73.885	3625.233	105.95	61.05	647	286.25	26018.35	1.65	0.73	865.10	0.49	0.22	262.78 *	593	262.36	20966.98	0	0.00	0.00
58	0.692	2.54	449	1709	146.41	67.203	3692.436	104.00	42.41	590	270.81	26289.16	2.27	1.04	866.14	0.49	0.22	263.00 *	540	247.86	21214.84	0	0.00	0.00
59	0.720	2.56	445	1595	124.41	59.416	3751.852	77.35	47.06	496	236.88	26526.04	2.54	1.21	867.35	0.49	0.23	263.23 *	471	224.94	21439.78	0	0.00	0.00
60	0.733	2.60	444	1366	107.19	52.116	3803.968	62.40	44.79	397	193.02	26719.06	1.04	0.51	867.86	0.49	0.24	263.47 *	380	184.76	21624.54	0	0.00	0.00
61	0.741	2.63	446	1273	90.15	44.310	3848.278	53.95	36.20	349	171.54	26890.60	0.99	0.49	868.35	0.49	0.24	263.71 *	350	172.03	21796.57	0	0.00	0.00
62	0.737	2.78	465	853	41.52	20.297	3868.575	31.85	9.67	192	93.86	26984.46	0.49	0.24	868.59 *	0.49	0.24	263.95 *	197	96.31	21892.87	0	0.00	0.00
63	0.646	2.89	483	626	21.17	9.071	3877.646	13.00	8.17	135	58.00	27042.46	0.49	0.21	868.80 *	0.49	0.21	264.16 *	121	51.85	21944.72	0	0.00	0.00
64	0.693	2.73	475	909	39.33	18.079	3895.725	20.80	18.53	194	88.95	27131.41	0.49	0.23	869.03 *	0.49	0.23	264.39 *	198	91.02	22035.73	0	0.00	0.00
65	0.718	2.54	455	1565	82.09	39.096	3934.821	65.65	16.44	463	220.70	27352.11	0.82	0.39	869.42	0.49	0.23	264.62 *	425	202.41	22238.14	0	0.00	0.00
66	0.707	2.50	464	1702	62.40	29.263	3964.084	0.40	62.00	460	215.72	27567.83	5.07	2.38	871.80	0.89	0.42	265.04 *	429	201.18	22439.32	0	0.00	0.00
67	0.682	2.59	458	1417	58.95	26.667	3990.751	40.17	18.78	370	167.38	27735.21	0.65	0.29	872.09	0.49	0.22	265.26 *	342	154.71	22594.04	0	0.00	0.00
68	0.658	2.63	466	1209	38.57	16.834	4007.585	35.10	3.47	242	105.62	27840.83	0.60	0.26	872.35	0.49	0.21	265.47 *	288	125.70	22719.74	0	0.00	0.00
69	0.730	2.49	442	1877	114.37	55.379	4062.964	109.20	5.17	555	268.74	28109.57	1.03	0.50	872.85	0.49	0.24	265.71 *	562	272.13	22991.86	0	0.00	0.00
70	0.697	2.62	461	1229	47.91	22.150	4085.114	32.50	15.41	281	129.91	28239.48	0.66	0.31	873.16	0.49	0.23	265.94 *	301	139.16	23131.02	0	0.00	0.00
71	0.711	2.52	446	1605	102.30	48.246	4133.360	78.00	24.30	448	211.28	28450.76	1.01	0.48	873.64	0.49	0.23	266.17 *	447	210.81	23341.83	0	0.00	0.00
72	0.674	2.52	460	1572	63.88	28.559	4161.919	56.55	7.33	389	173.91	28624.67	0.77	0.34	873.98	0.49	0.22	266.39 *	418	186.88	23528.71	0	0.00	0.00
73	0.640	2.52	457	1611	72.00	30.565	4192.484	55.90	16.10	398	168.96	28793.63	0.97	0.41	874.39	0.49	0.21	266.60 *	409	173.63	23702.34	0	0.00	0.00
74	0.747	2.48	446	1857	120.55	59.731	4252.215	103.35	17.20	573	283.92	29077.55	0.90	0.45	874.84	0.49	0.24	266.84 *	573	283.92	23986.25	0	0.00	0.00
75	0.747	2.52	442	1721	109.86	54.434	4306.649	79.95	29.91	496	245.76	29323.31	0.99	0.49	875.33	0.49	0.24	267.08 *	483	239.32	24225.57	0	0.00	0.00
76	0.687	2.56	449	1543	81.37	37.080	4343.729	59.15	22.22	338	154.02	29477.33	0.69	0.31	875.64	0.49	0.22	267.30 *	392	178.63	24404.20	0	0.00	0.00
77	0.691	2.62	461	1355	51.38	23.550	4367.279	35.75	15.63	244	111.84	29589.17	0.60	0.28	875.92	0.49	0.22	267.52 *	299	137.05	24541.25	0	0.00	0.00
78	0.725	2.60	445	1484	87.13	41.901	4409.180	66.30	20.83	299	143.79	29732.96	0.73	0.35	876.27	0.49	0.24	267.76 *	306	147.15	24688.40	0	0.00	0.00
79	0.699	2.87	462	761	18.24	8.457	4417.637	15.60	2.64	132	61.20	29794.16	0.49	0.23	876.50 *	0.49	0.23	267.99 *	141	65.38	24753.78	0	0.00	0.00
80	0.727	2.56	450	1615	91.07	43.916	4461.553	59.80	31.27	432	208.32	30002.48	0.70	0.34	876.84	0.49	0.24	268.23 *	444	214.11	24967.88	0	0.00	0.00
81	0.694	2.65	458	1273	46.00	21.175	4482.728	31.85	14.15	253	116.46	30118.94	0.63	0.29	877.13	0.49	0.23	268.46 *	291	133.96	25101.84	0	0.00	0.00
82	0.725	2.56	440	1570	93.31	44.872	4527.600	49.40	43.91	460	221.21	30340.15	0.65	0.31	877.44	0.49	0.24	268.70 *	415	199.57	25301.41	0	0.00	0.00
83	0.693	2.69	457	1186	35.70	16.410	4544.010	22.00	13.70	252	115.84	30455.99	0.58	0.27	877.71	0.18	0.08	268.78 *	247	113.54	25414.95	0	0.00	0.00
84	0.700	2.61	444	1435	73.00	33.895	4577.905	33.80	39.20	557	258.62	30714.61	0.52	0.24	877.95	0.49	0.23	269.01 *	356	165.30	25580.25	0	0.00	0.00
85	0.669	2.72	466	1031	32.08	14.236	4592.141	20.80	11.28	216	95.76	30810.37	0.49	0.22	878.17 *	0.49	0.22	269.23 *	211	93.76	25674.00	0	0.00	0.00
86	0.733	2.68	457	1168	47.14	22.920	4615.061	29.25	17.89	276	134.00	30944.37	0.56	0.27	878.44	0.49	0.24	269.47 *	268	130.15	25804.16	0	0.00	0.00
87	0.747	2.59	443	1354	84.07	41.656	4656.717	40.95	43.12	414	205.13	31149.50	0.51	0.25	878.69	0.49	0.24	269.71 *	366	181.35	25985.50	0	0.00	0.00

Testing terminated

*Reported as <0.50

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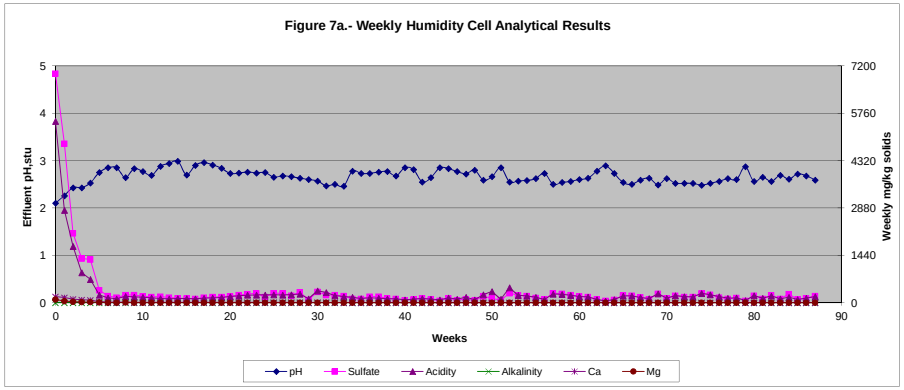
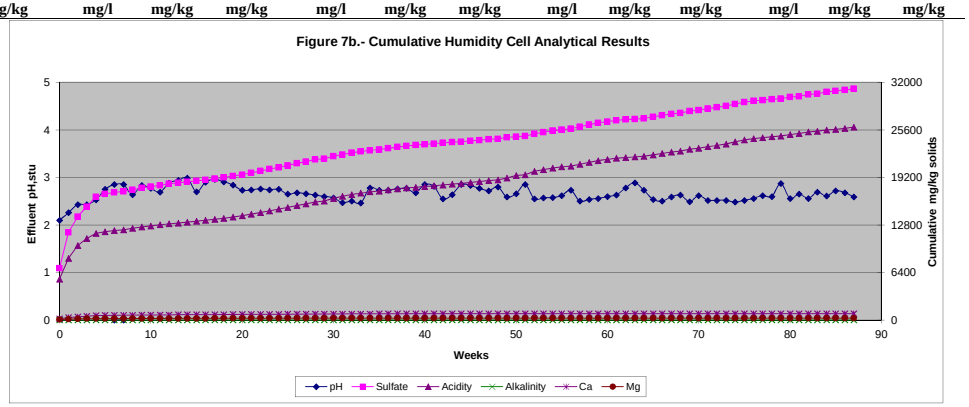
Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 7 . - Humidity Cell Analytical Results, GMC-014 (176-184) **(1.5076 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg





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Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 8 . - Humidity Cell Analytical Results, CAL-001 (380-400) **(1.9905 Kg)**

					Total Fe					SO_4=			Ca			Mg				Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg		mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.741	7.10	352	117	0.18	0.157	0.157	<0.10	<0.18	30	26.24	26.24	14.11	12.34	12.34	0.71	0.62	0.62		0	0.00	0.00	23	20.12	20.12
1	0.796	7.12	382	100	0.12	0.048	0.205	<0.10	<0.12	27	10.80	37.04	16.11	6.44	18.78	1.11	0.44	1.06		0	0.00	0.00	19	7.60	27.72
2	0.769	7.19	364	56.7	0.13	0.050	0.255	<0.10	<0.13	11	4.25	41.29	7.49	2.89	21.67	0.61	0.24	1.30		0	0.00	0.00	20	7.73	35.45
3	0.802	7.39	358	46.0	0.16	0.064	0.319	<0.10	<0.16	7.4	2.98	44.27	6.86	2.76	24.43	0.61	0.25	1.55		0	0.00	0.00	18	7.25	42.70
4	0.826	7.37	357	38.2	<0.10	0.000	0.319	<0.10	<0.10	6.1	2.53	46.80	7.77	3.22	27.65	0.63	0.26	1.81		0	0.00	0.00	18	7.47	50.17
5	0.814	7.20	385	36.5	<0.10	0.000	0.319	<0.10	<0.10	3.8	1.55	48.35	5.70	2.33	29.98	0.49	0.20	2.01	*	0	0.00	0.00	20	8.18	58.35
6	0.851	7.34	380	32.7	<0.10	0.000	0.319	<0.10	<0.10	58	24.80	73.15	5.00	2.14	32.12	0.49	0.21	2.22	*	0	0.00	0.00	20	8.55	66.90
7	0.854	7.40	324	32.1	<0.10	0.000	0.319	<0.10	<0.10	1.6	0.69	73.84	5.04	2.16	34.28	0.49	0.21	2.43	*	0	0.00	0.00	17	7.29	74.19
8	0.791	7.58	331	29.4	<0.10	0.000	0.319	<0.10	<0.10	1.2	0.48	74.32	5.10	2.03	36.31	0.49	0.19	2.62	*	0	0.00	0.00	16	6.36	80.55
9	0.779	7.39	301	29.8	<0.10	0.000	0.319	<0.10	<0.10	1.1	0.43	74.75	4.18	1.64	37.95	0.49	0.19	2.81	*	0	0.00	0.00	17	6.65	87.20
10	0.818	6.76	355	44.7	<0.10	0.000	0.319	<0.10	<0.10	1.1	0.45	75.20	7.44	3.06	41.01	0.49	0.20	3.01	*	0	0.00	0.00	25	10.27	97.47
11	0.785	6.94	339	17.8	0.14	0.055	0.374	<0.10	<0.14	<1.0	0.00	75.20	3.64	1.44	42.45	0.49	0.19	3.20	*	0	0.00	0.00	11	4.34	101.81
12	0.808	6.98	331	18.9	<0.10	0.000	0.374	<0.10	<0.10	1.1	0.45	75.65	2.79	1.13	43.58	0.49	0.20	3.40	*	0	0.00	0.00	11	4.47	106.28
13	0.815	7.12	317	18.9	<0.10	0.000	0.374	<0.10	<0.10	<1.0	0.00	75.65	3.17	1.30	44.88	0.49	0.20	3.60	*	0	0.00	0.00	12	4.91	111.19
14	0.815	7.47	334	16.3	<0.10	0.000	0.374	<0.10	<0.10	<1.0	0.00	75.65	2.59	1.06	45.94	0.49	0.20	3.80	*	0	0.00	0.00	10	4.09	115.28
15	0.788	7.49	292	15.1	0.12	0.048	0.422	<0.10	<0.12	<1.0	0.00	75.65	3.13	1.24	47.18	0.49	0.19	3.99	*	0	0.00	0.00	9	3.56	118.84
16	0.796	7.69	289	16.1	0.21	0.084	0.506	<0.10	<0.21	<1.0	0.00	75.65	2.39	0.96	48.14	0.49	0.20	4.19	*	0	0.00	0.00	12	4.80	123.64
17	0.791	7.73	279	15.3	<0.10	0.000	0.506	<0.10	<0.10	<1.0	0.00	75.65	2.50	0.99	49.13	0.49	0.19	4.38	*	0	0.00	0.00	12	4.77	128.41
18	0.797	7.38	293	15.1	<0.10	0.000	0.506	<0.10	<0.10	<1.0	0.00	75.65	2.23	0.89	50.02	0.49	0.20	4.58	*	0	0.00	0.00	10	4.00	132.41
19	0.812	7.43	299	14.6	0.20	0.082	0.588	<0.10	<0.2	1.8	0.73	76.38	2.17	0.89	50.91	0.49	0.20	4.78	*	0	0.00	0.00	10	4.08	136.49
20	0.792	7.14	332	15.6	0.26	0.103	0.691	<0.10	<0.26	<1.0	0.00	76.38	2.29	0.91	51.82	0.49	0.19	4.97	*	0	0.00	0.00	10	3.98	140.47
21	0.825	7.58	279	14.4	0.11	0.046	0.737	<0.10	<0.11	<1.0	0.00	76.38	1.86	0.77	52.59	0.49	0.20	5.17	*	0	0.00	0.00	10	4.14	144.61
22	0.921	7.62	271	22.4	0.27	0.125	0.862	<0.10	<0.27	1.6	0.74	77.12	3.38	1.56	54.15	0.49	0.23	5.40	*	0	0.00	0.00	15	6.94	151.55
23	0.913	7.50	300	17.7	0.24	0.110	0.972	<0.10	<0.24	1.4	0.64	77.76	2.43	1.11	55.26	0.49	0.22	5.62	*	0	0.00	0.00	12	5.50	157.05
24	0.787	7.66	282	13.9	<0.10	0.000	0.972	<0.10	<0.10	1.0	0.40	78.16	2.40	0.95	56.21	0.49	0.19	5.81	*	7	2.77	2.77	8	3.16	160.21
25	0.789	7.28	305	14.1	0.26	0.103	1.075	<0.10	<0.26	2.4	0.95	79.11	2.03	0.80	57.01	0.49	0.19	6.00	*	0	0.00	2.77	9	3.57	163.78
26	0.788	7.09	355	12.2	0.20	0.079	1.154	<0.10	<0.2	1.1	0.44	79.55	1.72	0.68	57.69	0.49	0.19	6.19	*	3	1.19	3.96	7	2.77	166.55
27	0.872	7.08	278	15.2	0.11	0.048	1.202	<0.10	<0.11	<1.0	0.00	79.55	2.03	0.89	58.58	0.49	0.21	6.40	*	4	1.75	5.71	8	3.50	170.05
28	0.914	7.28	199	17.9	0.20	0.092	1.294	<0.10	<0.2	<1.0	0.00	79.55	2.83	1.30	59.88	0.49	0.22	6.62	*	3	1.38	7.09	9	4.13	174.18
29	0.846	7.16	207	13.9	0.40	0.170	1.464	<0.10	<0.4	<1.0	0.00	79.55	1.95	0.83	60.71	0.49	0.21	6.83	*	4	1.70	8.79	7	2.98	177.16
30	0.797	7.08	197	25.4	0.42	0.168	1.632	<0.10	<0.42	11	4.40	83.95	1.37	0.55	61.26	0.49	0.20	7.03	*	4	1.60	10.39	2	0.80	177.96
31	0.854	7.20	190	13.5	<0.10	0.000	1.632	<0.10	<0.10	<1.0	0.00	83.95	1.96	0.84	62.10	0.49	0.21	7.24	*	2	0.86	11.25	7	3.00	180.96
32	0.798	7.12	197	11.5	<0.10	0.000	1.632	<0.10	<0.10	<1.0	0.00	83.95	1.88	0.75	62.85	0.49	0.20	7.44	*	2	0.80	12.05	5	2.00	182.96
33	0.821	6.95	313	10.6	<0.10	0.000	1.632	<0.10	<0.10	<1.0	0.00	83.95	1.33	0.55	63.40	0.49	0.20	7.64	*	1	0.41	12.46	15	6.19	189.15
34	0.980	7.36	280	18.2	<0.10	0.000	1.632	<0.10	<0.10	<1.0	0.00	83.95	2.31	1.14	64.54	0.49	0.24	7.88	*	2	0.99	13.45	22	10.83	199.98
35	0.797	7.30	215	11.0	<0.10	0.000	1.632	<0.10	<0.10	<1.0	0.00	83.95	1.64	0.66	65.20	0.49	0.20	8.08	*	2	0.80	14.25	6	2.40	202.38
36	0.787	7.26	171	11.4	<0.10	0.000	1.632	<0.10	<0.10	<1.0	0.00	83.95	1.79	0.71	65.91	0.49	0.19	8.27	*	2	0.79	15.04	5	1.98	204.36
37	0.797	7.26	159	10.7	<0.10	0.000	1.632	<0.10	<0.10	1.3	0.52	84.47	1.52	0.61	66.52	0.49	0.20	8.47	*	3	1.20	16.24	5	2.00	206.36
38	0.862	7.28	190	11.2	<0.10	0.000	1.632	<0.10	<0.10	2.8	1.21	85.68	1.76	0.76	67.28	0.49	0.21	8.68	*	3	1.30	17.54	5	2.17	208.53
39	0.799	7.11	142	10.3	<0.10	0.000	1.632	<0.10	<0.10	1.7	0.68	86.36	1.20	0.48	67.76	0.49	0.20	8.88	*	4	1.61	19.14	5	2.01	210.54
40	0.789	7.47	150	10.0	<0.10	0.000	1.632	<0.10	<0.10	4.0	1.59	87.95	1.36	0.54	68.30	0.49	0.19	9.07	*	11	4.36	23.50	5	1.98	212.52
41	0.801	7.80	186	10.1	<0.10	0.000	1.632	<0.10	<0.10	2.7	1.09	89.04	1.30	0.52	68.82	0.49	0.20	9.27	*	2	0.81	24.31	6	2.41	214.93
42	0.800	7.16	243	10.2	<0.10	0.000	1.632	<0.10	<0.10	3.3	1.33	90.37	1.58	0.64	69.46	0.49	0.20	9.47	*	1	0.40	24.71	5	2.01	216.94
43	0.795	7.15	327	9.7	<0.10	0.000	1.632	<0.10	<0.10	1.7	0.68	91.05	1.47	0.59	70.05	0.49	0.20	9.67	*	3	1.20	25.91	5	2.00	218.94
44	0.794	7.76	102	11.0	<0.10	0.000	1.632	<0.10	<0.10	3.7	1.48	92.53	1.53	0.61	70.66	0.49	0.20	9.87	*	4	1.60	27.50	6	2.39	221.33
45	0.799	6.98	350	9.8	0.14	0.056	1.688	<0.10	<0.14	1.8	0.71	93.24	1.29	0.52	71.18	0.49	0.20	10.07	*	1	0.40	27.91	5	2.01	223.34

Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 8 . - Humidity Cell Analytical Results, CAL-001 (380-400) **(1.9905 Kg)**

					Total Fe					SO_4=			Ca			Mg				Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg		mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.785	7.76	293	10.5	<0.10	0.000	1.688	<0.10	<0.10	2.4	0.94	94.18	1.24	0.49	71.67	0.49	0.19	10.26	*	0	0.00	27.91	5	1.97	225.31
47	0.790	7.23	479	11.0	<0.10	0.000	1.688	<0.10	<0.10	2.5	1.01	95.19	1.29	0.51	72.18	0.49	0.19	10.45	*	2	0.79	28.70	5	1.98	227.29
48	0.791	7.09	415	9.4	<0.10	0.000	1.688	<0.10	<0.10	2.7	1.08	96.27	1.35	0.54	72.72	0.49	0.19	10.64	*	2	0.80	29.49	5	1.99	229.28
49	0.771	6.98	428	10.0	0.33	0.128	1.816	<0.10	<0.33	1.6	0.62	96.89	1.20	0.46	73.18	0.49	0.19	10.83	*	3	1.16	30.66	4	1.55	230.83
50	0.809	6.98	475	10.7	0.10	0.041	1.857	<0.10	<0.1	2.9	1.16	98.05	1.30	0.53	73.71	0.49	0.20	11.03	*	3	1.22	31.88	5	2.03	232.86
51	0.797	7.13	412	10.0	<0.10	0.000	1.857	<0.10	<0.10	2.6	1.05	99.10	1.00	0.40	74.11	0.49	0.20	11.23	*	4	1.60	33.48	5	2.00	234.86
52	0.803	7.83	266	10.8	0.19	0.077	1.934	<0.10	<0.19	2.1	0.86	99.96	1.07	0.43	74.54	0.49	0.20	11.43	*	3	1.21	34.69	5	2.02	236.88
53	0.817	7.48	324	11.4	<0.10	0.000	1.934	<0.10	<0.10	3.4	1.38	101.34	1.31	0.54	75.08	0.49	0.20	11.63	*	1	0.41	35.10	5	2.05	238.93
54	0.806	7.84	215	10.4	<0.10	0.000	1.934	<0.10	<0.10	3.5	1.42	102.76	1.06	0.43	75.51	0.49	0.20	11.83	*	4	1.62	36.72	5	2.02	240.95
55	0.810	7.44	273	8.8	<0.10	0.000	1.934	<0.10	<0.10	3.5	1.42	104.18	1.13	0.46	75.97	0.49	0.20	12.03	*	3	1.22	37.94	5	2.03	242.98
56	0.808	8.07	251	9.6	<0.10	0.000	1.934	<0.10	<0.10	3.5	1.42	105.60	1.16	0.47	76.44	0.49	0.20	12.23	*	4	1.62	39.56	6	2.44	245.42
57	0.809	7.58	232	10.8	<0.10	0.000	1.934	<0.10	<0.10	3.4	1.38	106.98	0.97	0.39	76.83	0.49	0.20	12.43	*	4	1.63	41.19	5	2.03	247.45
58	0.816	7.28	308	8.0	<0.10	0.000	1.934	<0.10	<0.10	3.6	1.48	108.46	0.96	0.39	77.22	0.49	0.20	12.63	*	1	0.41	41.60	5	2.05	249.50
59	0.809	6.93	367	10.6	<0.10	0.000	1.934	<0.10	<0.10	3.8	1.54	110.00	1.23	0.50	77.72	0.49	0.20	12.83	*	4	1.63	43.22	5	2.03	251.53
60	0.829	6.96	360	11.2	<0.10	0.000	1.934	<0.10	<0.10	3.4	1.42	111.42	1.13	0.47	78.19	0.49	0.20	13.03	*	4	1.67	44.89	5	2.08	253.61
61	0.825	6.95	389	12.2	<0.10	0.000	1.934	<0.10	<0.10	3.7	1.53	112.95	1.18	0.49	78.68	0.49	0.20	13.23	*	1	0.41	45.30	5	2.07	255.68
62	0.813	6.85	394	8.8	<0.10	0.000	1.934	<0.10	<0.10	3.0	1.23	114.18	1.04	0.42	79.10	0.49	0.20	13.43	*	3	1.23	46.53	5	2.04	257.72
63	0.806	6.99	369	8.0	<0.10	0.000	1.934	<0.10	<0.10	3.6	1.47	115.65	1.16	0.47	79.57	0.49	0.20	13.63	*	0	0.19	46.72	5	1.82	259.54
64	0.815	6.78	414	7.6	<0.10	0.000	1.934	<0.10	<0.10	3.4	1.39	117.04	1.24	0.51	80.08	0.49	0.20	13.83	*	1	0.24	46.96	4	1.76	261.30
65	0.809	7.22	332	9.4	<0.10	0.000	1.934	<0.10	<0.10	3.6	1.46	118.50	0.97	0.39	80.47	0.49	0.20	14.03	*	1	0.41	47.36	5	2.03	263.33
66	0.836	7.24	394	7.7	<0.10	0.000	1.934	<0.10	<0.10	3.8	1.58	120.08	0.99	0.42	80.89	0.49	0.21	14.24	*	2	0.84	48.20	4	1.85	265.18
67	0.819	7.32	338	7.4	<0.10	0.000	1.934	<0.10	<0.10	3.5	1.45	121.53	0.90	0.37	81.26	0.49	0.20	14.44	*	1	0.41	48.61	5	2.06	267.24
68	0.810	6.98	385	7.7	<0.10	0.000	1.934	<0.10	<0.10	4.8	1.94	123.47	1.29	0.52	81.78	0.49	0.20	14.64	*	3	1.22	49.83	4	1.63	268.87
69	0.823	6.96	380	7.3	<0.10	0.000	1.934	<0.10	<0.10	2.7	1.12	124.59	1.05	0.43	82.21	0.49	0.20	14.84	*	1	0.41	50.24	4	1.65	270.52
70	0.803	6.80	416	9.8	<0.10	0.000	1.934	<0.10	<0.10	2.7	1.09	125.68	1.10	0.44	82.65	0.49	0.20	15.04	*	4	1.61	51.86	17	6.86	277.38
71	0.807	7.34	332	9.5	<0.10	0.000	1.934	<0.10	<0.10	2.4	0.97	126.65	1.23	0.50	83.15	0.49	0.20	15.24	*	1	0.41	52.26	5	2.03	279.41
72	0.820	7.20	349	8.1	<0.10	0.000	1.934	<0.10	<0.10	2.7	1.11	127.76	1.09	0.45	83.60	0.49	0.20	15.44	*	3	1.24	53.50	4	1.65	281.06
73	0.816	7.91	302	8.7	<0.10	0.000	1.934	<0.10	<0.10	2.8	1.15	128.91	1.26	0.52	84.12	0.49	0.20	15.64	*	2	0.82	54.32	5	2.05	283.11
74	0.815	7.20	329	8.0	<0.10	0.000	1.934	<0.10	<0.10	2.7	1.12	130.03	1.03	0.42	84.54	0.49	0.20	15.84	*	1	0.41	54.73	4	1.64	284.75
75	0.800	7.26	356	7.1	<0.10	0.000	1.934	<0.10	<0.10	2.7	1.09	131.12	1.29	0.52	85.06	0.49	0.20	16.04	*	1	0.40	55.13	5	2.01	286.76
76	0.812	7.24	358	8.3	<0.10	0.000	1.934	<0.10	<0.10	2.2	0.89	132.01	1.02	0.42	85.48	0.49	0.20	16.24	*	1	0.41	55.54	4	1.63	288.39
77	0.801	6.95	423	8.2	<0.10	0.000	1.934	<0.10	<0.10	2.6	1.05	133.06	1.01	0.41	85.89	0.49	0.20	16.44	*	0	0.00	55.54	4	1.61	290.00
78	0.805	7.09	386	9.1	<0.10	0.000	1.934	<0.10	<0.10	1.6	0.63	133.69	1.17	0.47	86.36	0.49	0.20	16.64	*	2	0.81	56.35	4	1.62	291.62
79	0.861	7.05	430	16.9	<0.10	0.000	1.934	<0.10	<0.10	3.8	1.66	135.35	1.01	0.44	86.80	0.49	0.21	16.85	*	4	1.73	58.08	1	0.43	292.05
80	0.836	7.68	333	12.2	<0.10	0.000	1.934	<0.10	<0.10	2.7	1.13	136.48	0.92	0.39	87.19	0.49	0.21	17.06	*	2	0.84	58.92	4	1.68	293.73
81	0.818	7.55	340	5.7	<0.10	0.000	1.934	<0.10	<0.10	2.6	1.06	137.54	0.88	0.36	87.55	0.49	0.20	17.26	*	2	0.82	59.74	4	1.64	295.37
82	0.822	6.88	375	15.1	<0.10	0.000	1.934	<0.10	<0.10	3.7	1.52	139.06	0.95	0.39	87.94	0.49	0.20	17.46	*	2	0.66	60.40	4	1.45	296.82
83	0.837	7.53	249	8.6	<0.10	0.000	1.934	<0.10	<0.10	3.0	1.26	140.32	0.93	0.39	88.33	0.49	0.21	17.67	*	4	1.68	62.08	4	1.68	298.50
84	0.800	7.04	316	81.0	<0.10	0.000	1.934	<0.10	<0.10	3.2	1.27	141.59	0.84	0.34	88.67	0.49	0.20	17.87	*	3	1.13	63.21	3	1.37	299.87
85	0.807	7.54	180	10.2	<0.10	0.000	1.934	<0.10	<0.10	4.2	1.71	143.30	0.95	0.39	89.06	0.49	0.20	18.07	*	5	1.96	65.17	4	1.74	301.61
86	0.806	7.56	98	9.3	0.17	0.069	2.003	<0.10	<0.17	2.5	1.02	144.32	0.95	0.38	89.44	0.49	0.20	18.27	*	0	0.04	65.21	6	2.59	304.20
87	0.827	6.88	295	9.1	<0.10	0.000	2.003	<0.10	<0.10	4.0	1.67	145.99	0.83	0.34	89.78	0.49	0.20	18.47	*	2	0.83	66.04	4	1.66	305.86

Testing terminated

*Reported as <0.50

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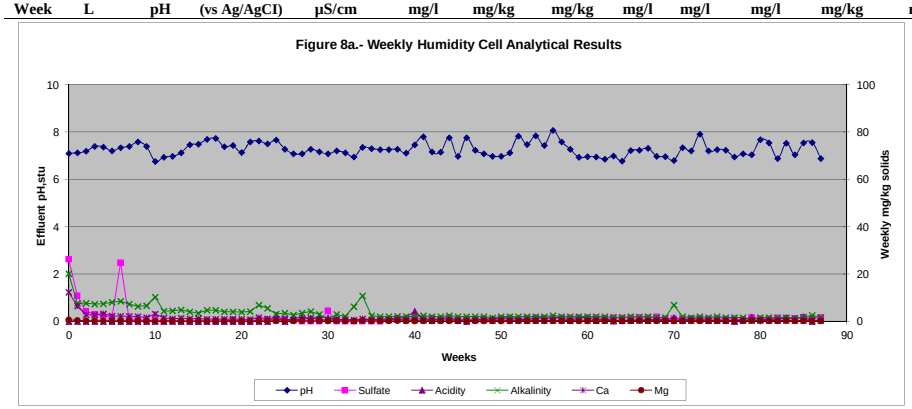
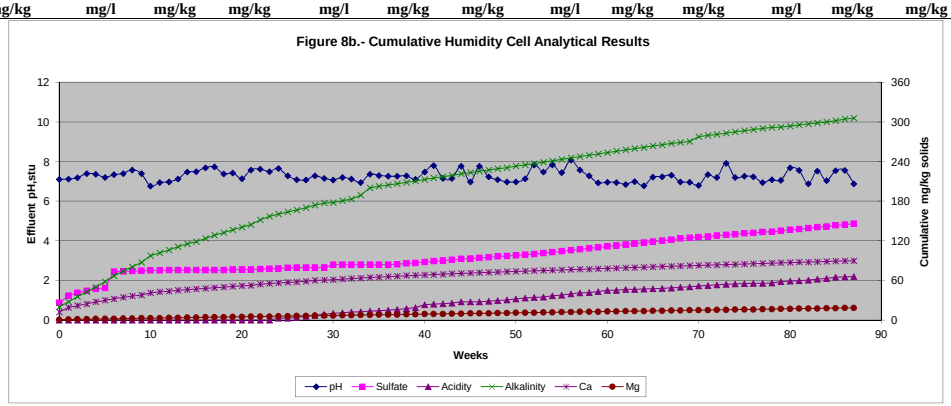
MLI Job No. 3981

Table 8 . - Humidity Cell Analytical Results, CAL-001 (380-400) **(1.9905 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg





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MLI Job No. 3981

Table 9 . - Humidity Cell Analytical Results, CAL-002 (177-187) **(2.0108 Kg)**

					Total Fe					SO_4=			Ca			Mg				Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg		mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.750	6.76	357	85.0	<0.10	0.000	0.000	<0.10	<0.10	23	20.02	20.02	5.37	4.67	4.67	1.03	0.90	0.90		0	0.00	0.00	11	9.57	9.57
1	0.791	6.53	384	113	<0.10	0.000	0.000	<0.10	<0.10	39	15.34	35.36	10.31	4.06	8.73	1.87	0.74	1.64		7	2.75	2.75	6	2.36	11.93
2	0.806	6.73	387	60.0	<0.10	0.000	0.000	<0.10	<0.10	19	7.62	42.98	4.15	1.66	10.39	0.77	0.31	1.95		9	3.61	6.36	7	2.81	14.74
3	0.840	6.75	385	41.4	<0.10	0.000	0.000	<0.10	<0.10	13	5.43	48.41	3.60	1.50	11.89	0.71	0.30	2.25		6	2.51	8.87	6	2.51	17.25
4	0.879	6.79	378	34.9	<0.10	0.000	0.000	<0.10	<0.10	12	5.25	53.66	3.94	1.72	13.61	0.77	0.34	2.59		7	3.06	11.93	6	2.62	19.87
5	0.838	6.71	397	31.9	<0.10	0.000	0.000	<0.10	<0.10	9.9	4.13	57.79	2.93	1.22	14.83	0.54	0.23	2.82		7	2.92	14.85	6	2.50	22.37
6	0.881	6.74	394	26.6	<0.10	0.000	0.000	<0.10	<0.10	9.4	4.12	61.91	2.53	1.11	15.94	0.49	0.21	3.03	*	5	2.19	17.04	6	2.63	25.00
7	0.913	6.51	367	26.6	<0.10	0.000	0.000	<0.10	<0.10	8.5	3.86	65.77	2.26	1.03	16.97	0.49	0.22	3.25	*	6	2.72	19.76	4	1.82	26.82
8	0.820	6.39	394	20.0	<0.10	0.000	0.000	<0.10	<0.10	5.7	2.32	68.09	1.83	0.75	17.72	0.49	0.20	3.45	*	6	2.45	22.21	4	1.63	28.45
9	0.833	6.45	352	21.0	<0.10	0.000	0.000	<0.10	<0.10	6.8	2.82	70.91	1.47	0.61	18.33	0.49	0.20	3.65	*	8	3.31	25.52	8	3.31	31.76
10	0.840	5.95	363	22.6	<0.10	0.000	0.000	<0.10	<0.10	<1.0	0.00	70.91	1.96	0.82	19.15	0.49	0.20	3.85	*	13	5.43	30.95	7	2.92	34.68
11	0.836	6.14	382	15.5	<0.10	0.000	0.000	<0.10	<0.10	5.3	2.20	73.11	1.27	0.53	19.68	0.49	0.20	4.05	*	4	1.66	32.62	4	1.66	36.34
12	0.858	6.25	362	17.4	<0.10	0.000	0.000	<0.10	<0.10	6.1	2.60	75.71	1.26	0.54	20.22	0.49	0.21	4.26	*	4	1.71	34.32	4	1.71	38.05
13	0.949	6.44	330	17.6	<0.10	0.000	0.000	<0.10	<0.10	5.7	2.69	78.40	1.46	0.69	20.91	0.49	0.23	4.49	*	3	1.42	35.74	5	2.36	40.41
14	0.850	6.20	386	17.9	<0.10	0.000	0.000	<0.10	<0.10	5.8	2.45	80.85	1.38	0.58	21.49	0.49	0.21	4.70	*	2	0.85	36.58	3	1.27	41.68
15	0.819	6.34	309	15.8	<0.10	0.000	0.000	<0.10	<0.10	5.2	2.12	82.97	1.53	0.62	22.11	0.49	0.20	4.90	*	3	1.22	37.81	3	1.22	42.90
16	0.860	6.69	300	18.2	<0.10	0.000	0.000	<0.10	<0.10	5.8	2.48	85.45	1.41	0.60	22.71	0.49	0.21	5.11	*	8	3.42	41.23	4	1.71	44.61
17	0.844	7.05	310	15.8	<0.10	0.000	0.000	<0.10	<0.10	5.1	2.14	87.59	1.22	0.51	23.22	0.49	0.21	5.32	*	3	1.26	42.49	4	1.68	46.29
18	0.803	6.54	313	14.4	<0.10	0.000	0.000	<0.10	<0.10	5.4	2.16	89.75	1.02	0.41	23.63	0.49	0.20	5.52	*	15	5.99	48.48	3	1.20	47.49
19	0.864	6.53	329	19.1	<0.10	0.000	0.000	<0.10	<0.10	6.7	2.88	92.63	1.42	0.61	24.24	0.49	0.21	5.73	*	12	5.16	53.63	4	1.72	49.21
20	0.830	6.35	348	23.4	<0.10	0.000	0.000	<0.10	<0.10	5.8	2.39	95.02	1.22	0.50	24.74	0.49	0.20	5.93	*	17	7.02	60.65	3	1.24	50.45
21	0.853	6.63	278	21.1	<0.10	0.000	0.000	<0.10	<0.10	7.5	3.18	98.20	1.60	0.68	25.42	0.49	0.21	6.14	*	6	2.55	63.19	4	1.70	52.15
22	0.958	7.05	298	28.8	<0.10	0.000	0.000	<0.10	<0.10	11	5.24	103.44	2.34	1.11	26.53	0.49	0.23	6.37	*	4	1.91	65.10	5	2.38	54.53
23	0.952	6.63	313	23.3	<0.10	0.000	0.000	<0.10	<0.10	8.1	3.83	107.27	1.78	0.84	27.37	0.49	0.23	6.60	*	16	7.58	72.68	4	1.89	56.42
24	0.828	5.90	336	19.8	<0.10	0.000	0.000	<0.10	<0.10	7.6	3.13	110.40	1.88	0.77	28.14	0.49	0.20	6.80	*	7	2.88	75.56	2	0.82	57.24
25	0.842	6.04	279	20.8	<0.10	0.000	0.000	<0.10	<0.10	8.3	3.48	113.88	1.61	0.67	28.81	0.49	0.21	7.01	*	5	2.09	77.65	3	1.26	58.50
26	0.845	5.43	347	18.9	<0.10	0.000	0.000	<0.10	<0.10	7.3	3.07	116.95	1.37	0.58	29.39	0.49	0.21	7.22	*	9	3.78	81.43	2	0.84	59.34
27	0.867	5.48	273	20.5	<0.10	0.000	0.000	<0.10	<0.10	6.3	2.72	119.67	1.51	0.65	30.04	0.49	0.21	7.43	*	4	1.73	83.16	1	0.43	59.77
28	0.936	5.39	239	24.2	<0.10	0.000	0.000	<0.10	<0.10	8.0	3.72	123.39	1.81	0.84	30.88	0.49	0.23	7.66	*	5	2.33	85.49	1	0.47	60.24
29	0.859	5.29	235	19.8	0.10	0.043	0.043	<0.10	<0.1	5.3	2.26	125.65	1.37	0.59	31.47	0.49	0.21	7.87	*	4	1.71	87.19	1	0.43	60.67
30	0.846	5.53	295	10.2	<0.10	0.000	0.043	<0.10	<0.10	1.9	0.80	126.45	1.55	0.65	32.12	0.49	0.21	8.08	*	2	0.84	88.04	5	2.10	62.77
31	0.873	5.05	260	21.1	<0.10	0.000	0.043	<0.10	<0.10	6.8	2.95	129.40	1.53	0.66	32.78	0.49	0.21	8.29	*	2	0.87	88.90	1	0.43	63.20
32	0.850	5.29	237	18.3	<0.10	0.000	0.043	<0.10	<0.10	5.3	2.24	131.64	1.41	0.60	33.38	0.49	0.21	8.50	*	6	2.54	91.44	0	0.00	63.20
33	0.846	5.55	180	16.7	<0.10	0.000	0.043	<0.10	<0.10	4.8	2.02	133.66	1.00	0.42	33.80	0.49	0.21	8.71	*	13	5.47	96.91	3	1.26	64.46
34	0.984	5.54	215	22.2	<0.10	0.000	0.043	<0.10	<0.10	6.2	3.03	136.69	1.51	0.74	34.54	0.49	0.24	8.95	*	11	5.38	102.29	3	1.47	65.93
35	0.830	5.27	240	19.4	<0.10	0.000	0.043	<0.10	<0.10	5.1	2.11	138.80	1.49	0.62	35.16	0.49	0.20	9.15	*	11	4.54	106.83	2	0.83	66.76
36	0.852	5.21	240	22.5	<0.10	0.000	0.043	<0.10	<0.10	6.5	2.75	141.55	1.68	0.71	35.87	0.49	0.21	9.36	*	3	1.27	108.10	1	0.42	67.18
37	0.857	5.36	223	19.1	<0.10	0.000	0.043	<0.10	<0.10	6.2	2.64	144.19	1.41	0.60	36.47	0.49	0.21	9.57	*	4	1.71	109.81	1	0.43	67.61
38	0.869	5.07	273	23.0	<0.10	0.000	0.043	<0.10	<0.10	6.3	2.72	146.91	1.66	0.72	37.19	0.49	0.21	9.78	*	15	6.48	116.29	1	0.43	68.04
39	0.847	5.17	239	20.8	<0.10	0.000	0.043	<0.10	<0.10	5.7	2.40	149.31	1.09	0.46	37.65	0.49	0.21	9.99	*	10	4.21	120.50	1	0.42	68.46
40	0.837	5.30	247	18.8	<0.10	0.000	0.043	<0.10	<0.10	7.9	3.29	152.60	1.21	0.50	38.15	0.49	0.20	10.19	*	16	6.66	127.16	1	0.42	68.88
41	0.855	5.28	284	20.1	<0.10	0.000	0.043	<0.10	<0.10	6.3	2.68	155.28	1.20	0.51	38.66	0.49	0.21	10.40	*	13	5.53	132.69	1	0.43	69.31
42	0.854	5.03	303	19.3	<0.10	0.000	0.043	<0.10	<0.10	8.2	3.48	158.76	1.40	0.59	39.25	0.49	0.21	10.61	*	11	4.67	137.36	1	0.42	69.73
43	0.850	5.44	244	20.0	<0.10	0.000	0.043	<0.10	<0.10	3.6	1.52	160.28	1.15	0.49	39.74	0.49	0.21	10.82	*	3	1.27	138.63	1	0.42	70.15
44	0.803	5.15	137	16.2	<0.10	0.000	0.043	<0.10	<0.10	5.2	2.08	162.36	1.26	0.50	40.24	0.49	0.20	11.02	*	3	1.20	139.83	2	0.80	70.95
45	0.935	5.06	367	20.6	<0.10	0.000	0.043	<0.10	<0.10	3.6	1.67	164.03	1.30	0.60	40.84	0.49	0.23	11.25	*	7	3.26	143.08	3	1.39	72.34

Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 9 . - Humidity Cell Analytical Results, CAL-002 (177-187) **(2.0108 Kg)**

					Total Fe					SO_4=			Ca			Mg				Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2+} mg/l	Fe^{3+} mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg		mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	0.857	4.98	419	19.7	<0.10	0.000	0.043	<0.10	<0.10	4.4	1.87	165.90	1.11	0.47	41.31	0.49	0.21	11.46	*	6	2.56	145.64	1	0.43	72.77
47	0.846	5.42	419	27.9	<0.10	0.000	0.043	<0.10	<0.10	3.7	1.54	167.44	1.13	0.48	41.79	0.49	0.21	11.67	*	5	2.10	147.74	1	0.42	73.19
48	0.827	5.41	335	24.9	<0.10	0.000	0.043	<0.10	<0.10	4.5	1.85	169.29	1.09	0.45	42.24	0.49	0.20	11.87	*	5	2.06	149.80	1	0.41	73.60
49	0.813	5.31	351	17.8	0.11	0.044	0.087	<0.10	<0.11	6.3	2.53	171.82	0.95	0.38	42.62	0.49	0.20	12.07	*	5	2.02	151.82	1	0.40	74.00
50	0.867	5.25	445	20.1	<0.10	0.000	0.087	<0.10	<0.10	5.0	2.17	173.99	1.16	0.50	43.12	0.49	0.21	12.28	*	5	2.16	153.98	1	0.43	74.43
51	0.839	5.43	386	20.1	<0.10	0.000	0.087	<0.10	<0.10	4.5	1.89	175.88	0.81	0.34	43.46	0.49	0.20	12.48	*	4	1.67	155.65	1	0.42	74.85
52	0.816	5.64	345	16.6	<0.10	0.000	0.087	<0.10	<0.10	2.5	1.01	176.89	0.84	0.34	43.80	0.49	0.20	12.68	*	3	1.22	156.86	2	0.81	75.66
53	0.844	5.05	400	20.1	<0.10	0.000	0.087	<0.10	<0.10	4.2	1.78	178.67	0.93	0.39	44.19	0.49	0.21	12.89	*	5	2.10	158.96	1	0.42	76.08
54	0.824	5.27	315	16.9	<0.10	0.000	0.087	<0.10	<0.10	4.9	2.01	180.68	0.85	0.35	44.54	0.49	0.20	13.09	*	4	1.64	160.60	1	0.41	76.49
55	0.885	5.09	354	20.5	<0.10	0.000	0.087	<0.10	<0.10	4.8	2.11	182.79	1.02	0.45	44.99	0.49	0.22	13.31	*	4	1.76	162.36	1	0.44	76.93
56	0.852	5.93	323	18.6	<0.10	0.000	0.087	<0.10	<0.10	4.8	2.04	184.83	0.87	0.37	45.36	0.49	0.21	13.52	*	4	1.70	164.06	2	0.85	77.78
57	0.842	5.30	330	13.9	<0.10	0.000	0.087	<0.10	<0.10	3.8	1.60	186.43	0.68	0.28	45.64	0.49	0.21	13.73	*	4	1.68	165.73	1	0.42	78.20
58	0.858	5.42	368	13.6	<0.10	0.000	0.087	<0.10	<0.10	4.8	2.04	188.47	0.71	0.30	45.94	0.49	0.21	13.94	*	4	1.71	167.44	2	0.85	79.05
59	0.844	5.34	355	15.7	<0.10	0.000	0.087	<0.10	<0.10	5.9	2.48	190.95	0.89	0.37	46.31	0.49	0.21	14.15	*	3	1.26	168.70	1	0.42	79.47
60	0.840	4.95	364	15.1	<0.10	0.000	0.087	<0.10	<0.10	4.8	2.01	192.96	0.81	0.34	46.65	0.49	0.20	14.35	*	5	2.09	170.79	1	0.42	79.89
61	0.851	4.95	469	17.5	<0.10	0.000	0.087	<0.10	<0.10	5.4	2.29	195.25	0.93	0.39	47.04	0.49	0.21	14.56	*	4	1.69	172.48	1	0.42	80.31
62	0.843	5.00	417	14.2	<0.10	0.000	0.087	<0.10	<0.10	6.3	2.64	197.89	0.76	0.32	47.36	0.49	0.21	14.77	*	4	1.68	174.16	1	0.42	80.73
63	0.844	5.15	458	16.6	<0.10	0.000	0.087	<0.10	<0.10	7.4	3.12	201.01	0.85	0.36	47.72	0.49	0.21	14.98	*	3	1.26	175.42	1	0.42	81.15
64	0.842	4.99	469	17.0	<0.10	0.000	0.087	<0.10	<0.10	6.4	2.68	203.69	0.93	0.39	48.11	0.49	0.21	15.19	*	4	1.68	177.09	1	0.42	81.57
65	0.844	5.29	419	16.3	<0.10	0.000	0.087	<0.10	<0.10	7.5	3.14	206.83	0.75	0.31	48.42	0.49	0.21	15.40	*	4	1.68	178.77	1	0.42	81.99
66	0.867	5.43	465	16.8	<0.10	0.000	0.087	<0.10	<0.10	7.0	3.00	209.83	0.81	0.35	48.77	0.49	0.21	15.61	*	3	1.47	180.24	2	0.65	82.64
67	0.847	5.54	434	15.6	<0.10	0.000	0.087	<0.10	<0.10	4.8	2.03	211.86	0.63	0.27	49.04	0.49	0.21	15.82	*	3	1.26	181.50	2	0.84	83.48
68	0.859	4.92	424	16.1	<0.10	0.000	0.087	<0.10	<0.10	4.2	1.79	213.65	0.72	0.31	49.35	0.49	0.21	16.03	*	5	2.14	183.64	1	0.43	83.91
69	0.819	5.09	429	15.9	<0.10	0.000	0.087	<0.10	<0.10	3.7	1.51	215.16	0.83	0.34	49.69	0.49	0.20	16.23	*	4	1.63	185.27	1	0.41	84.32
70	0.831	4.92	372	16.1	<0.10	0.000	0.087	<0.10	<0.10	4.3	1.78	216.94	0.85	0.35	50.04	0.49	0.20	16.43	*	5	2.07	187.33	1	0.41	84.73
71	0.858	5.32	414	14.3	<0.10	0.000	0.087	<0.10	<0.10	4.0	1.69	218.63	0.93	0.40	50.44	0.49	0.21	16.64	*	4	1.71	189.04	1	0.43	85.16
72	0.855	5.21	383	15.4	<0.10	0.000	0.087	<0.10	<0.10	4.2	1.77	220.40	0.83	0.35	50.79	0.49	0.21	16.85	*	4	1.70	190.74	1	0.43	85.59
73	0.814	5.92	384	11.2	<0.10	0.000	0.087	<0.10	<0.10	3.8	1.53	221.93	0.87	0.35	51.14	0.49	0.20	17.05	*	3	1.21	191.96	2	0.81	86.40
74	0.822	5.30	387	12.2	<0.10	0.000	0.087	<0.10	<0.10	4.9	2.02	223.95	0.75	0.31	51.45	0.49	0.20	17.25	*	4	1.64	193.59	1	0.41	86.81
75	0.853	5.32	339	14.2	<0.10	0.000	0.087	<0.10	<0.10	4.7	1.98	225.93	0.99	0.42	51.87	0.49	0.21	17.46	*	3	1.27	194.86	2	0.85	87.66
76	0.856	5.45	367	15.2	<0.10	0.000	0.087	<0.10	<0.10	2.5	1.08	227.01	0.82	0.35	52.22	0.49	0.21	17.67	*	2	0.85	195.72	2	0.85	88.51
77	0.852	5.14	448	14.6	<0.10	0.000	0.087	<0.10	<0.10	2.6	1.09	228.10	0.82	0.35	52.57	0.49	0.21	17.88	*	4	1.70	197.41	1	0.42	88.93
78	0.817	5.23	401	13.5	<0.10	0.000	0.087	<0.10	<0.10	3.4	1.37	229.47	0.80	0.33	52.90	0.49	0.20	18.08	*	4	1.63	199.04	1	0.41	89.34
79	0.861	5.18	430	16.9	<0.10	0.000	0.087	<0.10	<0.10	3.8	1.63	231.10	0.88	0.38	53.28	0.49	0.21	18.29	*	4	1.71	200.75	1	0.43	89.77
80	0.866	5.64	375	15.0	<0.10	0.000	0.087	<0.10	<0.10	4.2	1.80	232.90	0.87	0.37	53.65	0.49	0.21	18.50	*	3	1.29	202.04	2	0.86	90.63
81	0.870	5.68	354	11.9	<0.10	0.000	0.087	<0.10	<0.10	2.2	0.96	233.86	0.84	0.36	54.01	0.49	0.21	18.71	*	3	1.30	203.34	2	0.87	91.50
82	0.893	4.76	393	14.8	<0.10	0.000	0.087	<0.10	<0.10	3.9	1.75	235.61	0.73	0.32	54.33	0.49	0.22	18.93	*	4	1.78	205.11	1	0.44	91.94
83	0.858	5.75	257	14.2	<0.10	0.000	0.087	<0.10	<0.10	2.9	1.24	236.85	0.77	0.33	54.66	0.49	0.21	19.14	*	4	1.71	206.82	2	0.85	92.79
84	0.863	5.22	274	16.9	<0.10	0.000	0.087	<0.10	<0.10	4.6	1.97	238.82	1.10	0.47	55.13	0.49	0.21	19.35	*	6	2.45	209.27	1	0.43	93.22
85	0.867	6.23	156	14.9	<0.10	0.000	0.087	<0.10	<0.10	4.7	2.00	240.82	0.78	0.34	55.47	0.49	0.21	19.56	*	3	1.38	210.65	2	0.73	93.95
86	0.859	6.69	69	13.0	<0.10	0.000	0.087	<0.10	<0.10	2.9	1.25	242.07	0.72	0.31	55.78	0.49	0.21	19.77	*	1	0.49	211.14	3	1.36	95.31
87	0.859	5.03	295	12.7	<0.10	0.000	0.087	<0.10	<0.10	3.5	1.51	243.58	0.58	0.25	56.03	0.49	0.21	19.98	*	5	2.14	213.28	1	0.43	95.74

Testing terminated

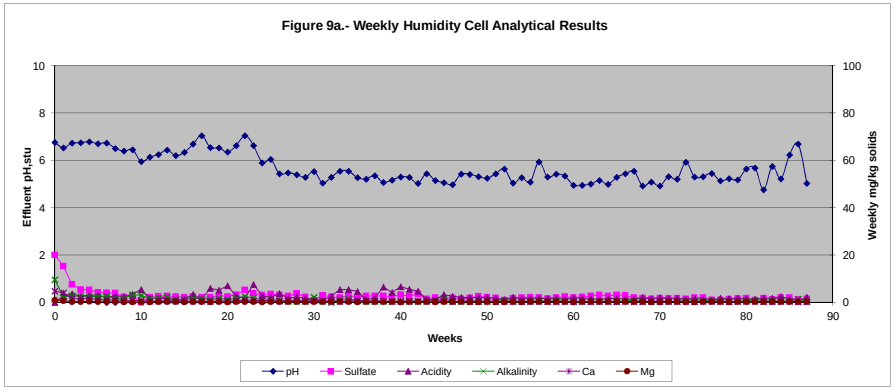
*Reported as <0.50

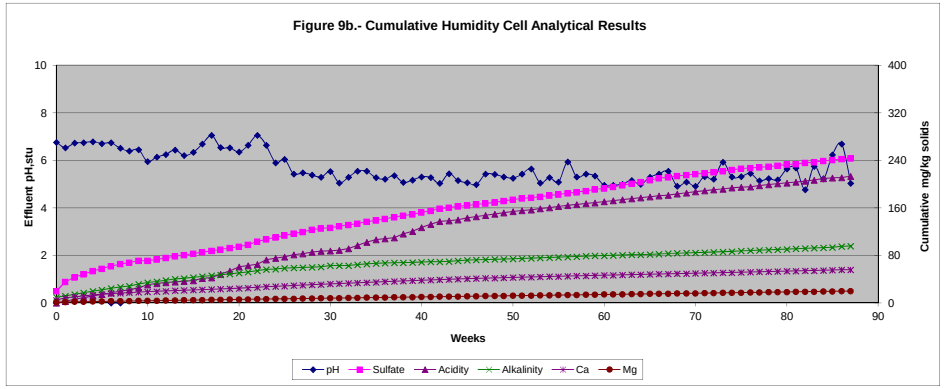
Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 9 . - Humidity Cell Analytical Results, CAL-002 (177-187) **(2.0108 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg





Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 10 . - Humidity Cell Analytical Results, Calico Leached Res after CN destruct **(2.0020 Kg)**

					Total Fe					SO_4=			Ca			Mg				Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg		mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.460	4.32	401	2230	4.94	3.603	3.603	0.33	4.61	1193	870.02	870.02	350.57	255.66	255.66	18.75	13.67	13.67		80	58.34	58.34	0	0.00	0.00
1	1.002	3.85	393	275	<0.10	0.000	3.603	<0.10	<0.10	120	60.06	930.08	32.39	16.21	271.87	0.98	0.49	14.16		123	61.56	119.90	0	0.00	0.00
2	0.946	3.92	467	141	<0.10	0.000	3.603	<0.10	<0.10	52	24.57	954.65	13.28	6.28	278.15	0.49	0.23	14.39	*	66	31.19	151.09	0	0.00	0.00
3	0.958	3.87	469	120	<0.10	0.000	3.603	<0.10	<0.10	45	21.53	976.18	14.70	7.03	285.18	0.49	0.23	14.62	*	48	22.97	174.06	0	0.00	0.00
4	1.031	4.00	469	133	<0.10	0.000	3.603	<0.10	<0.10	46	23.69	999.87	19.83	10.21	295.39	0.49	0.25	14.87	*	32	16.48	190.54	0	0.00	0.00
5	0.984	4.22	453	123	<0.10	0.000	3.603	<0.10	<0.10	47	23.10	1022.97	13.62	6.69	302.08	0.49	0.24	15.11	*	20	9.83	200.37	0	0.00	0.00
6	0.954	4.28	460	123	1.08	0.515	4.118	<0.10	<1.08	50	23.83	1046.80	13.53	6.45	308.53	0.49	0.23	15.34	*	17	8.10	208.47	0	0.00	0.00
7	1.007	4.29	404	151	0.17	0.086	4.204	<0.10	<0.17	52	26.16	1072.96	15.55	7.82	316.35	0.49	0.25	15.59	*	23	11.57	220.04	0	0.00	0.00
8	0.947	4.04	487	148	0.22	0.104	4.308	<0.10	<0.22	59	27.91	1100.87	16.16	7.64	323.99	0.49	0.23	15.82	*	25	11.83	231.87	0	0.00	0.00
9	0.986	4.12	450	160	0.31	0.153	4.461	<0.10	<0.31	31	15.27	1116.14	14.10	6.94	330.93	0.49	0.24	16.06	*	25	12.31	244.18	0	0.00	0.00
10	1.047	4.00	438	169	0.49	0.256	4.717	<0.10	<0.49	5.6	2.93	1119.07	16.40	8.58	339.51	0.49	0.26	16.32	*	29	15.17	259.34	0	0.00	0.00
11	0.988	3.92	489	143	0.82	0.405	5.122	0.12	0.70	57	28.13	1147.20	18.71	9.23	348.74	0.49	0.24	16.56	*	30	14.81	274.15	0	0.00	0.00
12	0.929	4.05	482	162	0.81	0.376	5.498	0.23	0.58	61	28.31	1175.51	13.35	6.19	354.93	0.49	0.23	16.79	*	27	12.53	286.68	0	0.00	0.00
13	0.969	4.07	473	168	1.23	0.595	6.093	0.34	0.89	59	28.56	1204.07	15.05	7.28	362.21	0.49	0.24	17.03	*	29	14.04	300.71	0	0.00	0.00
14	0.999	4.14	408	180	1.85	0.923	7.016	0.44	1.41	64	31.94	1236.01	12.63	6.30	368.51	0.49	0.24	17.27	*	31	15.47	316.18	0	0.00	0.00
15	0.947	3.75	476	183	3.00	1.419	8.435	0.49	2.51	60	28.38	1264.39	13.21	6.25	374.76	0.49	0.23	17.50	*	40	18.92	335.10	0	0.00	0.00
16	0.994	3.90	455	201	3.72	1.847	10.282	0.81	2.91	61	30.29	1294.68	9.72	4.83	379.59	0.49	0.24	17.74	*	50	24.83	359.93	0	0.00	0.00
17	1.038	3.86	393	220	6.45	3.344	13.626	1.44	5.01	68	35.26	1329.94	9.05	4.69	384.28	0.49	0.25	17.99	*	53	27.48	387.41	0	0.00	0.00
18	0.936	3.68	421	228	8.10	3.787	17.413	1.78	6.32	72	33.66	1363.60	5.61	2.62	386.90	0.49	0.23	18.22	*	65	30.39	417.80	0	0.00	0.00
19	1.024	3.58	430	244	10.79	5.519	22.932	2.25	8.54	75	38.36	1401.96	4.32	2.21	389.11	0.49	0.25	18.47	*	73	37.34	455.14	0	0.00	0.00
20	0.891	3.42	439	280	12.25	5.452	28.384	2.89	9.36	78	34.71	1436.67	2.85	1.27	390.38	0.49	0.22	18.69	*	84	37.39	492.52	0	0.00	0.00
21	1.090	3.49	495	272	13.06	7.111	35.495	1.25	11.81	82	44.65	1481.32	1.99	1.08	391.46	0.49	0.27	18.96	*	88	47.91	540.44	0	0.00	0.00
22	0.894	3.71	442	203	10.10	4.510	40.005	1.39	8.71	64	28.58	1509.90	1.31	0.58	392.04	0.49	0.22	19.18	*	70	31.26	571.69	0	0.00	0.00
23	1.003	3.47	533	296	14.45	7.239	47.244	1.96	12.49	93	46.59	1556.49	1.32	0.66	392.70	0.49	0.25	19.43	*	97	48.60	620.29	0	0.00	0.00
24	0.944	3.38	432	317	16.56	7.809	55.053	1.83	14.73	100	47.15	1603.64	1.43	0.67	393.37	0.49	0.23	19.66	*	104	49.04	669.33	0	0.00	0.00
25	0.914	3.36	404	322	17.45	7.967	63.020	1.68	15.77	110	50.22	1653.86	1.18	0.54	393.91	0.49	0.22	19.88	*	108	49.31	718.64	0	0.00	0.00
26	1.085	3.37	406	280	15.62	8.465	71.485	1.77	13.85	93	50.40	1704.26	0.98	0.53	394.44	0.49	0.27	20.15	*	94	50.94	769.58	0	0.00	0.00
27	0.907	3.36	383	309	15.85	7.181	78.666	1.94	13.91	98	44.40	1748.66	0.98	0.44	394.88	0.49	0.22	20.37	*	99	44.85	814.43	0	0.00	0.00
28	0.963	3.30	382	313	15.81	7.605	86.271	1.77	14.04	99	47.62	1796.28	0.87	0.42	395.30	0.49	0.24	20.61	*	116	55.80	870.23	0	0.00	0.00
29	1.018	3.37	378	282	16.99	8.639	94.910	2.26	14.73	61	31.02	1827.30	0.96	0.49	395.79	0.49	0.25	20.86	*	120	61.02	931.25	0	0.00	0.00
30	0.959	3.30	382	314	16.39	7.851	102.761	1.86	14.53	98	46.94	1874.24	0.90	0.43	396.22	0.49	0.23	21.09	*	249	119.28	1050.53	0	0.00	0.00
31	1.011	3.23	388	321	16.06	8.110	110.871	2.20	13.86	93	46.96	1921.20	0.74	0.37	396.59	0.49	0.25	21.34	*	127	64.13	1114.66	0	0.00	0.00
32	0.919	3.18	392	331	18.72	8.593	119.464	2.09	16.63	98	44.99	1966.19	0.78	0.36	396.95	0.49	0.22	21.56	*	105	48.20	1162.86	0	0.00	0.00
33	1.062	3.10	394	331	15.56	8.254	127.718	1.75	13.81	97	51.46	2017.65	0.63	0.33	397.28	0.49	0.26	21.82	*	125	66.31	1229.17	0	0.00	0.00
34	0.954	3.31	402	365	15.01	7.153	134.871	3.67	11.34	83	39.55	2057.20	0.68	0.32	397.60	0.49	0.23	22.05	*	152	72.43	1301.60	0	0.00	0.00
35	0.957	3.27	410	383	15.15	7.242	142.113	3.34	11.81	89	42.54	2099.74	0.92	0.44	398.04	0.49	0.23	22.28	*	103	49.24	1350.84	0	0.00	0.00
36	0.992	3.18	415	475	19.08	9.454	151.567	4.65	14.43	160	79.28	2179.02	1.22	0.60	398.64	0.49	0.24	22.52	*	155	76.80	1427.64	0	0.00	0.00
37	1.022	3.20	417	426	18.55	9.470	161.037	8.97	9.58	120	61.26	2240.28	0.97	0.50	399.14	0.49	0.25	22.77	*	139	70.96	1498.60	0	0.00	0.00
38	0.931	3.15	425	454	19.80	9.208	170.245	12.09	7.71	116	53.94	2294.22	1.04	0.48	399.62	0.49	0.23	23.00	*	117	54.41	1553.01	0	0.00	0.00
39	0.998	3.00	429	503	18.74	9.342	179.587	12.28	6.46	132	65.80	2360.02	0.77	0.38	400.00	0.49	0.24	23.24	*	118	58.82	1611.83	0	0.00	0.00
40	0.978	3.09	431	507	19.19	9.375	188.962	12.02	7.17	134	65.46	2425.48	0.90	0.44	400.44	0.49	0.24	23.48	*	121	59.11	1670.94	0	0.00	0.00
41	0.943	3.10	430	480	15.63	7.362	196.324	9.75	5.88	97	45.69	2471.17	0.79	0.37	400.81	0.49	0.23	23.71	*	111	52.28	1723.22	0	0.00	0.00
42	0.985	2.87	434	525	16.76	8.246	204.570	12.15	4.61	133	65.44	2536.61	0.99	0.49	401.30	0.49	0.24	23.95	*	131	64.45	1787.68	0	0.00	0.00
43	1.070	2.84	433	538	15.14	8.092	212.662	10.60	4.54	111	59.33	2595.94	1.20	0.64	401.94	0.49	0.26	24.21	*	127	67.88	1855.55	0	0.00	0.00
44	0.952	3.03	434	521	13.93	6.624	219.286	9.94	3.99	91	43.27	2639.21	0.92	0.44	402.38	0.49	0.23	24.44	*	121	57.54	1913.09	0	0.00	0.00
45	0.879	3.06	444	563	14.63	6.423	225.709	10.47	4.16	116	50.93	2690.14	0.92	0.40	402.78	0.49	0.22	24.66	*	133	58.40	1971.49	0	0.00	0.00

Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 10 . - Humidity Cell Analytical Results, Calico Leached Res after CN destruct **(2.0020 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
46	1.060	2.98	467	537	13.92	7.370	233.079	9.88	4.04	91	48.18	2738.32	0.67	0.35	403.13	0.49	0.26	24.92 *	122	64.60	2036.08	0	0.00	0.00
47	1.014	2.98	508	543	11.34	5.744	238.823	8.26	3.08	96	48.62	2786.94	0.77	0.39	403.52	0.49	0.25	25.17 *	118	59.77	2095.85	0	0.00	0.00
48	0.977	2.97	462	589	9.94	4.851	243.674	8.52	1.42	100	48.80	2835.74	0.83	0.41	403.93	0.49	0.24	25.41 *	122	59.54	2155.38	0	0.00	0.00
49	0.875	2.94	478	598	10.83	4.733	248.407	8.13	2.70	95	41.52	2877.26	0.56	0.24	404.17	0.49	0.21	25.62 *	137	59.88	2215.26	0	0.00	0.00
50	1.030	3.13	476	579	9.75	5.016	253.423	6.89	2.86	95	48.88	2926.14	0.55	0.28	404.45	0.49	0.25	25.87 *	130	66.88	2282.15	0	0.00	0.00
51	0.961	2.97	509	596	8.59	4.123	257.546	6.37	2.22	92	44.16	2970.30	0.49	0.24	404.69 *	0.49	0.24	26.11 *	111	53.28	2335.43	0	0.00	0.00
52	0.969	2.99	492	519	6.49	3.141	260.687	4.94	1.55	69	33.40	3003.70	0.49	0.24	404.93 *	0.49	0.24	26.35 *	96	46.47	2381.89	0	0.00	0.00
53	1.043	2.99	476	535	7.49	3.902	264.589	5.07	2.42	97	50.53	3054.23	0.57	0.30	405.23	0.49	0.26	26.61 *	98	51.06	2432.95	0	0.00	0.00
54	0.963	3.00	469	479	5.52	2.655	267.244	4.29	1.23	90	43.29	3097.52	0.49	0.24	405.47 *	0.49	0.24	26.85 *	91	43.77	2476.72	0	0.00	0.00
55	0.971	3.02	463	487	4.97	2.411	269.655	3.90	1.07	76	36.86	3134.38	0.57	0.28	405.75	0.49	0.24	27.09 *	84	40.74	2517.46	0	0.00	0.00
56	1.024	3.05	490	460	4.79	2.450	272.105	3.64	1.15	75	38.36	3172.74	0.49	0.25	406.00 *	0.49	0.25	27.34 *	81	41.43	2558.89	0	0.00	0.00
57	0.954	3.06	481	428	5.49	2.616	274.721	2.65	2.84	74	35.26	3208.00	0.49	0.23	406.23 *	0.49	0.23	27.57 *	90	42.89	2601.78	0	0.00	0.00
58	0.949	3.07	485	408	2.99	1.417	276.138	2.64	0.35	66	31.29	3239.29	0.49	0.23	406.46 *	0.49	0.23	27.80 *	73	34.60	2636.39	0	0.00	0.00
59	1.067	3.09	478	390	2.85	1.519	277.657	2.21	0.64	58	30.91	3270.20	0.58	0.31	406.77	0.49	0.26	28.06 *	68	36.24	2672.63	0	0.00	0.00
60	0.903	3.11	478	363	2.14	0.965	278.622	1.72	0.42	50	22.55	3292.75	0.49	0.22	406.99 *	0.49	0.22	28.28 *	64	28.87	2701.49	0	0.00	0.00
61	0.928	3.11	482	361	1.81	0.839	279.461	1.65	0.16	55	25.49	3318.24	0.59	0.27	407.26	0.49	0.23	28.51 *	95	44.04	2745.53	0	0.00	0.00
62	1.045	3.13	483	356	1.52	0.793	280.254	1.27	0.25	51	26.62	3344.86	0.49	0.26	407.52 *	0.49	0.26	28.77 *	97	50.63	2796.16	0	0.00	0.00
63	1.004	3.15	485	334	1.37	0.687	280.941	1.00	0.37	57	28.59	3373.45	0.49	0.25	407.77 *	0.49	0.25	29.02 *	97	48.65	2844.81	0	0.00	0.00
64	0.966	3.17	488	323	1.00	0.483	281.424	0.83	0.17	56	27.25	3400.70	0.49	0.24	408.01 *	0.49	0.24	29.26 *	92	44.39	2889.20	0	0.00	0.00
65	0.861	3.20	493	314	0.81	0.348	281.772	0.65	0.16	53	22.88	3423.58	0.49	0.21	408.22 *	0.49	0.21	29.47 *	51	21.93	2911.13	0	0.00	0.00
66	1.063	3.28	504	268	0.55	0.292	282.064	0.43	0.12	46	24.24	3447.82	0.49	0.26	408.48 *	0.49	0.26	29.73 *	44	23.52	2934.65	0	0.00	0.00
67	0.949	3.31	501	260	0.42	0.199	282.263	0.29	0.13	44	20.77	3468.59	0.49	0.23	408.71 *	0.49	0.23	29.96 *	93	44.08	2978.73	0	0.00	0.00
68	1.087	3.32	497	238	0.32	0.174	282.437	0.23	0.09	38	20.63	3489.22	0.64	0.35	409.06	0.49	0.27	30.23 *	91	49.41	3028.14	0	0.00	0.00
69	0.935	3.34	501	229	0.29	0.135	282.572	0.17	0.12	33	15.41	3504.63	0.61	0.28	409.34	0.49	0.23	30.46 *	85	39.70	3067.84	0	0.00	0.00
70	0.994	3.34	497	225	0.28	0.139	282.711	0.12	0.16	33	16.38	3521.01	0.55	0.27	409.61	0.49	0.24	30.70 *	90	44.69	3112.53	0	0.00	0.00
71	0.897	3.37	497	206	0.22	0.099	282.810	0.13	0.09	31	13.89	3534.90	0.73	0.33	409.94	0.49	0.22	30.92 *	38	17.03	3129.55	0	0.00	0.00
72	1.000	3.41	498	196	0.14	0.070	282.880	<0.10	<0.14	31	15.48	3550.38	0.84	0.42	410.36	0.49	0.24	31.16 *	35	17.48	3147.04	0	0.00	0.00
73	0.951	3.46	489	177	0.15	0.071	282.951	<0.10	<0.15	27	12.83	3563.21	0.65	0.31	410.67	0.49	0.23	31.39 *	34	16.15	3163.19	0	0.00	0.00
74	0.981	3.45	485	185	0.14	0.069	283.020	<0.10	<0.14	27	13.23	3576.44	0.56	0.27	410.94	0.49	0.24	31.63 *	33	16.17	3179.36	0	0.00	0.00
75	0.967	3.45	489	191	0.10	0.048	283.068	<0.10	<0.1	31	14.91	3591.35	1.48	0.71	411.65	0.49	0.24	31.87 *	32	15.46	3194.81	0	0.00	0.00
76	0.999	3.47	495	186	0.12	0.060	283.128	<0.10	<0.12	26	12.97	3604.32	0.87	0.43	412.08	0.49	0.24	32.11 *	31	15.47	3210.28	0	0.00	0.00
77	0.989	3.50	510	176	<0.10	0.000	283.128	<0.10	<0.10	26	12.84	3617.16	1.33	0.66	412.74	0.49	0.24	32.35 *	30	14.82	3225.10	0	0.00	0.00
78	0.935	3.48	505	178	0.11	0.051	283.179	<0.10	<0.11	22	10.25	3627.41	0.55	0.26	413.00	0.49	0.23	32.58 *	30	14.01	3239.11	0	0.00	0.00
79	1.046	3.51	511	173	<0.10	0.000	283.179	<0.10	<0.10	23	12.02	3639.43	0.63	0.33	413.33	0.49	0.26	32.84 *	29	15.15	3254.27	0	0.00	0.00
80	0.949	3.58	497	140	<0.10	0.000	283.179	<0.10	<0.10	21	9.95	3649.38	0.52	0.25	413.58	0.49	0.23	33.07 *	27	12.80	3267.06	0	0.00	0.00
81	0.985	3.61	492	143	<0.10	0.000	283.179	<0.10	<0.10	21	10.33	3659.71	0.76	0.37	413.95	0.49	0.24	33.31 *	26	12.79	3279.86	0	0.00	0.00
82	1.013	3.60	484	143	<0.10	0.000	283.179	<0.10	<0.10	25	12.65	3672.36	0.52	0.26	414.21	0.49	0.25	33.56 *	26	13.16	3293.01	0	0.00	0.00
83	0.846	3.58	483	154	<0.10	0.000	283.179	<0.10	<0.10	26	10.99	3683.35	0.71	0.30	414.51	0.49	0.21	33.77 *	28	11.83	3304.84	0	0.00	0.00
84	1.125	3.58	474	139	0.16	0.090	283.269	<0.10	<0.16	24	13.49	3696.84	0.71	0.40	414.91	0.49	0.28	34.05 *	25	14.32	3319.16	0	0.00	0.00
85	0.900	3.60	473	147	<0.10	0.000	283.269	<0.10	<0.10	28	12.42	3709.26	0.67	0.30	415.21	0.49	0.22	34.27 *	26	11.69	3330.85	0	0.00	0.00
86	1.042	3.56	483	152	<0.10	0.000	283.269	<0.10	<0.10	28	14.79	3724.05	0.60	0.31	415.52	0.49	0.26	34.53 *	27	14.02	3344.87	0	0.00	0.00
87	1.005	3.57	477	144	<0.10	0.000	283.269	<0.10	<0.10	28	14.06	3738.11	0.49	0.25	415.77 *	0.49	0.25	34.78 *	27	13.52	3358.40	0	0.00	0.00

Testing terminated

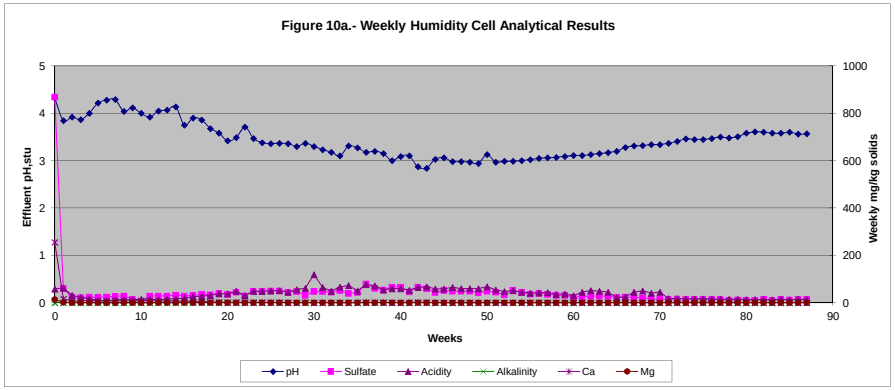
*Reported as <0.50

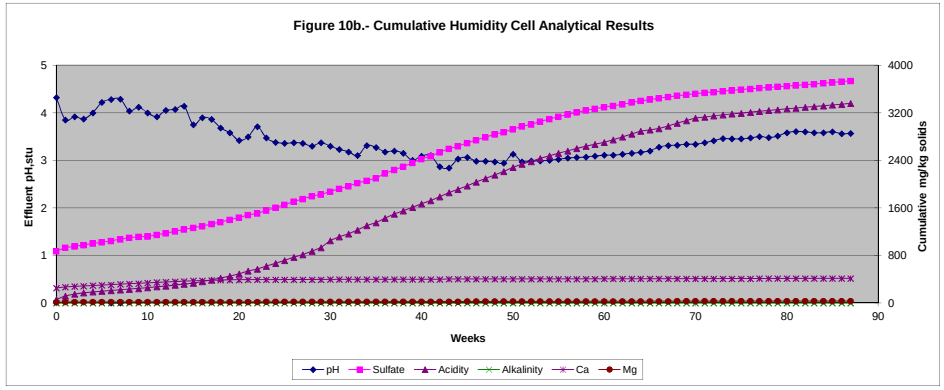
Certifications: NV009332012A

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table 10 . - Humidity Cell Analytical Results, Calico Leached Res after CN destruct **(2.0020 Kg)**

					Total Fe					SO_4=			Ca			Mg			Acidity, $CaCO_3$ Equivalents			Alkalinity, $CaCO_3$ Equivalents		
Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	mg/l	mg/kg	Cum. mg/kg	Fe^{2}+ mg/l	Fe^{3}+ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg





Certifications: NV009332012A

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-002 (86-95)

	Extract Week							
Analysis, mg/L	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	<0.03	0.28	0.42	1.22	3.11	3.10	2.14	1.54
Antimony	0.0174	0.0093	0.0096	0.0093	0.0130	0.0135	0.0160	0.0184
Arsenic	0.0836	0.0130	0.0176	0.0078	0.0173	0.0278	0.0416	0.0760
Barium	0.095	0.021	0.022	0.010	0.015	0.012	0.009	0.011
Beryllium	0.00008	0.00035	0.00044	0.00122	0.00163	0.00117	0.00067	0.00053
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.07	0.02	0.01	<0.01	0.18	<0.01	<0.01	<0.01
Cadmium	0.0007	0.0006	0.0008	0.0011	0.0017	0.0015	0.0012	0.0007
Calcium	26.9	37.8	31	21.8	9.7	5.7	3.2	2.3
Chloride	4.2	5.9	2.4	0.7	<0.5	<0.5	0.7	0.8
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.03	0.02
Cobalt	0.20	0.18	0.21	0.20	0.10	0.05	0.06	0.03
Copper	0.02	0.03	0.04	0.05	0.11	0.09	0.10	0.09
Fluoride	0.12	0.12	0.17	0.48	0.36	10	0.12	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	83.6	123	96.3	66	27	16	9.2	6.6
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	14.70	2.90	6.20	4.84	16.90	22.70	22.70	20.40
Lead	0.0008	0.0006	0.0005	0.0007	0.0017	0.0012	0.0012	0.0025
Lithium	0.040	0.042	0.021	<0.008	<0.008	<0.008	0.008	0.008
Magnesium	4	6.9	4.6	2.8	0.7	0.4	0.3	0.2
Manganese	0.202	0.557	0.544	0.509	0.166	0.085	0.054	0.028
Mercury	0.0016	<0.0002	<0.0002	<0.0002	0.000057	<0.0002	0.000018	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.210	1.110	1.320	1.180	0.604	0.330	0.245	0.140
Nitrate/Nitrite as N	0.07	<0.02	<0.02	0.03	0.06	0.03	0.03	0.10
Nitrogen, Ammonia	0.30	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH, stu	5.8	5.5	5.1	4.6	3.8	3.7	3.6	3.5
Phosphorus	0.02	<0.02	<0.02	<0.02	0.03	0.02	0.02	0.03
Potassium	12.6	11.5	7.5	4.8	2.1	1.2	0.8	1
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0062	0.0123	0.0090	0.0071	0.0030	0.0028	0.0018	0.0015
Silver	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	4.5	4.8	2.2	0.8	0.3	<0.2	<0.2	<0.2
Strontium	0.180	0.235	0.181	0.129	0.063	0.034	0.021	0.019
Sulfate	120	155	120	83.2	73.5	80.5	69.8	54.6
Thallium	0.0097	0.0114	0.0104	0.0106	0.0102	0.0094	0.0094	0.0091
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	188	276	196	154	212	132	100	94
Uranium	0.0001	0.0004	0.0008	0.0014	0.0054	0.0062	0.0044	0.0025
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.14	0.11	0.14	0.31	0.43	0.25	0.16	0.10
Electrical Conductivity, µmhos/cm	307	334	304	216	253	289	269	261
Cations, meq/L	3.0	3.2	2.6	1.9	1.9	1.9	1.7	1.4
Anions, meq/L	2.6	3.4	2.6	1.8	1.6	2.2	1.5	1.2
Balance, %	7.1	-3.0	0.0	2.7	8.6	-7.3	6.3	7.7
ACZ Report No.	L27933	L28023	L28126	L28324	L28657	L29021	L29484	L29914

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-002 (86-95)

	Extract Week							
Analysis, mg/L	Week 24	Week 28	Week 32	Week 36	Week 40	Week 44	Week 48	Week 52
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	2.11	1.63	1.35	1.42	2.79	2.76	1.37	1.1
Antimony	0.0218	0.0200	0.0206	0.0231	0.0203	0.0224	0.0209	0.0158
Arsenic	0.0497	0.0729	0.0574	0.0739	0.0743	0.1671	0.0914	0.0757
Barium	0.006	0.010	0.005	0.008	<0.003	0.006	0.006	<0.003
Beryllium	0.00032	0.00035	0.00021	0.00027	0.00032	0.00025	0.00032	0.00019
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	0.0011	0.0007	0.0004	0.0004	0.0006	0.0007	0.0004	0.0003
Calcium	1.9	1.4	0.9	0.9	1.1	1	0.4	0.4
Chloride	0.8	1.3	0.6	1.1	1	0.9	<0.5	<0.5
Chromium	0.05	0.04	0.04	0.04	0.08	0.09	0.04	<0.01
Cobalt	0.03	0.02	0.01	0.01	<0.01	<0.01	0.02	<0.01
Copper	0.09	0.05	0.04	0.03	0.05	0.06	0.03	0.03
Fluoride	10	<10	<0.05	<0.05	<2	<2	<2	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	4.7	4.7	2.3	2.3	4	2.5	0.999	0.999
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	22.30	18.70	19.90	22.60	17.70	22.20	13.90	11.20
Lead	0.0016	0.0004	0.0004	0.0005	0.0007	0.0006	0.0016	0.0007
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	<0.2	0.3	<0.2	<0.2	0.3	<0.2	<0.2	<0.2
Manganese	0.032	0.023	0.015	0.014	0.018	0.028	0.008	<0.005
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.078	0.051	0.046	0.050	0.058	0.045	0.028	0.017
Nitrate/Nitrite as N	<0.02	0.08	0.02	<0.02	<0.02	<0.02	<0.02	0.03
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.14	<0.05
pH, stu	3.4	3.5	3.3	3.2	3.1	3.0	3.1	3.1
Phosphorus	0.02	<0.02	<0.02	<0.02	0.03	0.08	0.03	0.02
Potassium	0.7	0.8	0.5	0.5	0.6	0.3	<0.2	<0.2
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0011	0.0011	0.0008	0.0008	0.0008	0.0009	0.0006	0.0005
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Strontium	0.018	0.016	0.009	0.012	0.007	0.013	0.009	<0.005
Sulfate	58.6	62.8	57.9	60.0	68.7	83.0	60.0	48.6
Thallium	0.0083	0.0063	0.0061	0.0064	0.0061	0.0042	0.0044	0.0025
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	118	102	84	102	106	128	96	60
Uranium	0.0028	0.0018	0.0013	0.0013	0.0025	0.0020	0.0010	0.0007
Vanadium	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.17	0.10	0.06	0.04	0.07	0.07	0.03	0.02
Electrical Conductivity, µmhos/cm	319	268	293	304	402	452	369	340
Cations, meq/L	1.5	1.3	1.3	1.4	1.4	1.6	0.921	0.737
Anions, meq/L	1.8	1.4	1.2	1.3	1.5	1.8	1.3	1.0
Balance, %	-9.1	-3.7	4.0	3.7	-3.4	-5.9	-17.1	-15.1
ACZ Report No.	L30419	L30908	L31481	L32131	L32682	L33233	L33820	L34366

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-002 (86-95)

	Extract Week							
Analysis, mg/L	Week 56	Week 60	Week 64	Week 68	Week 72	Week 76	Week 80	Week 84
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	1.31	0.94	0.97	0.77	0.73	0.65	0.79	0.68
Antimony	0.0138	0.0128	0.010	0.0119	0.0102	0.0098	0.0089	0.0079
Arsenic	0.0685	0.0457	0.0433	0.0442	0.0437	0.0425	0.040	0.0409
Barium	0.004	0.003	0.067	<0.003	<0.003	0.008	0.005	<0.003
Beryllium	0.00014	0.00014	0.00014	0.00011	0.00012	0.00011	0.00013	0.00015
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.01	<0.01	0.06	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	0.0003	0.0003	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001
Calcium	0.4	0.5	0.8	0.4	0.2	0.2	0.2	0.2
Chloride	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.6
Chromium	0.02	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
Copper	0.02	0.03	0.03	0.03	0.02	0.01	0.01	0.01
Fluoride	<2	<2	<4	<5	<2	<4	<10	<10
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	0.999	1.3	2.0	0.999	0.499	0.499	0.499	0.499
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	10.4	8.44	6.20	5.20	4.84	5.26	5.35	4.29
Lead	0.0009	0.0014	0.0018	0.0045	0.0011	0.0006	0.0004	0.0008
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Manganese	<0.005	0.017	0.006	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.013	0.008	0.009	0.009	0.012	0.014	0.014	0.015
Nitrate/Nitrite as N	0.03	0.04	0.05	<0.02	0.02	<0.02	0.03	<0.02
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH, stu	3.0	3.3	3.1	3.2	3.3	3.3	3.4	3.3
Phosphorus	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	0.2	0.3	0.5	0.4	0.2	0.4	0.3	0.5
Scandium	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0004	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	<0.2	<0.2	1.5	0.3	<0.2	<0.2	<0.2	0.3
Strontium	<0.005	0.006	0.016	<0.005	0.005	<0.005	0.009	0.006
Sulfate	46.4	43.7	39.3	30.3	26.2	35.5	35.0	32.9
Thallium	0.0027	0.003	0.0022	0.0031	0.0026	0.0028	0.0029	0.0033
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	58	96	70	72	40	44	38	48
Uranium	0.0007	0.0006	0.0005	0.0004	0.0003	0.0003	0.0003	0.0003
Vanadium	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.04	0.03	0.07	0.02	0.01	0.01	0.01	0.01
Electrical Conductivity, µmhos/cm	379	333	327	270	244	232	216	225
Cations, meq/L	0.724	0.588	0.559	0.406	0.354	0.372	0.4	0.339
Anions, meq/L	0.974	0.918	0.825	0.636	0.6	0.745	0.749	0.708
Balance, %	-14.7	-21.9	-19.2	-22.1	-25.8	-33.4	-30.4	-35.2
ACZ Report No.	L34779	L35145	L35597	L36030	L36586	L37089	L37686	L38237

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-004 (860-875)

	Extract Week							
Analysis, mg/L	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Alkalinity, $CaCO_3$	108	56.2	31.3	22.9	23.0	10.2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	108	56.2	31.3	22.9	23.0	10.2	<2	<2
Aluminum	0.45	2.78	0.34	0.25	0.81	0.16	<0.03	0.07
Antimony	0.0237	0.043	0.041	0.043	0.038	0.0274	0.0098	0.0053
Arsenic	0.1118	0.108	0.0995	0.0899	0.0477	0.0198	0.0084	0.0081
Barium	0.841	0.752	0.516	0.316	0.089	0.040	0.085	0.015
Beryllium	0.00008	0.00031	<0.00005	<0.0003	<0.00005	<0.00005	<0.00005	0.00138
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.21	0.17	0.14	0.14	0.45	0.22	0.08	0.02
Cadmium	0.0005	0.0005	0.0001	0.0003	<0.0001	<0.0001	<0.0001	0.0004
Calcium	15.2	5.3	2.9	2	0.9	0.5	9.3	15.5
Chloride	6.6	3	2	1	0.7	<0.5	0.6	<0.5
Chromium	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.10
Copper	0.06	0.05	0.04	0.04	0.02	<0.01	<0.01	0.09
Fluoride	1.98	1.27	0.98	1.16	0.75	<10	0.08	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	43.7	16.9	8.48	6.23	3.5	1.3	29	48
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	2.58	1.82	1.27	1.31	0.75	0.08	0.04	0.81
Lead	0.0086	0.0033	0.0025	0.0035	0.0015	0.0002	0.0001	0.0003
Lithium	0.013	0.009	0.008	<0.008	<0.008	0.009	0.011	<0.008
Magnesium	1.4	0.9	0.3	0.3	0.3	<0.2	1.5	2.3
Manganese	0.164	0.104	0.066	0.054	0.006	<0.005	0.429	1.050
Mercury	0.0077	0.0026	0.0019	0.0020	0.0030	<0.0002	0.00003	<0.0002
Molybdenum	0.14	0.12	0.08	0.09	0.05	<0.02	<0.02	<0.02
Nickel	0.023	0.011	0.013	0.009	<0.008	<0.008	0.033	0.073
Nitrate/Nitrite as N	0.71	0.13	0.03	0.21	0.24	0.06	0.15	<0.02
Nitrogen, Ammonia	0.08	0.20	0.19	0.16	0.06	<0.05	<0.05	<0.05
pH, stu	7.8	7.9	7.6	7.5	7.8	7.5	6.7	4.5
Phosphorus	0.19	0.07	0.06	0.09	0.06	<0.02	<0.02	<0.02
Potassium	6.8	4.2	2.1	1.6	1.6	3.2	11.7	9.5
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0247	0.0113	0.0098	0.0079	0.0051	0.0054	0.0068	0.0049
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	82.2	48.4	26.8	21.5	21.5	29.1	11.1	1.2
Strontium	0.086	0.039	0.024	0.012	<0.005	<0.005	0.095	0.172
Sulfate	84.0	50.2	2.4	26.8	30.9	65.2	72.4	64.0
Thallium	0.0002	0.0004	<0.0001	0.0003	<0.0001	0.0003	0.0009	0.0021
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	0.009	0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	460	334	192	138	150	106	110	116
Uranium	0.0014	0.0016	0.0011	0.0016	0.0003	<0.0001	<0.0001	0.0005
Vanadium	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.28	0.18	0.21	0.17	0.03	<0.01	0.03	0.18
Electrical Conductivity, µmhos/cm	406	215	146	110	117	177	178	178
Cations, meq/L	4.9	3.0	1.5	1.2	1.2	1.4	1.4	1.4
Anions, meq/L	4.2	2.3	0.784	1.1	1.2	1.6	1.5	1.3
Balance, %	7.7	13.2	31.3	4.3	0.0	-6.7	-3.4	3.7
ACZ Report No.	L27933	L28023	L28126	L28324	L28697	L29021	L29484	L29914

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-004 (860-875)

	Extract Week							
Analysis, mg/L	Week 24	Week 28	Week 32	Week 36	Week 40	Week 44	Week 48	Week 52
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	0.35	1.46	9.80	6.37	4.02	1.45	0.65	0.19
Antimony	0.0016	0.0027	0.0030	0.0028	0.0016	0.0010	0.0009	<0.0004
Arsenic	0.0100	0.0140	0.0351	0.0175	0.0122	0.0027	0.0029	0.0005
Barium	0.023	0.038	0.009	0.007	0.061	0.071	0.083	<0.003
Beryllium	0.00326	0.00746	0.01308	0.00485	0.00263	0.00103	0.00067	0.00035
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.02	<0.01	<0.01	<0.01	0.08	0.12	0.07	<0.01
Cadmium	0.0009	0.0025	0.0079	0.0030	0.0015	0.0006	0.0005	0.0001
Calcium	17.1	18.2	21.8	5.4	2.3	1	0.6	0.2
Chloride	0.7	0.6	0.5	0.6	<0.5	<0.5	<0.5	<0.5
Chromium	<0.01	<0.01	0.12	0.11	0.05	0.01	0.01	<0.01
Cobalt	0.15	0.28	1.38	0.59	0.24	0.05	0.02	<0.01
Copper	0.19	0.40	1.03	0.45	0.23	0.09	0.05	<0.01
Fluoride	<10	<10	<5	<5	<2	<2	<2	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	52	55	64	16	7.4	2.5	1.5	0.499
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	0.50	8.94	54.40	36.50	17.30	4.25	1.52	<0.02
Lead	0.0006	0.0003	0.0006	0.0013	0.0013	0.0045	0.0020	0.0007
Lithium	0.014	0.017	0.106	0.033	0.011	<0.008	<0.008	<0.008
Magnesium	2.3	2.4	2.4	0.5	0.4	<0.2	<0.2	<0.2
Manganese	1.370	2.180	9.030	3.510	1.450	0.325	0.117	0.036
Mercury	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.111	0.166	0.401	0.161	0.070	0.015	0.010	<0.008
Nitrate/Nitrite as N	0.02	<0.02	0.02	0.03	<0.02	0.04	0.08	0.05
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	0.12	<0.05
pH, stu	3.7	3.3	2.7	2.6	2.8	3.0	3.3	3.5
Phosphorus	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	5.9	4.3	2.9	1.7	1.6	1.5	1	0.6
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0039	0.0018	0.0013	0.0009	0.0006	0.0004	0.0002	0.0002
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	0.7	0.5	0.8	0.8	3.1	3.1	3	0.5
Strontium	0.203	0.244	0.291	0.101	0.049	0.029	0.019	<0.005
Sulfate	67.5	118	331	201	145	61.0	35.5	13.8
Thallium	0.0023	0.0026	0.0042	0.0036	0.0028	0.0021	0.0018	0.0012
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	142	194	526	284	174	62	56	18
Uranium	0.0032	0.0128	0.0521	0.0211	0.0103	0.0031	0.0018	0.0008
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.30	0.45	0.86	0.33	0.25	0.19	0.12	<0.01
Electrical Conductivity, µmhos/cm	244	409	1,140	1,080	782	450	246	128
Cations, meq/L	1.4	2.1	6.1	3.3	1.8	0.645	0.363	---
Anions, meq/L	1.4	2.5	7	4.2	3.1	1.3	0.745	0.03
Balance, %	0.0	-8.7	-6.9	-12.0	-26.5	-33.7	-34.5	N/A
ACZ Report No.	L30419	L30908	L31481	L32131	L32682	L33233	L33820	L34366

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-004 (860-875)

	Extract Week							
Analysis, mg/L	Week 56	Week 60	Week 64	Week 68	Week 72	Week 76	Week 80	Week 84*
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	0.20	0.12	0.16	0.03	0.05	0.11	0.07	0.09
Antimony	0.0004	0.0005	0.0004	0.0004	0.0005	0.0004	0.0004	<0.0004
Arsenic	0.0012	0.0006	0.0014	0.001	0.0011	0.0024	0.0015	0.0013
Barium	0.092	0.003	0.088	0.086	0.091	0.107	0.010	0.006
Beryllium	0.00036	0.00028	0.00041	0.00023	0.0003	0.00033	0.00027	0.0003
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.05	0.01	0.08	0.06	0.05	0.06	0.02	0.02
Cadmium	0.0002	0.0001	0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0001
Calcium	0.5	0.2	0.6	0.6	0.5	0.6	0.1	0.1
Chloride	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	0.01	0.01	0.01	<0.01	0.01	0.01	<0.01	<0.01
Fluoride	<2	<2	<4	10	<2	<4	<10	<10
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	1.3	0.499	1.5	1.5	1.3	1.5	0.3	0.3
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	0.26	0.18	0.19	0.08	0.12	0.09	0.08	0.08
Lead	0.0013	0.0021	0.001	0.0011	0.0005	0.0008	0.0003	0.0004
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Manganese	0.042	0.031	0.036	0.018	0.021	0.025	0.018	0.016
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Nitrate/Nitrite as N	0.03	0.16	<0.02	0.06	0.03	0.06	<0.02	<0.02
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	<0.05
pH, stu	3.6	3.8	3.5	3.6	3.7	3.8	3.8	3.8
Phosphorus	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	1.2	0.9	1.7	1.7	1.8	2.7	2.0	2.0
Scandium	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0002	0.0002	0.0003	0.0002	0.0003	0.0003	0.0004	0.0004
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	2.9	0.5	1.9	1.8	1.8	1.8	0.5	0.6
Strontium	<0.005	0.006	0.018	0.008	0.012	0.011	0.011	0.009
Sulfate	20.9	12.3	20.9	16.6	16.1	17.7	10.7	14.2
Thallium	0.0011	0.0015	0.0022	0.0017	0.0018	0.002	0.0021	0.0021
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	28	44	62	44	26	24	16	28
Uranium	<0.0008	0.0006	0.0007	0.0003	0.0003	0.0002	0.0002	0.0003
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.07	0.01	0.05	0.05	0.05	0.06	0.02	0.02
Electrical Conductivity, µmhos/cm	117	99.2	163	114	115	100.0	83.4	86.4
Cations, meq/L	0.225	---	0.191	0.164	0.167	0.201	---	---
Anions, meq/L	0.439	0.258	0.439	0.879	0.338	0.372	0.225	0.312
Balance, %	-32.2	N/A	N/A	N/A	N/A	-29.8	N/A	N/A
ACZ Report No.	L34779	L35145	L35597	L36030	L36586	L37089	L37686	L38237

*Testing terminated after week 84

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-003 (675-685)

	Extract Week							
Analysis, mg/L	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Alkalinity, $CaCO_3$	<2	42.1	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<3	<2	<2	<2	<2	<2	<2
HCO_3	<2	42.1	<2	<2	<2	<2	<2	<2
Aluminum	262	214	126	3.64	4.12	8.78	26.40	12.70
Antimony	0.105	0.015	0.009	0.0014	0.0013	0.0020	0.0031	0.0010
Arsenic	7.25	2.270	2.820	0.0760	0.1063	0.1945	1.7900	1.6500
Barium	<0.03	0.04	0.034	<0.003	0.005	<0.003	<0.003	<0.003
Beryllium	0.1208	0.0625	0.0309	0.00164	0.00226	0.00460	0.00755	0.00230
Bismuth	<0.4	<0.2	0.07	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.1	<0.05	<0.01	<0.01	0.12	<0.01	<0.01	<0.01
Cadmium	0.069	0.0565	0.0344	0.0015	0.0016	0.0024	0.0043	0.0017
Calcium	509	481	408	56.2	46.3	48.2	48.1	13.7
Chloride	4.5	0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	<0.1	0.08	0.08	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	7.9	5.88	3.54	0.18	0.17	0.25	0.42	0.17
Copper	5.6	2.06	0.74	0.10	0.12	0.30	0.81	0.36
Fluoride	20	15	10	0.52	0.46	<20	10	<20
Gallium	<1	<0.5	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	2,370	2,030	1,540	167	139	152	164	50
Hydroxide	<2	<3	<2	<2	<2	<2	<2	<2
Iron	1,250	1,240	865	41.50	46.40	79.30	294	178
Lead	1.740	0.3487	0.1807	0.0081	0.0033	0.0014	0.0025	0.0029
Lithium	0.39	0.27	0.131	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	266	201	126	6.4	5.7	7.8	10.7	3.9
Manganese	1.36	1.08	0.634	0.034	0.039	0.067	0.208	0.109
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	0.0000364	<0.0002	0.000089	<0.0002
Molybdenum	0.8	0.2	0.12	<0.02	0.03	0.04	0.25	0.16
Nickel	7.31	5.52	3.240	0.164	0.159	0.243	0.400	0.168
Nitrate/Nitrite as N	0.10	0.11	0.10	0.18	0.06	0.05	0.04	<0.02
Nitrogen, Ammonia	1.25	0.86	0.29	0.14	0.07	<0.05	<0.05	<0.05
pH, stu	2.2	2.6	2.7	3.2	3.0	2.6	2.3	2.4
Phosphorus	14.5	2.8	2.1	0.04	0.07	0.13	2.1	1.64
Potassium	106	76	55.7	6.3	5.3	5.1	3.3	0.8
Scandium	<1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.219	0.1044	0.0378	0.0014	0.0007	0.0006	0.0038	0.0033
Silver	<0.1	<0.05	0.03	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	135	95	56.3	2.9	2.4	2.2	2	0.7
Strontium	10.0	8.19	5.590	0.480	0.471	0.505	0.668	0.197
Sulfate	6,420	5,010	3,970	278	271	452	1,160	464
Thallium	0.071	0.0485	0.0375	0.0040	0.0036	0.0043	0.0049	0.0012
Tin	<0.4	<0.2	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	0.07	0.03	<0.005	0.005	0.007	<0.005	<0.005	<0.005
Total Dissolved Solids	10,700	9,230	6,730	444	504	1,240	1,680	824
Uranium	0.191	0.0591	0.0305	0.0013	0.0019	0.0056	0.0144	0.0043
Vanadium	0.09	0.11	0.091	<0.005	0.008	<0.005	0.011	<0.005
Zinc	7	5.88	3.93	0.27	0.27	0.35	0.57	0.24
Electrical Conductivity, µmhos/cm	8,250	6,630	5,080	697	852	1,410	3,210	2,030
Cations, meq/L	152	137	95	6.3	6	8.5	22	12
Anions, meq/L	136	107	84	5.9	5.7	9.5	25	9.7
Balance, %	5.6	12.3	6.1	3.3	2.6	-5.6	-6.4	10.6
ACZ Report No.	L27933	L28066	L28230	L28324	L28657	L29021	L29484	L29914

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-003 (675-685)

	Extract Week							
Analysis, mg/L	Week 24	Week 28	Week 32	Week 36	Week 40	Week 44	Week 48	Week 52
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	41.90	59.5	56.9	33.20	34.50	39.70	32.30	35.8
Antimony	0.0042	0.006	0.005	0.0041	0.0044	<0.02	0.0047	0.0044
Arsenic	7.19	9.99	9.640	5.18	5.16	6.30	4.00	4.6100
Barium	<0.006	<0.02	<0.02	0.007	<0.006	<0.006	<0.006	<0.006
Beryllium	0.0077	0.0107	0.01062	0.007	0.005	0.0055	0.0050	0.0056
Bismuth	<0.08	<0.2	<0.2	<0.08	<0.08	0.10	0.08	<0.08
Boron	<0.02	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium	0.0053	0.0072	0.0068	0.0039	0.0038	0.0042	0.0034	0.0035
Calcium	55.1	63.2	71.4	53.1	54.2	60.8	58.5	65.0
Chloride	1	0.6	0.6	0.8	0.7	<0.5	<0.5	0.7
Chromium	<0.02	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	0.04
Cobalt	0.50	0.74	0.64	0.36	0.37	0.38	0.29	0.26
Copper	1.21	1.73	1.61	0.95	0.91	0.97	0.74	0.74
Fluoride	<10	<20	<40	<20	<10	<20	<10	<20
Gallium	0.2	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2
Hardness	181	220	232	163	164	181	165	183
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	749	1,170	1,170	718	749	872	709	753
Lead	0.0024	0.0010	0.0008	0.0009	0.0007	0.0012	0.0023	0.001
Lithium	<0.02	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02
Magnesium	10.6	15	13	7.4	7	7.2	4.7	5.1
Manganese	0.42	0.65	0.65	0.42	0.44	0.49	0.39	0.41
Mercury	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0005	<0.0002	0.0007
Molybdenum	0.62	0.8	0.7	0.41	0.41	0.47	0.39	0.41
Nickel	0.53	0.69	0.67	0.39	0.36	0.34	0.24	0.23
Nitrate/Nitrite as N	0.10	<0.02	0.04	<0.02	0.02	0.02	0.52	0.05
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	0.10	0.06	0.19	<0.05
pH, stu	2.0	1.9	1.9	2.0	2.1	2.0	2.1	2.1
Phosphorus	6.3	8.5	6.5	3.6	3.7	4.6	3.1	2.9
Potassium	0.9	2	<1	0.5	<0.4	<0.4	<0.4	<0.4
Scandium	<0.2	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2
Selenium	0.0162	0.02	0.0181	0.0131	0.0127	0.0165	0.0125	0.0113
Silver	<0.02	<0.05	<0.05	0.02	<0.02	<0.02	0.03	<0.02
Sodium	1.5	2	2	0.7	<0.4	<0.4	<0.4	<0.4
Strontium	0.63	0.75	0.69	0.41	0.35	0.39	0.26	0.22
Sulfate	2,040	3,950	3,680	2,040	2,270	2,510	2,130	2,190
Thallium	0.0026	0.0020	0.0015	0.0011	0.0006	0.0008	0.0007	0.0004
Tin	<0.08	<0.2	<0.2	<0.08	<0.08	<0.08	<0.08	<0.08
Titanium	<0.01	<0.03	<0.03	<0.01	<0.01	<0.01	<0.01	<0.01
Total Dissolved Solids	3,770	5,060	4,860	3,160	3,490	3,920	3,250	3,540
Uranium	0.0136	0.0173	0.0145	0.0083	0.0081	0.0086	0.0073	0.0073
Vanadium	0.02	0.06	0.04	0.02	0.02	<0.01	<0.01	<0.01
Zinc	0.74	1.03	0.98	0.61	0.61	0.68	0.58	0.59
Electrical Conductivity, µmhos/cm	5,540	6,760	6,760	5,000	4,840	4,800	4,170	4,470
Cations, meq/L	48	73	73	45	47	54	45	48
Anions, meq/L	43	83	77	43	48	53	45	46
Balance, %	5.5	-6.4	-2.7	2.3	-1.1	0.9	0.0	2.1
ACZ Report No.	L30419	L30908	L31481	L32131	L32682	L33233	L33820	L34366

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-003 (675-685)

	Extract Week							
Analysis, mg/L	Week 56	Week 60	Week 64	Week 68	Week 72	Week 76	Week 80	Week 84
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	33.2	24.3	18.0	14.8	12.8	13.9	12.2	12.8
Antimony	0.0045	0.0042	0.0031	0.0035	0.003	0.0026	0.0026	0.0027
Arsenic	3.35	1.92	1.03	0.691	0.476	0.419	0.269	0.236
Barium	<0.006	<0.006	0.005	<0.003	<0.003	0.004	<0.003	<0.003
Beryllium	0.0047	0.0032	0.00325	0.00226	0.00238	0.00269	0.00257	0.00233
Bismuth	<0.08	<0.08	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	0.003	0.0023	0.0017	0.0014	0.0012	0.0011	0.001	0.001
Calcium	71.1	62.2	52.3	49.8	46.5	43.0	39.6	37.1
Chloride	0.8	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	0.04	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.22	0.17	0.11	0.08	0.07	0.05	0.04	0.04
Copper	0.62	0.44	0.30	0.24	0.19	0.16	0.13	0.11
Fluoride	<20	<20	<4	<10	<2	<4	<10	<10
Gallium	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	195	168	139	131	121	112	103	96
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	631	500	344	267	192	162	137	127
Lead	0.0009	0.001	0.0014	0.0013	0.0009	0.0009	0.0008	0.001
Lithium	<0.02	<0.02	<0.02	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	4.3	3.0	2.0	1.7	1.2	1.2	1.0	0.8
Manganese	0.38	0.28	0.20	0.167	0.134	0.128	0.105	0.094
Mercury	0.0011	0.001	0.001	0.0006	0.0005	0.0004	0.003	0.0007
Molybdenum	0.41	0.35	0.27	0.21	0.16	0.15	0.15	0.14
Nickel	0.24	0.17	0.11	0.082	0.061	0.058	0.046	0.040
Nitrate/Nitrite as N	0.03	0.05	0.07	<0.02	0.05	0.02	0.02	0.03
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH, stu	2.0	2.3	2.2	2.2	2.2	2.3	2.3	2.3
Phosphorus	2.2	1.2	0.83	0.45	0.28	0.26	0.18	0.14
Potassium	<0.4	<0.4	<0.4	0.2	<0.2	0.3	<0.2	0.2
Scandium	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0092	0.0065	0.0044	0.0031	0.0024	0.0022	0.0017	0.0015
Silver	<0.02	<0.02	0.04	0.03	<0.01	<0.01	<0.01	<0.01
Sodium	<0.4	<0.4	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2
Strontium	0.16	0.11	0.09	0.055	0.039	0.033	0.029	0.021
Sulfate	1,950	1,570	1,300	976	783	626	633	599
Thallium	0.0003	<0.0002	<0.0002	0.0002	0.0003	0.0002	0.0001	0.0002
Tin	<0.08	<0.08	<0.08	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	2,990	2,270	1,830	1,320	1,070	988	852	844
Uranium	0.0069	0.0061	0.005	0.0038	0.0035	0.0043	0.0042	0.0044
Vanadium	<0.01	<0.01	0.01	<0.005	<0.005	0.008	0.006	<0.005
Zinc	0.60	0.47	0.39	0.35	0.30	0.31	0.29	0.29
Electrical Conductivity, µmhos/cm	4,150	3,610	3,300	2,800	2,530	2,450	2,260	2,210
Cations, meq/L	41	33	23.0	19	14.0	12	11	10
Anions, meq/L	41.0	33.0	27	21	16	13	13	13
Balance, %	0.0	0.0	-8.0	-5.0	-6.7	-4.0	-8.3	-13.0
ACZ Report No.	L34779	L35145	L35597	L36030	L36586	L37089	L37686	L38237

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, GMC-012 (832-851)

	Extract Week							
Analysis, mg/L	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	185	202	129	29.60	10.20	4.69	6.19	18.60
Antimony	0.0147	0.0022	0.0015	0.0009	0.0011	0.0009	0.0009	0.0013
Arsenic	1.980	0.906	0.574	0.1386	0.1278	0.1214	0.1149	0.2144
Barium	0.04	<0.03	0.04	<0.003	0.004	<0.003	<0.003	<0.003
Beryllium	0.0146	0.0159	0.0106	0.00260	0.00095	0.00055	0.00063	0.00106
Bismuth	<0.4	<0.4	<0.4	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.1	<0.1	<0.1	<0.01	0.12	<0.01	<0.01	<0.01
Cadmium	0.0195	0.0197	0.0152	0.0035	0.0013	0.0007	0.0008	0.0016
Calcium	205	189	188	93.8	61.2	26.9	22.3	22.9
Chloride	0.6	1.5	1.7	1.4	5.6	3	1.3	<0.5
Chromium	0.3	0.3	0.3	0.03	0.02	0.01	0.01	0.03
Cobalt	1.8	1.9	1.2	0.29	0.09	0.05	0.05	0.09
Copper	8.5	7.2	4.6	1.06	0.42	0.23	0.26	0.54
Fluoride	<10	<10	0.06	0.43	<0.5	<10	0.18	<20
Gallium	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	710	661	597	265	162	71	59	61
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	323	417	270	75.50	44.20	38.70	51.50	124
Lead	0.0139	0.0046	0.0019	0.0014	0.0024	0.0009	0.0014	0.0038
Lithium	0.11	0.15	0.12	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	48	46	31	7.5	2.2	0.9	0.8	0.9
Manganese	1.95	2.17	1.47	0.374	0.159	0.097	0.142	0.369
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	0.0000198	<0.0002	0.000026	<0.0002
Molybdenum	0.2	<0.2	<0.2	<0.02	<0.02	<0.02	<0.02	0.03
Nickel	2.20	2.35	1.59	0.387	0.135	0.074	0.082	0.169
Nitrate/Nitrite as N	0.32	0.13	0.11	0.11	0.11	0.06	0.06	0.03
Nitrogen, Ammonia	0.64	0.45	0.56	0.08	<0.05	<0.05	<0.05	<0.05
pH, stu	2.2	2.3	2.3	2.7	2.7	2.7	2.6	2.3
Phosphorus	5.9	3	1.5	0.18	0.10	0.08	0.07	0.22
Potassium	19	10	7	2.5	2.5	2	2.1	1.7
Scandium	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0498	0.0294	0.0209	0.0062	0.0040	0.0028	0.0024	0.0026
Silver	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	17	16	10	1.7	0.5	<0.2	<0.2	<0.2
Strontium	0.16	0.18	0.16	0.049	0.040	0.018	0.021	0.024
Sulfate	2,330	2,420	1,880	648	360	249	266	581
Thallium	0.0149	0.0080	0.0062	0.0023	0.0018	0.0012	0.0013	0.0010
Tin	<0.4	<0.4	<0.4	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.05	<0.05	0.06	0.007	0.009	<0.005	<0.005	0.005
Total Dissolved Solids	3,980	4,360	3,120	980	602	308	342	708
Uranium	0.483	0.4554	0.3182	0.0654	0.0300	0.0199	0.0250	0.0453
Vanadium	<0.05	0.13	0.10	0.012	0.009	<0.005	<0.005	0.006
Zinc	6	5.8	3.9	0.92	0.33	0.20	0.23	0.42
Electrical Conductivity, µmhos/cm	4,910	4,140	3,950	1,610	1,390	1,230	1,390	2,780
Cations, meq/L	54	59	42	13	6.8	4.1	4.7	10
Anions, meq/L	49	51	40	14	7.7	5.3	5.6	12
Balance, %	4.9	7.3	2.4	-3.7	-6.2	-12.8	-8.7	-9.1
ACZ Report No.	L27933	L28023	L28126	L28324	L28657	L29021	L29484	L29914

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, GMC-012 (832-851)

	Extract Week							
Analysis, mg/L	Week 24	Week 28	Week 32	Week 36	Week 40	Week 44	Week 49	Week 52
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<3
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<3
HCO_3	<2	<2	<2	<2	<2	<2	<2	<3
Aluminum	19.70	15.90	15.10	7.32	6.22	2.91	1.43	0.77
Antimony	0.0014	0.0012	0.0009	0.0011	0.0011	0.0010	0.0012	0.0011
Arsenic	0.3191	0.2279	0.2614	0.0745	0.0717	0.0275	0.0185	0.0154
Barium	<0.003	0.004	<0.003	0.004	<0.003	<0.003	0.003	<0.003
Beryllium	0.00132	0.00112	0.00126	0.00078	0.00063	0.00041	0.00025	0.00021
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.02	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01
Cadmium	0.0015	0.0011	0.0007	0.0004	0.0003	0.0002	0.0002	0.0002
Calcium	9.5	2.9	1.6	0.8	0.5	0.3	0.2	0.1
Chloride	0.7	0.7	0.6	0.9	<0.5	<0.5	<0.5	<0.5
Chromium	0.05	0.04	0.04	0.02	<0.01	<0.01	<0.01	<0.01
Cobalt	0.07	0.05	0.04	0.02	0.02	<0.01	<0.01	<0.01
Copper	0.46	0.28	0.24	0.13	0.10	0.06	0.04	0.01
Fluoride	<10	<10	20	<5	<2	<2	<2	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	25	8.1	4	2	1.3	0.749	0.499	0.03
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<3
Iron	166	146	149	77.80	54.40	25.80	14.10	8.97
Lead	0.0026	0.0007	0.0005	0.0010	0.0010	0.0010	0.0019	0.0007
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	0.3	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Manganese	0.460	0.375	0.367	0.219	0.152	0.077	0.049	0.022
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.163	0.103	0.096	0.059	0.040	0.019	0.011	<0.008
Nitrate/Nitrite as N	0.04	0.02	0.04	<0.02	<0.02	0.18	0.03	<0.02
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	0.13	<0.05	0.07	<0.05
pH, stu	2.2	2.3	2.3	2.3	2.5	2.6	2.7	3.0
Phosphorus	0.43	0.26	0.36	0.08	0.07	0.02	<0.02	0.02
Potassium	1	0.4	0.3	0.3	0.2	0.2	<0.2	0.3
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0030	0.0024	0.0017	0.0012	0.0009	0.0006	0.0006	0.0005
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Strontium	0.020	0.009	0.008	0.010	<0.005	0.007	<0.005	<0.005
Sulfate	652	637	625	368	298	158	95.5	62.2
Thallium	0.0009	0.0004	0.0002	0.0002	0.0003	0.0001	0.0003	0.0001
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	1,160	700	790	372	290	168	132	<100
Uranium	0.0295	0.0176	0.0153	0.0148	0.0128	0.0078	0.0058	0.0036
Vanadium	<0.005	0.012	0.007	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.35	0.20	0.16	0.09	0.06	0.04	0.03	<0.01
Electrical Conductivity, µmhos/cm	3,180	2,470	2,480	2,040	1,650	1,080	735	505
Cations, meq/L	12	9.7	9.7	5.0	3.6	1.7	0.927	0.576
Anions, meq/L	14	13	14	7.8	6.3	3.3	2.0	1.3
Balance, %	-7.7	-14.5	-18.1	-21.9	-27.3	-32.0	-36.7	-38.6
ACZ Report No.	L30419	L30908	L31481	L32131	L32682	L33233	L33928	L34366

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, GMC-012 (832-851)

	Extract Week							
Analysis, mg/L	Week 56	Week 60	Week 64	Week 68	Week 72	Week 76	Week 80	Week 84*
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	0.47	0.72	0.86	0.23	0.45	0.26	0.23	0.13
Antimony	0.001	0.0012	0.0012	0.0014	0.0014	0.001	0.0015	0.0011
Arsenic	0.0097	0.0058	0.0058	0.0049	0.003	0.0018	0.0036	0.0012
Barium	<0.003	<0.003	0.004	0.072	<0.003	0.138	0.004	<0.003
Beryllium	0.00013	0.00014	0.00016	0.0007	0.00009	<0.00005	<0.00005	0.00005
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.01	0.01	<0.01	0.08	<0.01	0.11	0.01	<0.01
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001
Calcium	0.1	0.1	0.2	0.7	<0.1	0.5	<0.1	<0.1
Chloride	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.01	0.02	0.02	<0.01	0.01	<0.01	<0.01	<0.01
Fluoride	<2	<2	<4	<10	5	<4	<10	20
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	0.03	0.03	0.499	1.8	<0.2	1.3	0.3	<0.2
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	5.37	6.09	7.33	3.62	5.02	1.79	2.37	0.98
Lead	0.0011	0.002	0.0015	0.002	0.0006	0.0013	0.0016	0.0006
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Manganese	0.013	0.027	0.026	0.009	0.010	0.007	0.006	<0.005
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Nitrate/Nitrite as N	<0.02	0.06	0.03	0.28	0.02	0.06	0.03	<0.02
Nitrogen, Ammonia	<0.05	<0.05	<0.05	0.10	<0.05	<0.05	<0.05	<0.05
pH, stu	3.0	3.0	3.0	3.1	3.0	3.2	3.1	3.3
Phosphorus	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	0.5	0.5	0.6	0.9	0.7	0.6	0.5	0.4
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0005	0.0003	0.0004	0.0003	0.0003	0.0001	0.0002	<0.0001
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	<0.2	<0.2	0.2	2.3	<0.2	1.8	<0.2	<0.2
Strontium	<0.005	<0.005	0.010	<0.005	<0.005	<0.005	<0.005	<0.005
Sulfate	34.6	50.9	61.8	39.3	43.2	34.6	30.9	37.6
Thallium	0.0001	0.0002	0.0001	0.0001	0.0002	<0.0001	0.0002	0.0002
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	40	108	96	68	60	46	50	66
Uranium	0.0026	0.0036	0.004	0.0016	0.002	0.0012	0.0014	0.001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.01	0.01	0.02	0.08	<0.01	0.10	0.01	<0.01
Electrical Conductivity, µmhos/cm	444	652	564	415	475	339	334	242
Cations, meq/L	0.356	0.424	0.522	0.387	0.335	0.247	0.2	---
Anions, meq/L	0.727	1.1	1.3	0.825	1.2	0.727	0.649	1.9
Balance, %	-34.3	-44.4	-42.7	-36.1	-56.4	-49.3	-52.9	N/A
ACZ Report No.	L34779	L35145	L35597	L36030	L36586	L37089	L37686	L38237

*Testing terminated after week 84

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-004 (295-315)

	Extract Week							
Analysis, mg/L	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	3.65	0.27	0.51	0.95	0.81	0.67	0.73	1.27
Antimony	0.0062	0.0044	0.0034	0.0023	0.0019	0.0020	0.0011	0.0013
Arsenic	0.0931	0.0270	0.0066	0.0060	0.0070	0.0062	0.0077	0.0282
Barium	0.058	0.077	0.120	0.038	0.027	0.022	0.019	0.021
Beryllium	0.00383	0.00050	0.00076	0.00178	0.00181	0.00174	0.00192	0.00307
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.17	0.04	0.03	0.01	0.20	0.04	<0.01	0.01
Cadmium	0.0012	0.0001	0.0001	0.0003	0.0004	0.0003	0.0005	0.0009
Calcium	214	9.9	21.8	39.3	27.6	22	19.7	29.6
Chloride	51.6	3.3	0.8	<0.5	0.5	<0.5	<0.5	<0.5
Chromium	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.10	<0.01	0.01	0.03	0.02	0.02	0.02	0.04
Copper	0.15	0.01	0.03	0.06	0.06	0.05	0.07	0.13
Fluoride	1.51	0.23	0.39	0.65	0.56	<10	0.46	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	725	34.2	73	131	92	73	65	97
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	4.32	0.19	0.37	1.05	1.70	2.15	2.77	6.18
Lead	0.0038	0.0006	0.0007	0.0009	0.0007	0.0011	0.0013	0.0012
Lithium	0.156	0.028	0.029	0.012	<0.008	<0.008	<0.008	<0.008
Magnesium	46.3	2.3	4.5	8.1	5.6	4.3	3.9	5.7
Manganese	1.980	0.102	0.227	0.452	0.347	0.279	0.275	0.454
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	0.0000025	<0.0002	0.0000016	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.140	0.009	0.022	0.050	0.042	0.035	0.043	0.063
Nitrate/Nitrite as N	1.37	0.03	0.04	0.05	<0.02	0.02	0.02	0.03
Nitrogen, Ammonia	1.22	0.18	0.22	0.12	<0.05	<0.05	<0.05	<0.05
pH, stu	4.4	4.4	4.5	4.3	4.1	4.0	3.9	2.4
Phosphorus	0.05	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02
Potassium	60.9	15	18.7	19.7	9.5	6.5	3	3.3
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.1115	0.0478	0.0309	0.0161	0.0062	0.0017	0.0019	0.0013
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	200	21	13.6	2.9	0.3	<0.2	<0.2	<0.2
Strontium	0.619	0.033	0.070	0.112	0.084	0.060	0.058	0.087
Sulfate	1,130	105	128	166	119	99.5	90.6	119
Thallium	0.0017	0.0004	0.0005	0.0005	0.0005	0.0003	0.0005	0.0005
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	0.015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	1,840	208	232	288	250	166	142	208
Uranium	0.0023	0.0002	0.0003	0.0007	0.0011	0.0012	0.0034	0.0067
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.24	0.02	0.04	0.08	0.07	0.05	0.07	0.09
Electrical Conductivity, µmhos/cm	2,210	255	336	369	294	268	248	2,170
Cations, meq/L	26	2.1	2.7	3.5	2.3	1.8	1.6	2.5
Anions, meq/L	25	2.3	2.7	3.5	2.5	2.1	1.9	2.5
Balance, %	2.0	-4.5	0.0	0.0	-4.2	-7.7	-8.6	0.0
ACZ Report No.	L27933	L28023	L28126	L28324	L28657	L29021	L29484	L29914

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-004 (295-315)

	Extract Week							
Analysis, mg/L	Week 24	Week 28	Week 32	Week 36	Week 40	Week 44	Week 48	Week 52
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	1.80	1.29	1.40	1.91	1.05	1.61	0.92	0.59
Antimony	0.0013	0.0012	0.0008	0.0010	0.0008	0.0008	0.0008	0.0006
Arsenic	0.0759	0.0785	0.0571	0.0212	0.0118	0.0043	0.003	0.0026
Barium	0.023	0.025	0.026	0.026	0.019	0.023	0.020	0.012
Beryllium	0.00413	0.00317	0.00294	0.00286	0.00184	0.00214	0.00150	0.00111
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	0.0017	0.0014	0.0015	0.0016	0.0010	0.0012	0.0008	0.0005
Calcium	34.9	22.5	21.5	21.3	12.7	14.3	9	5.8
Chloride	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.05	0.04	0.03	0.03	0.02	0.03	0.02	<0.01
Copper	0.19	0.13	0.13	0.15	0.08	0.10	0.07	0.04
Fluoride	<10	<10	0.47	5	2	<2	<2	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	114	74	68	69	42	46	28	19
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	7.67	4.37	4.04	4.75	2.19	3.04	1.75	0.91
Lead	0.0014	0.0011	0.0012	0.0044	0.0024	0.0026	0.0040	0.0011
Lithium	0.012	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	6.5	4.3	3.8	3.8	2.4	2.4	1.4	1.0
Manganese	0.616	0.472	0.473	0.554	0.371	0.431	0.279	0.181
Mercury	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.082	0.055	0.058	0.059	0.040	0.040	0.029	0.012
Nitrate/Nitrite as N	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02
Nitrogen, Ammonia	<0.05	0.26	<0.05	<0.05	0.08	<0.05	<0.05	<0.05
pH, stu	3.2	3.1	3.0	2.8	3.0	2.9	3.0	3.1
Phosphorus	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	2.9	2.3	1.7	1.8	1.3	1.2	0.9	0.7
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0012	0.0007	0.0005	0.0005	0.0004	0.0004	0.0003	0.0002
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Strontium	0.105	0.072	0.063	0.069	0.035	0.050	0.032	0.016
Sulfate	148	132	117	139	99.1	114	75.2	49.9
Thallium	0.0005	0.0004	0.0003	0.0005	0.0005	0.0006	0.0003	0.0002
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	286	192	186	190	116	138	86	82
Uranium	0.0142	0.0106	0.0104	0.0143	0.0075	0.0096	0.0062	0.004
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.13	0.09	0.10	0.10	0.07	0.09	0.06	0.03
Electrical Conductivity, µmhos/cm	567	505	592	751	570	634	486	418
Cations, meq/L	3.0	2	1.8	1.9	1.1	1.3	0.808	0.5
Anions, meq/L	3.1	2.8	2.5	3.2	2.2	2.4	1.6	1.1
Balance, %	-1.6	-16.7	-16.3	-25.5	-33.3	-29.7	-32.9	-37.5
ACZ Report No.	L30419	L30908	L31481	L32131	L32682	L33233	L33820	L34366

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-004 (295-315)

	Extract Week							
Analysis, mg/L	Week 56	Week 60	Week 64	Week 68	Week 72	Week 76	Week 80	Week 84*
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	0.42	0.46	0.27	0.21	0.28	0.12	0.09	0.13
Antimony	0.0012	0.0005	0.0006	<0.0004	0.0006	<0.0004	0.0005	0.0005
Arsenic	0.0057	0.0026	0.0023	0.0016	0.0021	0.0013	0.001	0.0021
Barium	0.016	0.025	0.030	0.017	0.096	0.109	0.016	0.035
Beryllium	0.00069	0.00068	0.0005	0.00035	0.00047	0.00022	0.00022	0.00028
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.01	<0.01	<0.01	<0.01	0.05	0.06	<0.01	<0.01
Cadmium	0.0004	0.0004	0.0003	0.0002	0.0003	0.0002	<0.0001	0.0001
Calcium	4.4	4.6	2.6	2.1	3.0	1.7	1.1	1.5
Chloride	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	0.03	0.03	0.02	<0.01	0.03	0.01	<0.01	<0.01
Fluoride	<4	<4	<4	<10	3	<4	<10	10
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	14	15	8.6	7.3	9.1	5.1	2.8	4.6
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	0.65	0.62	0.35	0.26	0.28	0.13	0.10	0.13
Lead	0.0008	0.0018	0.0022	0.0015	0.0015	0.0017	0.0012	0.0006
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	0.7	0.8	0.5	0.5	0.4	0.2	<0.2	0.2
Manganese	0.142	0.152	0.089	0.067	0.088	0.044	0.035	0.044
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.014	0.015	0.011	<.0008	0.010	<0.008	<0.008	<0.008
Nitrate/Nitrite as N	<0.02	0.04	2.69	<0.02	0.03	0.06	0.02	<0.02
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH, stu	3.1	3.3	3.2	3.4	3.3	3.5	3.5	3.3
Phosphorus	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	0.7	0.9	0.7	0.7	0.8	0.7	0.6	1.0
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0002	0.0002	0.0001	<0.0001	0.0001	0.0001	0.0001	0.0002
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	<0.2	<0.2	<0.2	<0.2	1.3	1.2	<0.2	<0.2
Strontium	0.008	0.015	0.015	0.006	0.012	0.007	0.006	0.006
Sulfate	34.3	40.5	32.7	33.7	29.0	22.3	24.7	34.6
Thallium	0.0002	0.0002	0.0002	0.0001	0.0003	0.0002	0.0001	0.0003
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	50	102	52	40	50	32	20	68
Uranium	0.0026	0.003	0.0021	0.0014	0.0018	0.001	0.0008	0.0011
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.02	0.03	0.02	0.02	0.08	0.07	0.01	<0.01
Electrical Conductivity, µmhos/cm	357	370	287	220	272	185	156	225
Cations, meq/L	0.389	0.416	0.246	0.208	0.317	0.198	---	0.142
Anions, meq/L	0.7	0.09	0.687	0.708	0.768	0.468	0.519	1.3
Balance, %	-28.6	-36.8	-47.3	-54.6	-41.6	N/A	N/A	N/A
ACZ Report No.	L34779	L35145	L35597	L36030	L36586	L37089	L37686	L38237

*Testing terminated after week 84

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-001 (750-762)

	Extract Week							
Analysis, mg/L	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Alkalinity, $CaCO_3$	2.4	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	2.4	<2	<2	<2	<2	<2	<2	<2
Aluminum	<0.03	0.12	0.04	<0.03	0.07	<0.03	0.03	<0.03
Antimony	0.0019	0.0006	0.0007	0.0005	0.0005	<0.0004	<0.0004	<0.0004
Arsenic	0.0040	0.0051	0.0034	0.0028	0.0035	0.0032	0.0055	0.0026
Barium	0.124	0.006	0.135	<0.003	0.009	<0.003	<0.003	0.004
Beryllium	<0.00005	0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.08	0.02	0.07	<0.01	0.16	<0.01	<0.01	<0.01
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	10.4	17.9	8.4	3.5	2.8	2.9	3	4
Chloride	2.8	3	1.4	0.9	0.5	0.7	<0.5	<0.5
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	0.29	0.48	0.10	0.08	0.06	0.06	0.06	0.08
Fluoride	0.16	0.15	0.14	0.11	0.08	<10	0.07	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	33.4	57.9	26.7	11.6	9.1	9.3	10	13
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	0.38	0.22	0.03	0.02	0.04	0.03	0.06	0.09
Lead	0.0005	0.0003	0.0003	0.0003	0.0004	0.0002	0.0003	0.0011
Lithium	0.033	0.044	0.023	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	1.8	3.2	1.4	0.7	0.5	0.5	0.6	0.7
Manganese	0.021	0.051	0.023	0.008	0.012	0.005	0.011	0.014
Mercury	0.0012	<0.0002	<0.0002	<0.0002	0.000177	<0.0002	0.000246	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.012	0.065	0.032	0.018	0.011	0.020	0.014	0.023
Nitrate/Nitrite as N	0.18	0.15	0.10	0.05	0.04	0.04	0.03	0.03
Nitrogen, Ammonia	1.05	1.17	0.66	0.42	0.26	0.15	0.13	0.09
pH, stu	5.5	5.0	5.5	5.1	5.0	4.8	4.8	4.5
Phosphorus	0.01	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02
Potassium	14.5	17	9.8	6.1	4.7	4.1	3.4	3.7
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0146	0.0490	0.0367	0.0296	0.0154	0.0122	0.0083	0.0078
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	8.3	9.9	6	1.9	0.7	0.3	<0.2	<0.2
Strontium	0.111	0.205	0.090	0.037	0.035	0.030	0.031	0.044
Sulfate	57.0	95.5	51.9	27.0	19.6	20.1	15.7	23.0
Thallium	0.0005	0.0008	0.0002	0.0004	0.0002	0.0002	0.0003	0.0002
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	126	182	92	50	106	30	24	26
Uranium	0.0002	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0002
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.12	0.05	0.10	0.02	0.04	0.02	0.02	0.02
Electrical Conductivity, µmhos/cm	194	250	147	70.7	59.1	61.6	55.2	77.9
Cations, meq/L	1.5	2.2	1.1	0.5	0.367	0.322	0.307	0.4
Anions, meq/L	1.3	2.1	1.1	0.598	0.4	0.442	0.333	0.483
Balance, %	7.1	2.3	0.0	-8.9	-4.3	-15.7	-4.1	-9.4
ACZ Report No.	L27933	L28023	L28126	L28324	L28657	L29021	L29484	L29914

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-001 (750-762)

	Extract Week							
Analysis, mg/L	Week 24	Week 28	Week 32	Week 36	Week 40	Week 44	Week 48	Week 52
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	0.05	0.05	0.03	0.05	0.05	0.08	0.06	0.06
Antimony	0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Arsenic	0.0022	0.0025	0.0028	0.0024	0.0022	0.0021	0.0024	0.0017
Barium	0.006	0.006	0.003	0.007	<0.003	0.006	0.004	<0.003
Beryllium	0.00009	0.00005	0.00008	0.00007	0.00014	0.00012	0.00021	0.0002
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	4.8	4.3	4.5	5.1	6.3	5	5.2	4.9
Chloride	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01
Copper	0.13	0.13	0.15	0.19	0.26	0.24	0.25	0.25
Fluoride	<10	<10	0.07	<5	<2	<2	<2	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	15	14	15	16	21	16	16	16
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	0.13	0.18	0.23	0.31	0.44	0.40	0.42	0.40
Lead	0.0003	<0.0001	0.0002	0.0003	0.0005	0.0008	0.0010	0.0004
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	0.8	0.8	0.8	0.9	1.2	0.8	0.7	0.8
Manganese	0.024	0.023	0.023	0.027	0.033	0.028	0.029	0.023
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.036	0.024	0.039	0.044	0.061	0.050	0.054	0.045
Nitrate/Nitrite as N	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	0.10	<0.05	0.20	<0.05
pH, stu	4.5	4.5	4.4	4.3	4.2	4.2	4.2	4.1
Phosphorus	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	3.5	2.9	2.8	3.2	2.9	2.7	2.6	2.4
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0064	0.0060	0.0041	0.0040	0.0044	0.0033	0.0028	0.003
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Strontium	0.058	0.053	0.051	0.061	0.066	0.063	0.064	0.055
Sulfate	27.4	23.0	22.9	21.8	30.3	28.4	24.7	27.8
Thallium	0.0003	0.0002	0.0002	0.0002	0.0002	0.0001	0.0002	0.0001
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	44	44	44	36	38	34	24	34
Uranium	0.0003	0.0003	0.0003	0.0006	0.0010	0.0010	0.0013	0.0015
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.03	0.03	0.04	0.02	0.03	0.03	0.03	0.02
Electrical Conductivity, µmhos/cm	77.9	67.0	77.4	94.8	106	96.4	94.5	102
Cations, meq/L	0.417	0.379	0.388	0.444	0.538	0.428	0.4	0.412
Anions, meq/L	0.575	0.483	0.485	0.458	0.636	0.596	0.519	0.584
Balance, %	-15.9	-12.1	-11.1	-1.6	-8.3	-16.4	-12.9	-17.3
ACZ Report No.	L30419	L30908	L31481	L32131	L32682	L33233	L33820	L34366

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-001 (750-762)

	Extract Week							
Analysis, mg/L	Week 56	Week 60	Week 64	Week 68	Week 72	Week 76	Week 80	Week 84*
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	0.07	0.15	0.16	0.09	0.11	0.14	0.27	0.31
Antimony	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Arsenic	0.0017	0.0023	0.0031	0.004	0.0038	0.0048	0.0059	0.0053
Barium	<0.003	0.003	0.006	0.066	<0.003	<0.003	<0.003	<0.003
Beryllium	0.00019	0.00021	0.00021	0.00016	0.00022	0.00017	0.0003	0.00022
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.01	<0.01	0.01	0.03	<0.01	<0.01	<0.01	<0.01
Cadmium	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0001
Calcium	4.9	5.8	5.4	4.7	4.2	4.0	5.1	4.5
Chloride	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.5
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	0.02	0.01	0.02	<0.01	<0.01	<0.01	<0.01
Copper	0.28	0.35	0.34	0.26	0.27	0.27	0.37	0.32
Fluoride	<2	<2	<4	<10	<2	<4	<10	<10
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	16	18	17	15.0	13	13	16.0	14
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	0.44	0.41	0.51	0.45	0.42	0.50	0.56	0.53
Lead	0.0006	0.0008	0.001	0.0008	0.0005	0.0005	0.0006	0.0005
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	0.8	0.9	0.9	0.8	0.5	0.6	0.8	0.6
Manganese	0.025	0.036	0.035	0.025	0.021	0.024	0.030	0.021
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0004	0.0005	0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.054	0.066	0.062	0.050	0.044	0.051	0.069	0.057
Nitrate/Nitrite as N	<0.02	0.04	0.04	<0.02	<0.02	<0.02	0.02	<0.02
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH, stu	3.9	4.1	3.9	4.0	3.9	3.8	3.7	3.7
Phosphorus	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	2.4	2.3	2.1	1.9	1.9	2.2	2.7	2.3
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0028	0.0024	0.0023	0.0018	0.0016	0.0017	0.0021	0.0016
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	<0.2	<0.2	<0.2	1.2	<0.2	<0.2	<0.2	<0.2
Strontium	0.053	0.071	0.078	0.056	0.054	0.053	0.070	0.062
Sulfate	28.8	34.1	25.5	30.7	22.8	24.5	34.6	32.5
Thallium	0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0001	0.0001
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	38	62	48	46	34	424	36	54
Uranium	0.0018	0.003	0.004	0.0033	0.0031	0.0036	0.0054	0.0052
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.03	0.03	0.03	0.05	0.03	0.03	0.04	0.03
Electrical Conductivity, µmhos/cm	112	122	123	119	119	128	140	134
Cations, meq/L	0.417	0.478	0.459	0.449	0.347	0.361	0.467	0.4
Anions, meq/L	0.605	0.716	0.535	0.645	0.479	0.514	0.741	0.696
Balance, %	-18.4	-19.9	-7.6	-17.9	-16.0	-17.5	-22.7	-27.0
ACZ Report No.	L34779	L35145	L35597	L36030	L36586	L37089	L37686	L38237

*Testing terminated after week 84

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, GMC-014 (176-184)

	Extract Week							
Analysis, mg/L	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	1,600	754	349	127	21.20	9.18	6.58	13.90
Antimony	0.082	0.010	0.0055	0.0027	0.0032	0.0025	0.0022	0.0023
Arsenic	54.9	5.62	4.69	3.340	0.961	0.643	0.5720	0.7720
Barium	<0.06	<0.03	0.04	<0.006	0.004	<0.003	<0.003	0.006
Beryllium	0.373	0.1960	0.085	0.033	0.00870	0.00468	0.00359	0.00503
Bismuth	<0.8	<0.4	<0.4	<0.08	<0.04	<0.04	<0.04	<0.04
Boron	<0.2	<0.1	0.1	<0.02	0.05	<0.01	<0.01	0.01
Cadmium	0.125	0.064	0.033	0.0130	0.0037	0.0022	0.0019	0.0027
Calcium	397	274	196	115	32.1	19.1	14.1	18.5
Chloride	6.9	4.9	2.3	0.8	1.2	1.3	1.1	0.5
Chromium	0.6	0.2	0.2	0.02	<0.01	<0.01	<0.01	<0.01
Cobalt	9.2	4.2	2.5	1.10	0.26	0.13	0.10	0.13
Copper	17.4	8.3	4	1.61	0.45	0.21	0.15	0.23
Fluoride	10	10	<0.05	<0.05	0.7	<10	0.20	<20
Gallium	<2	<1	<1	<0.2	<0.1	<0.1	<0.1	<0.1
Hardness	1,750	1,050	699	383	103	60	44	57
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	1,320	721	441	250	79.20	63.50	59.50	107
Lead	0.015	0.006	0.007	0.0019	0.0018	0.0041	0.0030	0.0019
Lithium	0.7	0.36	0.21	0.04	0.009	<0.008	<0.008	<0.008
Magnesium	185	88	51	23.2	5.6	2.9	2.1	2.6
Manganese	17	7.84	4.46	2.01	0.468	0.232	0.169	0.220
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	0.0000102	<0.0002	0.000007	<0.0002
Molybdenum	<0.4	<0.2	<0.2	<0.04	<0.02	<0.02	<0.02	<0.02
Nickel	9.6	4.30	2.55	1.14	0.270	0.146	0.108	0.139
Nitrate/Nitrite as N	0.22	0.04	<0.2	0.05	0.04	0.05	0.08	0.03
Nitrogen, Ammonia	2.23	1.24	0.80	0.26	0.14	<0.05	0.06	<0.05
pH, stu	2.1	2.3	2.4	2.5	2.7	2.8	2.9	2.8
Phosphorus	58	5.8	2.4	1.2	0.27	0.14	0.12	0.21
Potassium	54	30	20	12	6.9	6.5	6.7	7.8
Scandium	<2	<1	<1	<0.2	<0.1	<0.1	<0.1	<0.1
Selenium	0.096	0.036	0.021	0.0060	0.0016	0.0010	0.0009	0.0008
Silver	<0.2	<0.1	0.2	<0.02	<0.01	<0.01	<0.01	<0.01
Sodium	46	27	13	3.9	0.8	0.9	1.2	1.5
Strontium	0.2	0.05	0.08	0.01	0.011	<0.005	0.007	0.013
Sulfate	11,500	8,500	3,390	1,700	403	288	246	345
Thallium	0.034	0.018	0.011	0.0061	0.0035	0.0032	0.0039	0.0032
Tin	<0.8	<0.4	<0.4	<0.08	<0.04	<0.04	<0.04	<0.04
Titanium	<0.1	<0.05	0.05	0.01	0.006	<0.005	<0.005	<0.005
Total Dissolved Solids	22,300	12,000	5,820	2,570	718	464	396	596
Uranium	0.277	0.086	0.040	0.0129	0.0053	0.0026	0.0028	0.0030
Vanadium	0.3	0.14	0.09	0.03	0.012	<0.005	<0.005	0.008
Zinc	31.3	15.9	9.2	4.62	1.31	0.88	0.78	1.21
Electrical Conductivity, µmhos/cm	10,700	6,910	4,960	2,770	1,350	1,040	887	1,210
Cations, meq/L	289	146	78	36	8.9	5.8	5.0	8.7
Anions, meq/L	242	187	71	36	8.5	6.1	5.2	7.3
Balance, %	8.9	-12.3	4.7	0.0	2.3	-2.5	-2.0	8.8
ACZ Report No.	L27933	L28023	L28126	L28324	L28657	L29021	L29484	L29914

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, GMC-014 (176-184)

	Extract Week							
Analysis, mg/L	Week 24	Week 28	Week 32	Week 36	Week 40	Week 44	Week 48	Week 52
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	9.57	18.30	15.80	6.95	3.96	5.47	7.13	29.1
Antimony	0.0023	0.0027	0.0019	0.0020	0.0020	0.0018	0.0013	0.0022
Arsenic	0.4052	0.9879	0.8539	0.6104	0.3749	0.1638	0.1508	1.4100
Barium	0.006	0.009	0.009	0.007	0.005	0.006	<0.003	<0.003
Beryllium	0.00400	0.00644	0.00549	0.00274	0.00149	0.00116	0.00127	0.00441
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	0.0018	0.0027	0.0033	0.0011	0.0007	0.0007	0.0006	0.0025
Calcium	10.2	11.5	7.9	3.4	1.9	1.2	0.9	2.5
Chloride	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.07	0.09	0.06	0.02	0.01	0.01	0.02	0.04
Copper	0.26	0.28	0.24	0.12	0.07	0.10	0.11	0.32
Fluoride	<20	<10	<5	<5	<2	<2	<2	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	31	36	24	11	6.4	3	2.3	7.9
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	57.50	117	115	71.50	39.90	35.90	33.10	144
Lead	0.0018	0.0027	0.0042	0.0017	0.0019	0.0037	0.0039	0.0031
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	1.3	1.7	1	0.5	0.4	<0.2	<0.2	0.4
Manganese	0.128	0.153	0.108	0.053	0.028	0.025	0.023	0.073
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.082	0.096	0.068	0.033	0.018	0.008	0.014	0.037
Nitrate/Nitrite as N	0.03	<0.02	0.04	0.03	<0.02	0.11	0.02	0.02
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH, stu	2.7	2.6	2.6	2.6	2.8	2.8	2.8	2.5
Phosphorus	0.09	0.29	0.25	0.14	0.06	0.04	0.04	0.27
Potassium	4.1	4.6	4.9	6.3	5	2.2	0.8	1.9
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0008	0.0010	0.0009	0.0009	0.0004	0.0003	0.0002	0.0007
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	0.8	1.4	2.2	2.9	1.9	0.8	0.4	0.8
Strontium	0.012	0.015	0.013	0.014	<0.005	0.011	0.007	0.010
Sulfate	230	496	426	249	174	168	183	512
Thallium	0.0023	0.0027	0.0025	0.0034	0.0022	0.0012	<0.0007	0.0018
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	404	722	700	396	228	202	198	834
Uranium	0.0041	0.0050	0.0044	0.0034	0.0018	0.0020	0.0024	0.0066
Vanadium	<0.005	0.013	0.009	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.81	1.20	0.99	0.57	0.36	0.33	0.30	0.96
Electrical Conductivity, µmhos/cm	1,040	1,420	1,400	1,160	823	795	853	1,880
Cations, meq/L	4.9	9.2	8.6	5.1	2.9	2.7	2.6	11
Anions, meq/L	4.9	10	9	5.2	3.7	3.5	3.8	11
Balance, %	0.0	-4.2	-2.3	-1.0	-12.1	-12.9	-18.8	0.0
ACZ Report No.	L30419	L30908	L31481	L32131	L32682	L33233	L33820	L34366

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, GMC-014 (176-184)

	Extract Week							
Analysis, mg/L	Week 56	Week 60	Week 64	Week 68	Week 72	Week 76	Week 80	Week 84*
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	6.82	12.2	5.51	9.14	13.8	10.5	12.9	9.63
Antimony	0.0013	0.0018	0.0011	0.0014	0.0019	0.0018	0.0022	0.0019
Arsenic	0.187	1.47	0.164	0.362	0.553	1.13	1.16	1.03
Barium	0.003	0.005	0.006	<0.003	<0.003	0.004	0.005	<0.003
Beryllium	0.00108	0.00145	0.00072	0.00089	0.00134	0.00097	0.00117	0.00073
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	0.0007	0.0012	0.0004	0.0006	0.0009	0.0007	0.0007	0.0005
Calcium	0.6	0.9	0.3	0.4	0.5	0.4	0.4	0.3
Chloride	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	0.02	0.01	0.01	0.02	0.02	0.01	0.01
Copper	0.15	0.24	0.09	0.25	0.19	0.11	0.13	0.09
Fluoride	<20	<20	<4	<10	<2	<4	<10	<10
Gallium	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	1.5	2.3	0.749	0.999	1.3	0.999	0.999	0.749
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	29.8	94.2	25.3	44.7	73.3	82.8	97.9	74.3
Lead	0.0032	0.0027	0.0034	0.0031	0.0022	0.0011	0.0017	0.0014
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Manganese	0.016	0.047	0.019	0.025	0.041	0.040	0.045	0.030
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.012	0.023	0.009	0.015	0.016	0.020	0.021	0.013
Nitrate/Nitrite as N	<0.02	0.03	0.04	0.03	0.05	0.07	0.04	0.03
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05
pH, stu	2.6	2.8	2.7	2.6	2.4	2.5	2.5	2.6
Phosphorus	0.06	0.34	0.06	0.03	0.17	0.25	0.34	0.18
Potassium	0.7	2.6	0.9	0.8	1.3	2.0	2.3	1.6
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0003	0.0004	0.0002	0.0003	0.0005	0.0004	0.0005	0.0003
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	0.3	1.1	0.4	0.3	0.4	0.9	1.0	0.7
Strontium	<0.005	0.009	0.009	<0.005	0.009	0.008	0.013	0.009
Sulfate	163	415	134	238	319	310	335	303
Thallium	0.0006	0.0023	0.0007	0.001	0.0011	0.0016	0.0016	0.0013
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	220	500	210	340	520	516	510	480
Uranium	0.0023	0.0038	0.0022	0.0031	0.0044	0.0033	0.0038	0.0029
Vanadium	<0.005	<0.005	0.006	<0.005	<0.005	0.006	0.005	<0.005
Zinc	0.28	0.52	0.17	0.25	0.34	0.29	0.31	0.21
Electrical Conductivity, µmhos/cm	975	1,400	925	1,230	1,640	1,610	1,480	1,260
Cations, meq/L	2.4	6.5	2.0	3.5	5.5	5.7	6.8	5.1
Anions, meq/L	3.4	8.7	2.8	5.0	6.7	6.5	7.0	6.4
Balance, %	-17.2	-14.5	-16.7	-17.6	-9.8	-6.6	-1.4	-11.3
ACZ Report No.	L34779	L35145	L35597	L36030	L36586	L37089	L37686	L38237

*Testing terminated after week 84

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-001 (380-400)

	Extract Week							
Analysis, mg/L	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Alkalinity, $CaCO_3$	11.7	11.9	12.0	11.8	11.4	5.7	4.7	4.3
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	11.7	11.9	12.0	11.8	11.4	5.7	4.7	4.3
Aluminum	<0.03	0.05	0.10	<0.03	0.04	<0.03	<0.03	<0.03
Antimony	0.0068	0.0052	0.0036	0.0030	0.0013	0.0011	0.0009	0.0009
Arsenic	0.0475	0.0442	0.0444	0.0356	0.0317	0.0288	0.0188	0.0198
Barium	0.122	0.016	0.017	0.009	0.018	0.004	0.005	0.006
Beryllium	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.05	0.01	0.01	0.01	0.16	<0.01	<0.01	<0.01
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	14.9	13.7	8.6	5.7	5.2	2.9	2.5	2.4
Chloride	1.1	0.9	1	<0.5	<0.5	<0.5	<0.5	0.5
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoride	0.19	0.15	0.11	0.07	0.08	<10	<0.05	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	40.5	38.7	24.4	16.3	14	7.2	6.2	6
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	0.06	<0.02	0.11	0.06	0.03	<0.02	<0.02	<0.02
Lead	0.0003	0.0001	<0.0001	0.0002	0.0001	<0.0001	0.0001	0.0003
Lithium	0.024	0.012	0.009	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	0.8	1.1	0.7	0.5	0.3	<0.2	<0.2	<0.2
Manganese	0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury	0.0003	<0.0002	<0.0002	<0.0002	0.000079	<0.0002	0.000064	<0.0002
Molybdenum	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	<0.008	0.015	0.008	<0.008	<0.008	<0.008	0.011	<0.008
Nitrate/Nitrite as N	0.07	0.03	<0.02	0.03	0.02	0.03	0.05	0.04
Nitrogen, Ammonia	0.23	0.06	0.06	0.42	<0.05	<0.05	<0.05	<0.05
pH, stu	7.1	7.3	7.5	7.6	7.5	7.1	7.1	7.1
Phosphorus	0.05	0.04	0.03	<0.02	0.03	<0.02	<0.02	<0.02
Potassium	1.4	0.5	<0.2	0.2	<0.2	<0.2	<0.2	<0.2
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0068	0.0053	0.0022	0.0010	0.0006	0.0005	0.0005	0.0003
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	3.1	0.7	0.4	0.3	0.2	<0.2	<0.2	<0.2
Strontium	0.101	0.092	0.062	0.038	0.037	0.014	0.013	0.012
Sulfate	34.6	25.6	15.0	15.4	7.1	1.0	<1	5.9
Thallium	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	96	74	42	32	84	20	<10	<10
Uranium	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Vanadium	0.013	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005
Zinc	0.01	0.01	<0.01	0.01	0.02	<0.01	<0.01	<0.01
Electrical Conductivity, µmhos/cm	123	99.8	62.0	34.8	35.0	22.1	18.5	19.4
Cations, meq/L	1.0	0.831	0.528	0.379	0.301	0.145	0.125	0.1
Anions, meq/L	1	0.809	0.589	0.563	0.381	0.135	---	0.2
Balance, %	0.0	1.3	-5.5	-19.5	-11.7	N/A	N/A	N/A
ACZ Report No.	L27933	L28023	L28126	L28324	L28657	L29021	L29484	L29914

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-001 (380-400)

	Extract Week							
Analysis, mg/L	Week 24	Week 28	Week 32	Week 36	Week 40	Week 44	Week 48	Week 52
Alkalinity, $CaCO_3$	3.4	5.9	2.3	3.7	2.5	2.7	2.5	2.3
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	3.4	5.9	2.3	3.7	2.5	2.7	2.5	2.3
Aluminum	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Antimony	0.0008	0.0014	0.0005	0.0006	0.0006	0.0006	0.0007	0.0006
Arsenic	0.0156	0.0130	0.0104	0.0098	0.0147	0.0073	0.0066	0.0058
Barium	0.004	0.009	0.004	0.007	<0.003	0.005	0.004	<0.003
Beryllium	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	2	2.7	1.6	1.6	1.2	1.2	1.1	1.0
Chloride	0.8	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoride	<10	<10	<0.05	<0.05	<2	<2	<2	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	5	7.6	4	4	3	3	2.8	2.5
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	0.02	0.05	0.02	0.03	<0.02	<0.02	0.02	0.11
Lead	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0003	<0.0001
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Manganese	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Nitrate/Nitrite as N	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	0.02	0.03
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH, stu	7.0	7.2	6.7	7.0	6.9	6.9	6.9	6.7
Phosphorus	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0001	<0.0001
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Strontium	0.014	0.015	0.008	0.010	<0.005	0.009	0.008	<0.005
Sulfate	6.1	<1	<1	3.5	3.0	3.9	<1	<1
Thallium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	22	10	14	<10	<10	<10	<10	<10
Uranium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Electrical Conductivity, µmhos/cm	16.2	20.1	13.7	14.2	10.7	11.6	10.9	10.4
Cations, meq/L	0.102	0.162	---	---	---	---	---	---
Anions, meq/L	0.218	0.118	---	0.161	0.113	0.136	---	---
Balance, %	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACZ Report No.	L30419	L30908	L31481	L32131	L32682	L33233	L33820	L34366

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-001 (380-400)

	Extract Week							
Analysis, mg/L	Week 56	Week 60	Week 64	Week 68	Week 72	Week 76	Week 80	Week 84*
Alkalinity, $CaCO_3$	<2	2.0	<2	<2	2.5	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	2.0	<2	<2	2.5	<2	<2	<2
Aluminum	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Antimony	0.0006	0.0006	0.0005	0.0005	0.0005	0.0008	0.0005	<0.0004
Arsenic	0.0057	0.0056	0.0049	0.0048	0.0042	0.0052	0.0046	0.0038
Barium	<0.003	<0.003	0.006	0.082	<0.003	<0.003	<0.003	<0.003
Beryllium	<0.00005	<0.00005	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	1.2	1.1	1.0	1.2	0.8	0.8	0.7	0.6
Chloride	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.6	0.6
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoride	<2	<2	<4	<10	<2	<4	<10	<10
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	3.0	2.8	2.5	3.0	2.0	2.0	1.8	1.5
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	0.02	0.03	0.02	0.02	<0.02	<0.02	0.03	0.03
Lead	0.0001	0.0002	0.0003	0.0001	0.0002	<0.0001	<0.0001	0.0001
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Manganese	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Nitrate/Nitrite as N	<0.02	0.05	0.24	0.12	<0.02	0.02	0.02	0.02
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH, stu	6.7	6.8	6.5	6.8	7.0	6.6	5.2	5.3
Phosphorus	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0001
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Strontium	<0.005	<0.005	0.009	<0.005	<0.005	<0.005	<0.005	<0.005
Sulfate	4.2	6.5	5.2	8.3	1.2	<1	<1	<1
Thallium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	18	28	<10	14	<10	<10	14	<10
Uranium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Electrical Conductivity, µmhos/cm	10.1	10.1	10.1	17.7	7.6	9.2	7.5	5.8
Cations, meq/L	---	---	---	---	---	---	---	---
Anions, meq/L	---	0.176	0.109	0.174	---	---	---	---
Balance, %	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACZ Report No.	L34779	L35145	L35597	L36030	L36586	L37089	L37686	L38237

*Testing terminated after week 84

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-002 (177-187)

	Extract Week							
Analysis, mg/L	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Alkalinity, $CaCO_3$	3.8	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	3.8	<2	<2	<2	<2	<2	<2	<2
Aluminum	<0.03	0.05	<0.03	<0.03	0.04	<0.03	<0.03	<0.03
Antimony	0.0069	0.0025	0.0020	0.0017	0.0016	0.0012	0.0010	0.0009
Arsenic	0.0081	0.0046	0.0044	0.0027	0.0033	0.0040	0.0031	0.0042
Barium	0.126	0.010	0.009	0.003	0.008	0.004	<0.003	0.004
Beryllium	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Bismuth	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.06	<0.01	<0.01	<0.01	0.16	<0.01	<0.01	<0.01
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	5.6	9.3	4.8	2.8	1.7	1.2	1.4	1.3
Chloride	1.4	1.6	1.1	0.5	<0.5	<0.5	<0.5	<0.5
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoride	0.15	0.12	0.09	<0.05	<0.05	<2	<0.05	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	18.5	31	16.1	9.46	5.9	3.8	4.7	4.5
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	0.03	0.03	0.02	<0.02	0.04	<0.02	0.04	0.03
Lead	0.0001	0.0003	0.0002	0.0002	0.0004	<0.0001	0.0002	0.0008
Lithium	0.022	0.028	0.016	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	1.1	1.9	1	0.6	0.4	0.2	0.3	0.3
Manganese	0.009	0.017	0.008	<0.005	0.010	<0.005	0.009	0.008
Mercury	0.0002	<0.0002	<0.0002	<0.0002	0.0000168	<0.0002	0.0000129	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.008	0.112	0.069	0.068	0.072	0.076	0.092	0.098
Nitrate/Nitrite as N	0.04	<0.02	<0.02	0.02	0.02	0.03	0.03	<0.02
Nitrogen, Ammonia	0.12	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH, stu	6.8	6.6	6.5	6.4	6.0	5.6	5.6	5.5
Phosphorus	0.02	0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02
Potassium	2.5	2.4	1.2	0.8	0.6	0.4	0.5	0.7
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0069	0.0083	0.0065	0.0045	0.0036	0.0034	0.0033	0.0023
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	3.9	5.3	2.7	1.3	0.6	0.4	0.4	0.3
Strontium	0.042	0.060	0.032	0.016	0.015	0.005	0.008	0.008
Sulfate	24.4	37.6	22.4	14.7	6.3	5.9	5.0	6.4
Thallium	0.0005	0.0013	0.0007	0.0005	0.0005	0.0004	0.0006	0.0007
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	60	92	48	32	86	18	<10	<10
Uranium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Vanadium	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005
Zinc	0.03	0.02	0.01	0.01	0.03	<0.01	<0.01	<0.01
Electrical Conductivity, µmhos/cm	79.6	111	63.3	33.7	24.3	22.6	22.6	24.0
Cations, meq/L	0.619	0.931	0.475	0.268	0.168	0.105	0.128	0.123
Anions, meq/L	0.636	0.841	0.506	0.323	0.132	0.124	0.105	0.134
Balance, %	-1.4	5.1	-3.2	-9.3	N/A	N/A	N/A	N/A
ACZ Report No.	L27933	L28023	L28126	L28324	L28657	L29021	L29484	L29914

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-002 (177-187)

	Extract Week							
Analysis, mg/L	Week 24	Week 28	Week 32	Week 36	Week 40	Week 44	Week 48	Week 52
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Antimony	0.0009	0.0007	0.0006	0.0006	0.0005	0.0009	0.0004	<0.0004
Arsenic	0.0026	0.0021	0.0043	0.0028	0.0036	0.0030	0.0031	0.0032
Barium	0.004	0.008	0.003	0.007	<0.003	0.005	0.003	<0.003
Beryllium	<0.00005	0.00017	0.00007	0.00012	0.00010	0.00012	0.00010	0.00014
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	1.4	1.9	1.2	1.4	1.1	0.9	0.8	0.8
Chloride	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoride	<10	<10	<0.5	<0.05	<2	<2	<2	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	4.3	6.8	4.2	4.7	4	2.3	2	2
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	0.03	0.04	0.04	0.07	0.05	0.07	0.05	0.03
Lead	0.0001	0.0001	<0.0001	0.0002	0.0002	0.0004	0.0009	0.0003
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	0.2	0.5	0.3	0.3	0.3	<0.2	<0.2	<0.2
Manganese	0.019	0.028	0.017	0.021	0.013	0.013	0.012	0.006
Mercury	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.144	0.208	0.155	0.185	0.167	0.141	0.130	0.117
Nitrate/Nitrite as N	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	0.15	<0.05
pH, stu	5.3	5.2	5.2	4.9	4.9	4.9	4.9	4.8
Phosphorus	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	0.5	0.7	0.6	0.7	0.6	0.4	0.3	0.3
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0024	0.0027	0.0019	0.0020	0.0021	0.0016	0.0016	0.0015
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	0.3	0.3	0.2	0.2	0.2	<0.2	<0.2	<0.2
Strontium	0.014	0.015	0.009	0.013	<0.005	0.010	0.009	<0.005
Sulfate	7.7	7.9	5.5	7.1	6.2	4.5	4.0	3.8
Thallium	0.0007	0.0007	0.0008	0.0011	0.0011	0.0007	0.0009	0.0007
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	22	16	18	<10	<10	12	<10	<10
Uranium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Vanadium	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Electrical Conductivity, µmhos/cm	25.9	30.6	25.2	30.2	26.2	23.9	21.9	23.4
Cations, meq/L	0.116	0.172	0.113	0.127	0.112	---	---	---
Anions, meq/L	0.184	0.166	0.115	0.149	0.1	---	---	---
Balance, %	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACZ Report No.	L30419	L30908	L31481	L32131	L32682	L33233	L33820	L34366

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, CAL-002 (177-187)

	Extract Week							
Analysis, mg/L	Week 56	Week 60	Week 64	Week 68	Week 72	Week 76	Week 80	Week 84*
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Antimony	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Arsenic	0.0029	0.0027	0.0027	0.0026	0.0025	0.0031	0.0028	0.0031
Barium	<0.003	<0.003	0.006	<0.003	<0.003	0.003	0.006	<0.003
Beryllium	0.00014	0.0001	0.00015	0.00011	0.00011	0.00013	0.00013	0.00013
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	0.8	0.7	0.7	0.7	0.6	0.5	0.6	0.6
Chloride	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.6
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoride	<2	<2	<4	<10	<2	<4	<4	<10
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	2.0	1.8	1.8	1.8	1.5	1.3	1.5	1.5
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	0.03	0.03	0.02	<0.02	<0.02	0.02	<0.02	<0.02
Lead	0.0003	0.0005	0.0008	0.0023	0.0004	0.0003	0.0002	0.0004
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Manganese	0.005	0.011	0.011	0.007	<0.005	0.007	0.007	<0.005
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.119	0.113	0.108	0.111	0.097	0.091	0.112	0.114
Nitrate/Nitrite as N	<0.02	0.03	0.05	0.03	0.02	<0.02	<0.02	<0.02
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH, stu	4.7	4.9	4.8	4.8	5.6	4.8	4.9	4.9
Phosphorus	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	0.3	0.4	0.3	0.4	<0.2	0.3	0.3	0.2
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0013	0.0011	0.0011	0.001	0.0009	0.0009	0.001	0.0009
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Strontium	<0.005	<0.005	0.011	<0.005	0.006	<0.005	0.007	0.006
Sulfate	4.3	6.2	4.7	6.2	4.0	2.6	3.4	3.6
Thallium	0.0007	0.0007	0.0007	0.0008	0.0007	0.0008	0.0008	0.0008
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	12	36	<10	<10	<10	<10	10	<10
Uranium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Electrical Conductivity, µmhos/cm	21.5	21.8	21.7	22.4	15.9	21.5	20.2	20.7
Cations, meq/L	---	---	---	---	---	---	---	---
Anions, meq/L	---	0.1	---	0.1	---	---	---	---
Balance, %	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACZ Report No.	L34779	L35145	L35597	L36030	L36586	L37089	L37686	L38237

*Testing terminated after week 84

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, Calico Leached Res after CN destruct

	Extract Week							
Analysis, mg/L	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	3.69	0.45	0.23	0.25	0.44	0.55	1.16	3.28
Antimony	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Arsenic	0.0050	0.0024	0.0029	0.0030	0.0035	0.0013	0.0032	0.0016
Barium	0.063	0.016	0.021	0.025	0.046	0.054	0.074	0.070
Beryllium	0.00352	0.00083	0.00041	0.00057	0.00104	0.00174	0.00291	0.00206
Bismuth	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.10	0.01	<0.01	<0.01	0.26	<0.01	<0.01	<0.01
Cadmium	0.0047	0.0006	0.0003	0.0004	0.0007	0.0010	0.0015	0.0011
Calcium	238	28.6	13.8	14.2	15.8	14.8	10.8	3.1
Chloride	2.2	1.5	0.9	0.9	<0.5	<0.5	<0.5	<0.5
Chromium	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.39	0.02	<0.01	0.01	0.02	0.01	0.02	0.02
Copper	23.60	3.69	1.89	2.21	3.27	4.09	5.07	3.28
Cyanide, total	0.022	0.004	0.005	<0.003	0.005	0.018	0.011	<0.006
Cyanide, WAD	0.011	0.011	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Fluoride	<10	0.28	0.20	0.19	0.27	<2	0.45	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	643	75.9	36.1	37.1	41	37	28	7.7
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	3.23	0.14	0.06	0.08	0.22	0.85	4.04	13.90
Lead	0.0013	0.0004	0.0002	0.0004	0.0005	0.0004	0.0008	0.0007
Lithium	0.101	0.018	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	11.8	1.1	0.4	0.4	0.3	<0.2	0.3	0.2
Manganese	9.800	0.628	0.262	0.243	0.227	0.253	0.300	0.177
Mercury	0.0004	<0.0002	<0.0002	<0.0002	0.000006	<0.0002	0.0000015	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	1.350	0.097	0.043	0.041	0.037	0.045	0.051	0.029
Nitrate/Nitrite as N	0.20	0.09	0.03	0.07	0.03	0.03	0.03	0.03
Nitrogen, Ammonia	9.23	1.50	0.54	0.44	0.28	0.15	0.10	<0.05
pH, stu	4.4	4.7	4.7	4.9	4.4	4.1	3.8	3.5
Phosphorus	0.01	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02
Potassium	23.8	6.2	3.3	3	2.8	2.8	3.4	3.7
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0204	0.0040	0.0024	0.0029	0.0038	0.0034	0.0034	0.0034
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	68.5	6.4	2.1	1.6	0.7	0.5	0.5	0.5
Strontium	0.276	0.078	0.049	0.058	0.085	0.086	0.096	0.056
Sulfate	882	118	53.8	45.9	47.1	51.7	49.0	76.7
Thallium	0.0094	0.0024	0.0012	0.0012	0.0012	0.0012	0.0019	0.0020
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	0.015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	1,360	218	100	110	148	136	130	152
Uranium	0.0060	0.0005	0.0002	0.0002	0.0005	0.0013	0.0048	0.0091
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	2.01	0.18	0.09	0.10	0.12	0.10	0.12	0.09
Electrical Conductivity, µmhos/cm	1,560	255	141	129	155	175	201	275
Cations, meq/L	19	2.3	1.1	1.1	1.1	1.1	1.2	1.5
Anions, meq/L	19	2.5	1.2	0.999	1	1.1	1.1	1.6
Balance, %	0.0	-4.2	-4.3	4.8	4.8	0.0	4.3	-3.2
ACZ Report No.	L27933	L28023	L28126	L28324	L28657	L29021	L29484	L29914

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, Calico Leached Res after CN destruct

	Extract Week							
Analysis, mg/L	Week 24	Week 28	Week 32	Week 36	Week 40	Week 44	Week 48	Week 52
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	4.22	3.85	4.54	6.47	7.02	6.20	5.74	3.53
Antimony	<0.0004	<0.0004	<0.0004	<0.0004	0.0004	0.0004	0.0004	<0.0004
Arsenic	0.0057	0.0016	0.0008	0.0045	0.0015	0.0026	0.0034	0.0015
Barium	0.049	0.045	0.043	0.047	0.031	0.033	0.032	0.230
Beryllium	0.00101	0.00067	0.00054	0.00069	0.00059	0.00045	0.00041	0.00029
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
Cadmium	0.0006	0.0004	0.0004	0.0008	0.0008	0.0009	0.0010	0.0008
Calcium	1.1	0.8	0.7	0.9	0.8	0.6	0.5	0.4
Chloride	0.7	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5
Chromium	<0.01	<0.01	<0.01	0.02	0.02	0.03	0.03	<0.01
Cobalt	0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01
Copper	1.50	0.82	0.63	0.67	0.56	0.37	0.31	0.18
Cyanide, total	0.003	<0.03	<0.003	<0.003	<0.003	<0.003	<0.003	0.007
Cyanide, WAD	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Fluoride	<10	<10	0.09	0.11	<2	<2	<2	<2
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	2.8	2	1.8	2.3	2.8	1.5	1.3	0.999
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	17.60	17.40	18.50	24.10	19.20	14.10	11.70	6.90
Lead	0.0010	0.0006	0.0008	0.0019	0.0034	0.0008	0.0018	0.0015
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2
Manganese	0.129	0.088	0.094	0.140	0.128	0.093	0.090	0.055
Mercury	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	0.022	0.016	0.020	0.023	0.024	0.016	0.010	<0.008
Nitrate/Nitrite as N	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH, stu	3.4	3.3	3.3	3.1	3.1	3.0	2.9	2.9
Phosphorus	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02
Potassium	3.1	2.7	2.7	3.4	3.3	3.1	3.3	2.9
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0038	0.0034	0.0032	0.0037	0.0032	0.0023	0.0014	0.001
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	0.4	0.4	0.4	0.6	0.6	0.5	0.6	0.5
Strontium	0.035	0.026	0.022	0.031	0.021	0.024	0.022	0.011
Sulfate	67.0	74.0	74.0	98.5	115	96.5	94.7	68.9
Thallium	0.0023	0.0016	0.0016	0.0025	0.0023	0.0023	0.0026	0.0021
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	188	164	180	228	198	156	152	112
Uranium	0.0092	0.0068	0.0058	0.0081	0.0072	0.0058	0.0054	0.0028
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.04	0.04	0.04	0.06	0.09	0.12	0.12	0.09
Electrical Conductivity, µmhos/cm	308	298	336	474	513	531	597	528
Cations, meq/L	1.6	1.5	1.6	2.2	2	1.6	1.4	0.888
Anions, meq/L	1.4	1.6	1.6	2.1	2.4	2.0	2	1.5
Balance, %	6.7	-3.2	0.0	2.3	-9.1	-11.1	-17.6	-25.6
ACZ Report No.	L30419	L30908	L31481	L32131	L32682	L33233	L33820	L34366

Table . - Profile II Analytical Results, HC Extracts,
Grassy Mountain, Calico Leached Res after CN destruct

	Extract Week							
Analysis, mg/L	Week 56	Week 60	Week 64	Week 68	Week 72	Week 76	Week 80	Week 84
Alkalinity, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
HCO_3	<2	<2	<2	<2	<2	<2	<2	<2
Aluminum	2.74	1.88	1.41	1.00	0.97	0.78	0.65	0.72
Antimony	<0.0004	<0.0008	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Arsenic	0.0017	0.0006	0.0006	0.0006	0.0007	0.0009	<0.002	0.0006
Barium	0.028	0.030	0.040	0.084	0.126	0.137	0.049	0.065
Beryllium	0.00026	0.0001	0.0002	0.00013	0.00017	0.00019	0.00016	0.00017
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.01	<0.01	<0.01	0.04	0.06	0.06	<0.01	<0.01
Cadmium	0.0009	0.0009	0.0007	0.0005	0.0006	0.0005	0.0003	0.0003
Calcium	0.4	0.3	0.3	0.6	0.6	0.6	0.2	0.3
Chloride	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Chromium	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	0.14	0.20	0.10	0.09	0.11	0.10	0.08	0.08
Cyanide, total	<0.003	<0.003	<0.003	N/A	<0.003	<0.003	<0.003	<0.003
Cyanide, WAD	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Fluoride	<2	<2	<4	<10	<2	<4	<10	<10
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	0.999	0.749	0.749	1.5	1.5	1.5	0.499	0.749
Hydroxide	<2	<2	<2	<2	<2	<2	<2	<2
Iron	4.44	2.18	0.99	0.34	0.16	0.09	0.06	0.05
Lead	0.0025	0.0014	0.0012	0.002	0.0013	0.0009	0.0005	0.0006
Lithium	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Magnesium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Manganese	0.051	0.046	0.040	0.031	0.031	0.034	0.027	0.029
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nickel	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	0.008
Nitrate/Nitrite as N	<0.02	0.12	0.03	0.10	0.08	0.02	0.02	<0.02
Nitrogen, Ammonia	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH, stu	2.9	3.2	3.2	3.3	3.4	3.4	3.5	3.6
Phosphorus	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02
Potassium	2.8	2.5	2.4	2.2	2.0	2.1	1.6	1.8
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	0.0007	0.0004	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	0.5	0.5	0.5	1.5	1.6	1.6	0.2	0.4
Strontium	0.008	0.013	0.020	0.014	0.018	0.018	0.016	0.018
Sulfate	69.9	39.9	33.8	24.7	30.5	19.9	18.8	20.0
Thallium	0.0024	0.0019	0.0018	0.0011	0.001	0.001	0.001	0.0011
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	114	120	60	52	54	50	<20	44
Uranium	0.0019	0.0012	0.0011	0.0007	0.0005	0.0005	0.0004	0.0004
Vanadium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	0.11	0.14	0.09	0.12	0.13	0.11	0.03	0.03
Electrical Conductivity, µmhos/cm	451	378	322	250	197	194	140	128
Cations, meq/L	0.669	0.4	0.318	0.291	0.279	0.3	0.141	0.168
Anions, meq/L	1.5	0.838	0.7	0.519	0.6	0.418	0.409	0.434
Balance, %	-38.3	-35.4	-37.5	-28.1	-36.5	-24.0	N/A	N/A
ACZ Report No.	L34779	L35145	L35597	L36030	L36586	L37089	L37686	L38237

*Testing terminated after week 84

Attachment D4

ACZ Laboratories Reports

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 17, 2015

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L27933

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on November 25, 2015. This project has been assigned to ACZ's project number, L27933. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L27933. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 16, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Case Narrative

McClelland Laboratories, Inc.

December 17, 2015

Project ID: 3981
ACZ Project ID: L27933

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 10 miscellaneous samples from McClelland Laboratories, Inc. on November 25, 2015. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L27933. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

1. (N1) Samples re-assigned to L27937-02DUP, because L27933-09DUP was over diluted, but passing.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L27933-01***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/02/15 9:48	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/05/15 15:10	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0174			mg/L	0.0004	0.002	12/08/15 17:27	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0836			mg/L	0.0002	0.001	12/08/15 17:27	msh
Barium, dissolved	M200.7 ICP	1	0.095			mg/L	0.003	0.02	12/05/15 15:10	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00008	B		mg/L	0.00005	0.0003	12/08/15 17:27	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/15 17:34	aeb
Boron, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	12/03/15 17:34	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	12/08/15 17:27	msh
Calcium, dissolved	M200.7 ICP	1	26.9			mg/L	0.1	0.5	12/03/15 17:34	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/15 17:34	aeb
Cobalt, dissolved	M200.7 ICP	1	0.20			mg/L	0.01	0.05	12/03/15 17:34	aeb
Copper, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/03/15 17:34	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/15 17:34	aeb
Iron, dissolved	M200.7 ICP	1	14.70		*	mg/L	0.02	0.05	12/03/15 17:34	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	12/08/15 17:27	msh
Lithium, dissolved	M200.7 ICP	1	0.040			mg/L	0.008	0.04	12/03/15 17:34	aeb
Magnesium, dissolved	M200.7 ICP	1	4			mg/L	0.2	1	12/03/15 17:34	aeb
Manganese, dissolved	M200.7 ICP	1	0.202		*	mg/L	0.005	0.03	12/03/15 17:34	aeb
Mercury, dissolved	M245.1 CVAA	1	0.0016			mg/L	0.0002	0.001	12/14/15 12:34	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/03/15 17:34	aeb
Nickel, dissolved	M200.7 ICP	1	0.210			mg/L	0.008	0.04	12/03/15 17:34	aeb
Potassium, dissolved	M200.7 ICP	1	12.6			mg/L	0.2	1	12/03/15 17:34	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/15 17:34	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0062			mg/L	0.0001	0.0003	12/08/15 17:27	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/03/15 17:34	aeb
Sodium, dissolved	M200.7 ICP	1	4.5			mg/L	0.2	1	12/03/15 17:34	aeb
Strontium, dissolved	M200.7 ICP	1	0.180			mg/L	0.005	0.03	12/03/15 17:34	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0097			mg/L	0.0001	0.0005	12/08/15 17:27	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/03/15 17:34	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/03/15 17:34	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/08/15 17:27	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/03/15 17:34	aeb
Zinc, dissolved	M200.7 ICP	1	0.14			mg/L	0.01	0.05	12/03/15 17:34	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L27933-01***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Total Alkalinity		1		U	*	mg/L	2	20	11/26/15 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			7.1			%			12/17/15 11:02	calc
Sum of Anions			2.6			meq/L			12/17/15 11:02	calc
Sum of Cations			3.0			meq/L			12/17/15 11:02	calc
Chloride	SM4500Cl-E	1	4.2		*	mg/L	0.5	2	12/08/15 15:52	spl
Conductivity @25C	SM2510B	1	307		*	umhos/cm	1	10	11/26/15 4:15	id
Fluoride	SM4500F-C	1	0.12	B		mg/L	0.05	0.3	12/03/15 13:08	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		83.6			mg/L			12/17/15 11:02	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.07	B		mg/L	0.02	0.1	12/02/15 22:26	pjb
Nitrogen, ammonia	M350.1	1	0.30		*	mg/L	0.05	0.2	12/10/15 10:31	krh
pH (lab)	SM4500H+ B									
pH		1	5.8	H	*	units	0.1	0.1	11/26/15 0:00	id
pH measured at		1	22.8			C	0.1	0.1	11/26/15 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.01	0.05	12/02/15 16:55	krh
Residue, Filterable (TDS) @180C	SM2540C	10	240		*	mg/L	100	200	11/30/15 15:37	enb
Sulfate	D516-02/-07 - Turbidimetric	10	120		*	mg/L	10	50	12/07/15 16:36	bsu
TDS (calculated)	Calculation		188			mg/L			12/17/15 11:02	calc
TDS (ratio - measured/calculated)	Calculation		1.28						12/17/15 11:02	calc

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: *L27933-02*
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/02/15 9:57	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.45			mg/L	0.03	0.2	12/05/15 15:13	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0237			mg/L	0.0004	0.002	12/08/15 17:29	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.1118		*	mg/L	0.0002	0.001	12/08/15 17:29	msh
Barium, dissolved	M200.7 ICP	1	0.841			mg/L	0.003	0.02	12/05/15 15:13	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00008	B		mg/L	0.00005	0.0003	12/08/15 17:29	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/15 17:37	aeb
Boron, dissolved	M200.7 ICP	1	0.21			mg/L	0.01	0.05	12/03/15 17:37	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	12/08/15 17:29	msh
Calcium, dissolved	M200.7 ICP	1	15.2			mg/L	0.1	0.5	12/03/15 17:37	aeb
Chromium, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/03/15 17:37	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/15 17:37	aeb
Copper, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	12/03/15 17:37	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/15 17:37	aeb
Iron, dissolved	M200.7 ICP	1	2.58		*	mg/L	0.02	0.05	12/03/15 17:37	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0086			mg/L	0.0001	0.0005	12/08/15 17:29	msh
Lithium, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.008	0.04	12/03/15 17:37	aeb
Magnesium, dissolved	M200.7 ICP	1	1.4			mg/L	0.2	1	12/03/15 17:37	aeb
Manganese, dissolved	M200.7 ICP	1	0.164		*	mg/L	0.005	0.03	12/03/15 17:37	aeb
Mercury, dissolved	M245.1 CVAA	1	0.0077			mg/L	0.0002	0.001	12/14/15 12:36	pta
Molybdenum, dissolved	M200.7 ICP	1	0.14			mg/L	0.02	0.1	12/03/15 17:37	aeb
Nickel, dissolved	M200.7 ICP	1	0.023	B		mg/L	0.008	0.04	12/03/15 17:37	aeb
Potassium, dissolved	M200.7 ICP	1	6.8			mg/L	0.2	1	12/03/15 17:37	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/15 17:37	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0247			mg/L	0.0001	0.0003	12/08/15 17:29	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/03/15 17:37	aeb
Sodium, dissolved	M200.7 ICP	1	82.2			mg/L	0.2	1	12/03/15 17:37	aeb
Strontium, dissolved	M200.7 ICP	1	0.086			mg/L	0.005	0.03	12/03/15 17:37	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	12/08/15 17:29	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/03/15 17:37	aeb
Titanium, dissolved	M200.7 ICP	1	0.009	B	*	mg/L	0.005	0.03	12/03/15 17:37	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	12/08/15 17:29	msh
Vanadium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	12/03/15 17:37	aeb
Zinc, dissolved	M200.7 ICP	1	0.28			mg/L	0.01	0.05	12/03/15 17:37	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L27933-02***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	108	H		mg/L	2	20	12/16/15 0:00	abd
Carbonate as CaCO3		1		UH		mg/L	2	20	12/16/15 0:00	abd
Hydroxide as CaCO3		1		UH		mg/L	2	20	12/16/15 0:00	abd
Total Alkalinity		1	108	H	*	mg/L	2	20	12/16/15 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			7.7			%			12/17/15 11:02	calc
Sum of Anions			4.2			meq/L			12/17/15 11:02	calc
Sum of Cations			4.9			meq/L			12/17/15 11:02	calc
Chloride	SM4500Cl-E	1	6.6		*	mg/L	0.5	2	12/08/15 15:52	spl
Conductivity @25C	SM2510B	1	406		*	umhos/cm	1	10	11/26/15 4:24	id
Fluoride	SM4500F-C	1	1.98			mg/L	0.05	0.3	12/03/15 13:28	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		43.7			mg/L			12/17/15 11:02	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.71			mg/L	0.02	0.1	12/02/15 22:27	pjb
Nitrogen, ammonia	M350.1	1	0.08	B	*	mg/L	0.05	0.2	12/10/15 10:32	krh
pH (lab)	SM4500H+ B									
pH		1	7.8	H	*	units	0.1	0.1	11/26/15 0:00	id
pH measured at		1	22.7			C	0.1	0.1	11/26/15 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.19		*	mg/L	0.01	0.05	12/02/15 16:56	krh
Residue, Filterable (TDS) @180C	SM2540C	10	460		*	mg/L	100	200	11/30/15 15:40	enb
Sulfate	D516-02/-07 - Turbidimetric	10	84.0		*	mg/L	10	50	12/14/15 13:21	mss2
TDS (calculated)	Calculation		268			mg/L			12/17/15 11:02	calc
TDS (ratio - measured/calculated)	Calculation		1.72						12/17/15 11:02	calc

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L27933-03***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/02/15 10:05	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	10	262			mg/L	0.3	2	12/05/15 15:16	aeb
Antimony, dissolved	M200.8 ICP-MS	10	0.105			mg/L	0.004	0.02	12/08/15 17:31	msh
Arsenic, dissolved	M200.8 ICP-MS	50	7.25			mg/L	0.01	0.05	12/09/15 15:20	msh
Barium, dissolved	M200.7 ICP	10		U		mg/L	0.03	0.2	12/05/15 15:16	aeb
Beryllium, dissolved	M200.8 ICP-MS	10	0.1208			mg/L	0.0005	0.003	12/08/15 17:31	msh
Bismuth, dissolved	M200.7 ICP	10		U	*	mg/L	0.4	2	12/03/15 17:40	aeb
Boron, dissolved	M200.7 ICP	10		U		mg/L	0.1	0.5	12/03/15 17:40	aeb
Cadmium, dissolved	M200.8 ICP-MS	10	0.069			mg/L	0.001	0.005	12/08/15 17:31	msh
Calcium, dissolved	M200.7 ICP	10	509			mg/L	1	5	12/03/15 17:40	aeb
Chromium, dissolved	M200.7 ICP	10		U		mg/L	0.1	0.5	12/03/15 17:40	aeb
Cobalt, dissolved	M200.7 ICP	10	7.9			mg/L	0.1	0.5	12/03/15 17:40	aeb
Copper, dissolved	M200.7 ICP	10	5.6			mg/L	0.1	0.5	12/03/15 17:40	aeb
Gallium, dissolved	M200.7 ICP	10		U	*	mg/L	1	5	12/03/15 17:40	aeb
Iron, dissolved	M200.7 ICP	10	1250		*	mg/L	0.2	0.5	12/03/15 17:40	aeb
Lead, dissolved	M200.8 ICP-MS	10	1.740			mg/L	0.001	0.005	12/08/15 17:31	msh
Lithium, dissolved	M200.7 ICP	10	0.39	B		mg/L	0.08	0.4	12/03/15 17:40	aeb
Magnesium, dissolved	M200.7 ICP	10	266			mg/L	2	10	12/03/15 17:40	aeb
Manganese, dissolved	M200.7 ICP	10	1.36		*	mg/L	0.05	0.3	12/03/15 17:40	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/14/15 12:38	pta
Molybdenum, dissolved	M200.7 ICP	10	0.8	B		mg/L	0.2	1	12/03/15 17:40	aeb
Nickel, dissolved	M200.7 ICP	10	7.31			mg/L	0.08	0.4	12/03/15 17:40	aeb
Potassium, dissolved	M200.7 ICP	10	106			mg/L	2	10	12/03/15 17:40	aeb
Scandium, dissolved	M200.7 ICP	10		U	*	mg/L	1	5	12/03/15 17:40	aeb
Selenium, dissolved	M200.8 ICP-MS	10	0.219			mg/L	0.001	0.003	12/08/15 17:31	msh
Silver, dissolved	M200.7 ICP	10		U	*	mg/L	0.1	0.3	12/03/15 17:40	aeb
Sodium, dissolved	M200.7 ICP	10	135			mg/L	2	10	12/03/15 17:40	aeb
Strontium, dissolved	M200.7 ICP	10	10.0			mg/L	0.05	0.3	12/03/15 17:40	aeb
Thallium, dissolved	M200.8 ICP-MS	10	0.071			mg/L	0.001	0.005	12/08/15 17:31	msh
Tin, dissolved	M200.7 ICP	10		U		mg/L	0.4	2	12/03/15 17:40	aeb
Titanium, dissolved	M200.7 ICP	10	0.07	B	*	mg/L	0.05	0.3	12/03/15 17:40	aeb
Uranium, dissolved	M200.8 ICP-MS	10	0.191			mg/L	0.001	0.005	12/08/15 17:31	msh
Vanadium, dissolved	M200.7 ICP	10	0.09	B		mg/L	0.05	0.3	12/03/15 17:40	aeb
Zinc, dissolved	M200.7 ICP	10	7			mg/L	0.1	0.5	12/03/15 17:40	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L27933-03***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Total Alkalinity		1		U	*	mg/L	2	20	11/26/15 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			5.6			%			12/17/15 11:02	calc
Sum of Anions			136			meq/L			12/17/15 11:02	calc
Sum of Cations			152			meq/L			12/17/15 11:02	calc
Chloride	SM4500Cl-E	1	4.5		*	mg/L	0.5	2	12/08/15 16:09	spl
Conductivity @25C	SM2510B	1	8250		*	umhos/cm	1	10	11/26/15 4:28	id
Fluoride	SM4500F-C	200	20	B	*	mg/L	10	50	12/03/15 13:33	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2370			mg/L			12/17/15 11:02	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.10		*	mg/L	0.02	0.1	12/02/15 22:29	pjb
Nitrogen, ammonia	M350.1	1	1.25		*	mg/L	0.05	0.2	12/10/15 10:34	krh
pH (lab)	SM4500H+ B									
pH		1	2.2	H	*	units	0.1	0.1	11/26/15 0:00	id
pH measured at		1	22.7			C	0.1	0.1	11/26/15 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	20	14.5		*	mg/L	0.2	1	12/03/15 16:01	krh
Residue, Filterable (TDS) @180C	SM2540C	10	10700		*	mg/L	100	200	11/30/15 15:42	enb
Sulfate	D516-02/-07 - Turbidimetric	400	6420		*	mg/L	400	2000	12/14/15 13:38	mss2
TDS (calculated)	Calculation		9000			mg/L			12/17/15 11:02	calc
TDS (ratio - measured/calculated)	Calculation		1.19						12/17/15 11:02	calc

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: *L27933-04*
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/02/15 10:21	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	10	185			mg/L	0.3	2	12/05/15 15:19	aeb
Antimony, dissolved	M200.8 ICP-MS	2	0.0147			mg/L	0.0008	0.004	12/08/15 17:33	msh
Arsenic, dissolved	M200.8 ICP-MS	20	1.980			mg/L	0.004	0.02	12/09/15 15:22	msh
Barium, dissolved	M200.7 ICP	10	0.04	B	*	mg/L	0.03	0.2	12/05/15 15:19	aeb
Beryllium, dissolved	M200.8 ICP-MS	2	0.0146			mg/L	0.0001	0.0005	12/08/15 17:33	msh
Bismuth, dissolved	M200.7 ICP	10		U	*	mg/L	0.4	2	12/05/15 15:19	aeb
Boron, dissolved	M200.7 ICP	10	0.1	B	*	mg/L	0.1	0.5	12/05/15 15:19	aeb
Cadmium, dissolved	M200.8 ICP-MS	2	0.0195			mg/L	0.0002	0.001	12/08/15 17:33	msh
Calcium, dissolved	M200.7 ICP	10	205			mg/L	1	5	12/05/15 15:19	aeb
Chromium, dissolved	M200.7 ICP	10	0.3	B	*	mg/L	0.1	0.5	12/05/15 15:19	aeb
Cobalt, dissolved	M200.7 ICP	10	1.8			mg/L	0.1	0.5	12/05/15 15:19	aeb
Copper, dissolved	M200.7 ICP	10	8.5			mg/L	0.1	0.5	12/05/15 15:19	aeb
Gallium, dissolved	M200.7 ICP	10		U	*	mg/L	1	5	12/05/15 15:19	aeb
Iron, dissolved	M200.7 ICP	10	323		*	mg/L	0.2	0.5	12/05/15 15:19	aeb
Lead, dissolved	M200.8 ICP-MS	2	0.0139			mg/L	0.0002	0.001	12/08/15 17:33	msh
Lithium, dissolved	M200.7 ICP	10	0.11	B	*	mg/L	0.08	0.4	12/05/15 15:19	aeb
Magnesium, dissolved	M200.7 ICP	10	48			mg/L	2	10	12/05/15 15:19	aeb
Manganese, dissolved	M200.7 ICP	10	1.95		*	mg/L	0.05	0.3	12/05/15 15:19	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/14/15 12:45	pta
Molybdenum, dissolved	M200.7 ICP	10	0.2	B	*	mg/L	0.2	1	12/05/15 15:19	aeb
Nickel, dissolved	M200.7 ICP	10	2.20			mg/L	0.08	0.4	12/05/15 15:19	aeb
Potassium, dissolved	M200.7 ICP	10	19			mg/L	2	10	12/05/15 15:19	aeb
Scandium, dissolved	M200.7 ICP	10		U	*	mg/L	1	5	12/05/15 15:19	aeb
Selenium, dissolved	M200.8 ICP-MS	2	0.0498			mg/L	0.0002	0.0005	12/08/15 17:33	msh
Silver, dissolved	M200.7 ICP	10		U	*	mg/L	0.1	0.3	12/05/15 15:19	aeb
Sodium, dissolved	M200.7 ICP	10	17			mg/L	2	10	12/05/15 15:19	aeb
Strontium, dissolved	M200.7 ICP	10	0.16	B	*	mg/L	0.05	0.3	12/05/15 15:19	aeb
Thallium, dissolved	M200.8 ICP-MS	2	0.0149			mg/L	0.0002	0.001	12/08/15 17:33	msh
Tin, dissolved	M200.7 ICP	10		U	*	mg/L	0.4	2	12/05/15 15:19	aeb
Titanium, dissolved	M200.7 ICP	10		U	*	mg/L	0.05	0.3	12/05/15 15:19	aeb
Uranium, dissolved	M200.8 ICP-MS	20	0.483			mg/L	0.002	0.01	12/09/15 15:22	msh
Vanadium, dissolved	M200.7 ICP	10		U	*	mg/L	0.05	0.3	12/05/15 15:19	aeb
Zinc, dissolved	M200.7 ICP	10	6			mg/L	0.1	0.5	12/05/15 15:19	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L27933-04***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Total Alkalinity		1		U	*	mg/L	2	20	11/26/15 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			4.9			%			12/17/15 11:03	calc
Sum of Anions			49			meq/L			12/17/15 11:03	calc
Sum of Cations			54			meq/L			12/17/15 11:03	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	12/08/15 16:09	spl
Conductivity @25C	SM2510B	1	4910		*	umhos/cm	1	10	11/26/15 4:32	id
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	12/03/15 13:38	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		710			mg/L			12/17/15 11:03	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.32		*	mg/L	0.02	0.1	12/02/15 22:31	pjb
Nitrogen, ammonia	M350.1	1	0.64		*	mg/L	0.05	0.2	12/10/15 10:35	krh
pH (lab)	SM4500H+ B									
pH		1	2.2	H	*	units	0.1	0.1	11/26/15 0:00	id
pH measured at		1	22.8			C	0.1	0.1	11/26/15 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	20	5.9		*	mg/L	0.2	1	12/03/15 16:03	krh
Residue, Filterable (TDS) @180C	SM2540C	10	3980		*	mg/L	100	200	11/30/15 15:45	enb
Sulfate	D516-02/-07 - Turbidimetric	250	2330			mg/L	250	1250	12/07/15 16:52	bsu
TDS (calculated)	Calculation		3140			mg/L			12/17/15 11:03	calc
TDS (ratio - measured/calculated)	Calculation		1.27						12/17/15 11:03	calc

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L27933-05***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/02/15 10:38	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	3.65			mg/L	0.03	0.2	12/05/15 15:22	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0062			mg/L	0.0004	0.002	12/08/15 17:39	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0931		*	mg/L	0.0002	0.001	12/08/15 17:39	msh
Barium, dissolved	M200.7 ICP	1	0.058			mg/L	0.003	0.02	12/05/15 15:22	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00383			mg/L	0.00005	0.0003	12/08/15 17:39	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/15 17:46	aeb
Boron, dissolved	M200.7 ICP	1	0.17			mg/L	0.01	0.05	12/03/15 17:46	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	12/08/15 17:39	msh
Calcium, dissolved	M200.7 ICP	1	214			mg/L	0.1	0.5	12/03/15 17:46	aeb
Chromium, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/03/15 17:46	aeb
Cobalt, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	12/03/15 17:46	aeb
Copper, dissolved	M200.7 ICP	1	0.15			mg/L	0.01	0.05	12/03/15 17:46	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/15 17:46	aeb
Iron, dissolved	M200.7 ICP	1	4.32		*	mg/L	0.02	0.05	12/03/15 17:46	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0038			mg/L	0.0001	0.0005	12/08/15 17:39	msh
Lithium, dissolved	M200.7 ICP	1	0.156			mg/L	0.008	0.04	12/03/15 17:46	aeb
Magnesium, dissolved	M200.7 ICP	1	46.3			mg/L	0.2	1	12/03/15 17:46	aeb
Manganese, dissolved	M200.7 ICP	1	1.980		*	mg/L	0.005	0.03	12/03/15 17:46	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/14/15 12:51	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/03/15 17:46	aeb
Nickel, dissolved	M200.7 ICP	1	0.140			mg/L	0.008	0.04	12/03/15 17:46	aeb
Potassium, dissolved	M200.7 ICP	1	60.9			mg/L	0.2	1	12/03/15 17:46	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/15 17:46	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.1115			mg/L	0.0001	0.0003	12/08/15 17:39	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/03/15 17:46	aeb
Sodium, dissolved	M200.7 ICP	1	200			mg/L	0.2	1	12/03/15 17:46	aeb
Strontium, dissolved	M200.7 ICP	1	0.619			mg/L	0.005	0.03	12/03/15 17:46	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	12/08/15 17:39	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/03/15 17:46	aeb
Titanium, dissolved	M200.7 ICP	1	0.015	B	*	mg/L	0.005	0.03	12/03/15 17:46	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0005	12/08/15 17:39	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/03/15 17:46	aeb
Zinc, dissolved	M200.7 ICP	1	0.24			mg/L	0.01	0.05	12/03/15 17:46	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L27933-05***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Total Alkalinity		1		U	*	mg/L	2	20	11/26/15 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			2.0			%			12/17/15 11:03	calc
Sum of Anions			25			meq/L			12/17/15 11:03	calc
Sum of Cations			26			meq/L			12/17/15 11:03	calc
Chloride	SM4500Cl-E	1	51.6		*	mg/L	0.5	2	12/08/15 16:09	spl
Conductivity @25C	SM2510B	1	2210		*	umhos/cm	1	10	11/26/15 4:37	id
Fluoride	SM4500F-C	1	1.51		*	mg/L	0.05	0.3	12/03/15 13:44	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		725			mg/L			12/17/15 11:03	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	1.37		*	mg/L	0.02	0.1	12/02/15 22:34	pjb
Nitrogen, ammonia	M350.1	1	1.22		*	mg/L	0.05	0.2	12/10/15 10:37	krh
pH (lab)	SM4500H+ B									
pH		1	4.4	H	*	units	0.1	0.1	11/26/15 0:00	id
pH measured at		1	22.9			C	0.1	0.1	11/26/15 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.05		*	mg/L	0.01	0.05	12/03/15 16:05	krh
Residue, Filterable (TDS) @180C	SM2540C	10	1840		*	mg/L	100	200	11/30/15 15:47	enb
Sulfate	D516-02/-07 - Turbidimetric	50	1130			mg/L	50	250	12/07/15 17:09	bsu
TDS (calculated)	Calculation		1720			mg/L			12/17/15 11:03	calc
TDS (ratio - measured/calculated)	Calculation		1.07						12/17/15 11:03	calc

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L27933-06***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/02/15 10:46	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/05/15 15:32	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0019	B		mg/L	0.0004	0.002	12/08/15 17:41	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0040		*	mg/L	0.0002	0.001	12/08/15 17:41	msh
Barium, dissolved	M200.7 ICP	1	0.124			mg/L	0.003	0.02	12/05/15 15:32	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/08/15 17:41	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/15 18:02	aeb
Boron, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	12/03/15 18:02	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/08/15 17:41	msh
Calcium, dissolved	M200.7 ICP	1	10.4			mg/L	0.1	0.5	12/03/15 18:02	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/15 18:02	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/15 18:02	aeb
Copper, dissolved	M200.7 ICP	1	0.29			mg/L	0.01	0.05	12/03/15 18:02	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/15 18:02	aeb
Iron, dissolved	M200.7 ICP	1	0.38		*	mg/L	0.02	0.05	12/03/15 18:02	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	12/08/15 17:41	msh
Lithium, dissolved	M200.7 ICP	1	0.033	B		mg/L	0.008	0.04	12/03/15 18:02	aeb
Magnesium, dissolved	M200.7 ICP	1	1.8			mg/L	0.2	1	12/03/15 18:02	aeb
Manganese, dissolved	M200.7 ICP	1	0.021	B	*	mg/L	0.005	0.03	12/03/15 18:02	aeb
Mercury, dissolved	M245.1 CVAA	1	0.0012			mg/L	0.0002	0.001	12/14/15 12:53	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/03/15 18:02	aeb
Nickel, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.008	0.04	12/03/15 18:02	aeb
Potassium, dissolved	M200.7 ICP	1	14.5			mg/L	0.2	1	12/03/15 18:02	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/15 18:02	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0146			mg/L	0.0001	0.0003	12/08/15 17:41	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/03/15 18:02	aeb
Sodium, dissolved	M200.7 ICP	1	8.3			mg/L	0.2	1	12/03/15 18:02	aeb
Strontium, dissolved	M200.7 ICP	1	0.111			mg/L	0.005	0.03	12/03/15 18:02	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	12/08/15 17:41	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/03/15 18:02	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/03/15 18:02	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	12/08/15 17:41	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/03/15 18:02	aeb
Zinc, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	12/03/15 18:02	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L27933-06***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	2.4	B		mg/L	2	20	11/26/15 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Total Alkalinity		1	2.4	B	*	mg/L	2	20	11/26/15 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			7.1			%			12/17/15 11:03	calc
Sum of Anions			1.3			meq/L			12/17/15 11:03	calc
Sum of Cations			1.5			meq/L			12/17/15 11:03	calc
Chloride	SM4500Cl-E	1	2.8		*	mg/L	0.5	2	12/08/15 16:09	spl
Conductivity @25C	SM2510B	1	194		*	umhos/cm	1	10	11/26/15 4:43	id
Fluoride	SM4500F-C	1	0.16	B	*	mg/L	0.05	0.3	12/03/15 14:04	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		33.4			mg/L			12/17/15 11:03	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.18		*	mg/L	0.02	0.1	12/02/15 22:35	pjb
Nitrogen, ammonia	M350.1	1	1.05		*	mg/L	0.05	0.2	12/10/15 10:41	krh
pH (lab)	SM4500H+ B									
pH		1	5.5	H	*	units	0.1	0.1	11/26/15 0:00	id
pH measured at		1	23.0			C	0.1	0.1	11/26/15 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.01	B	*	mg/L	0.01	0.05	12/03/15 16:06	krh
Residue, Filterable (TDS) @180C	SM2540C	1	126		*	mg/L	10	20	12/01/15 16:34	enb
Sulfate	D516-02/-07 - Turbidimetric	5	57.0			mg/L	5	25	12/07/15 17:03	bsu
TDS (calculated)	Calculation		98.4			mg/L			12/17/15 11:03	calc
TDS (ratio - measured/calculated)	Calculation		1.28						12/17/15 11:03	calc

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: *L27933-07*
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/02/15 10:54	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	20	1600			mg/L	0.6	3	12/05/15 15:36	aeb
Antimony, dissolved	M200.8 ICP-MS	20	0.082			mg/L	0.008	0.04	12/08/15 17:48	msh
Arsenic, dissolved	M200.8 ICP-MS	500	54.9			mg/L	0.1	0.5	12/09/15 15:24	msh
Barium, dissolved	M200.7 ICP	20		U		mg/L	0.06	0.3	12/05/15 15:36	aeb
Beryllium, dissolved	M200.8 ICP-MS	20	0.373			mg/L	0.001	0.005	12/08/15 17:48	msh
Bismuth, dissolved	M200.7 ICP	20		U	*	mg/L	0.8	4	12/03/15 18:06	aeb
Boron, dissolved	M200.7 ICP	20		U		mg/L	0.2	1	12/03/15 18:06	aeb
Cadmium, dissolved	M200.8 ICP-MS	20	0.125			mg/L	0.002	0.01	12/08/15 17:48	msh
Calcium, dissolved	M200.7 ICP	20	397			mg/L	2	10	12/03/15 18:06	aeb
Chromium, dissolved	M200.7 ICP	20	0.6	B		mg/L	0.2	1	12/03/15 18:06	aeb
Cobalt, dissolved	M200.7 ICP	20	9.2			mg/L	0.2	1	12/03/15 18:06	aeb
Copper, dissolved	M200.7 ICP	20	17.4			mg/L	0.2	1	12/03/15 18:06	aeb
Gallium, dissolved	M200.7 ICP	20		U	*	mg/L	2	10	12/03/15 18:06	aeb
Iron, dissolved	M200.7 ICP	20	1320		*	mg/L	0.4	1	12/03/15 18:06	aeb
Lead, dissolved	M200.8 ICP-MS	20	0.015			mg/L	0.002	0.01	12/08/15 17:48	msh
Lithium, dissolved	M200.7 ICP	20	0.7	B		mg/L	0.2	0.8	12/03/15 18:06	aeb
Magnesium, dissolved	M200.7 ICP	20	185			mg/L	4	20	12/03/15 18:06	aeb
Manganese, dissolved	M200.7 ICP	20	17		*	mg/L	0.1	0.5	12/03/15 18:06	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/14/15 12:55	pta
Molybdenum, dissolved	M200.7 ICP	20		U		mg/L	0.4	2	12/03/15 18:06	aeb
Nickel, dissolved	M200.7 ICP	20	9.6			mg/L	0.2	0.8	12/03/15 18:06	aeb
Potassium, dissolved	M200.7 ICP	20	54			mg/L	4	20	12/03/15 18:06	aeb
Scandium, dissolved	M200.7 ICP	20		U	*	mg/L	2	10	12/03/15 18:06	aeb
Selenium, dissolved	M200.8 ICP-MS	20	0.096			mg/L	0.002	0.005	12/08/15 17:48	msh
Silver, dissolved	M200.7 ICP	20		U	*	mg/L	0.2	0.5	12/03/15 18:06	aeb
Sodium, dissolved	M200.7 ICP	20	46			mg/L	4	20	12/03/15 18:06	aeb
Strontium, dissolved	M200.7 ICP	20	0.2	B		mg/L	0.1	0.5	12/03/15 18:06	aeb
Thallium, dissolved	M200.8 ICP-MS	20	0.034			mg/L	0.002	0.01	12/08/15 17:48	msh
Tin, dissolved	M200.7 ICP	20		U		mg/L	0.8	4	12/03/15 18:06	aeb
Titanium, dissolved	M200.7 ICP	20		U	*	mg/L	0.1	0.5	12/03/15 18:06	aeb
Uranium, dissolved	M200.8 ICP-MS	20	0.277			mg/L	0.002	0.01	12/08/15 17:48	msh
Vanadium, dissolved	M200.7 ICP	20	0.3	B		mg/L	0.1	0.5	12/03/15 18:06	aeb
Zinc, dissolved	M200.7 ICP	20	31.3			mg/L	0.2	1	12/03/15 18:06	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L27933-07***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	Id
Total Alkalinity		1		U	*	mg/L	2	20	11/26/15 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			8.9			%			12/17/15 11:03	calc
Sum of Anions			242			meq/L			12/17/15 11:03	calc
Sum of Cations			289			meq/L			12/17/15 11:03	calc
Chloride	SM4500Cl-E	1	6.9		*	mg/L	0.5	2	12/08/15 16:09	spl
Conductivity @25C	SM2510B	1	10700		*	umhos/cm	1	10	11/26/15 4:47	id
Fluoride	SM4500F-C	200	10	B	*	mg/L	10	50	12/03/15 14:09	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1750			mg/L			12/17/15 11:03	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.22		*	mg/L	0.02	0.1	12/02/15 22:36	pjb
Nitrogen, ammonia	M350.1	1	2.23		*	mg/L	0.05	0.2	12/10/15 15:07	krh
pH (lab)	SM4500H+ B									
pH		1	2.1	H	*	units	0.1	0.1	11/26/15 0:00	id
pH measured at		1	23.2			C	0.1	0.1	11/26/15 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	100	58		*	mg/L	1	5	12/03/15 16:15	krh
Residue, Filterable (TDS) @180C	SM2540C	10	22300		*	mg/L	100	200	11/30/15 15:52	enb
Sulfate	D516-02/-07 - Turbidimetric	1000	11500			mg/L	1000	5000	12/07/15 17:12	bsu
TDS (calculated)	Calculation		15200			mg/L			12/17/15 11:03	calc
TDS (ratio - measured/calculated)	Calculation		1.47						12/17/15 11:03	calc

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L27933-08***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/02/15 11:02	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/05/15 15:45	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0068			mg/L	0.0004	0.002	12/08/15 17:50	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0475		*	mg/L	0.0002	0.001	12/08/15 17:50	msh
Barium, dissolved	M200.7 ICP	1	0.122			mg/L	0.003	0.02	12/05/15 15:45	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/08/15 17:50	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/15 18:09	aeb
Boron, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	12/03/15 18:09	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/08/15 17:50	msh
Calcium, dissolved	M200.7 ICP	1	14.9			mg/L	0.1	0.5	12/03/15 18:09	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/15 18:09	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/15 18:09	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/15 18:09	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/15 18:09	aeb
Iron, dissolved	M200.7 ICP	1	0.06		*	mg/L	0.02	0.05	12/03/15 18:09	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/08/15 17:50	msh
Lithium, dissolved	M200.7 ICP	1	0.024	B		mg/L	0.008	0.04	12/03/15 18:09	aeb
Magnesium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	12/03/15 18:09	aeb
Manganese, dissolved	M200.7 ICP	1	0.007	B	*	mg/L	0.005	0.03	12/03/15 18:09	aeb
Mercury, dissolved	M245.1 CVAA	1	0.0003	B		mg/L	0.0002	0.001	12/14/15 12:57	pta
Molybdenum, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.1	12/03/15 18:09	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/03/15 18:09	aeb
Potassium, dissolved	M200.7 ICP	1	1.4			mg/L	0.2	1	12/03/15 18:09	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/15 18:09	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0068			mg/L	0.0001	0.0003	12/08/15 17:50	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/03/15 18:09	aeb
Sodium, dissolved	M200.7 ICP	1	3.1			mg/L	0.2	1	12/03/15 18:09	aeb
Strontium, dissolved	M200.7 ICP	1	0.101			mg/L	0.005	0.03	12/03/15 18:09	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/08/15 17:50	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/03/15 18:09	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/03/15 18:09	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/08/15 17:50	msh
Vanadium, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.005	0.03	12/03/15 18:09	aeb
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/03/15 18:09	aeb

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L27933-08***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	11.7	B		mg/L	2	20	11/26/15 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Total Alkalinity		1	11.7	B	*	mg/L	2	20	11/26/15 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			12/17/15 11:04	calc
Sum of Anions			1			meq/L			12/17/15 11:04	calc
Sum of Cations			1.0			meq/L			12/17/15 11:04	calc
Chloride	SM4500Cl-E	1	1.1	B	*	mg/L	0.5	2	12/08/15 16:09	spl
Conductivity @25C	SM2510B	1	123		*	umhos/cm	1	10	11/26/15 4:55	id
Fluoride	SM4500F-C	1	0.19	B	*	mg/L	0.05	0.3	12/03/15 14:14	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		40.5			mg/L			12/17/15 11:04	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.07	B	*	mg/L	0.02	0.1	12/02/15 22:42	pjb
Nitrogen, ammonia	M350.1	1	0.23		*	mg/L	0.05	0.2	12/10/15 10:44	krh
pH (lab)	SM4500H+ B									
pH		1	7.1	H	*	units	0.1	0.1	11/26/15 0:00	id
pH measured at		1	23.1			C	0.1	0.1	11/26/15 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.05		*	mg/L	0.01	0.05	12/03/15 16:09	krh
Residue, Filterable (TDS) @180C	SM2540C	1	96		*	mg/L	10	20	12/01/15 16:38	enb
Sulfate	D516-02/-07 - Turbidimetric	1	34.6			mg/L	1	5	12/07/15 17:03	bsu
TDS (calculated)	Calculation		63.6			mg/L			12/17/15 11:04	calc
TDS (ratio - measured/calculated)	Calculation		1.51						12/17/15 11:04	calc

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L27933-09***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/02/15 11:11	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/05/15 15:48	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0069			mg/L	0.0004	0.002	12/08/15 17:52	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0081		*	mg/L	0.0002	0.001	12/08/15 17:52	msh
Barium, dissolved	M200.7 ICP	1	0.126			mg/L	0.003	0.02	12/05/15 15:48	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/08/15 17:52	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/03/15 18:12	aeb
Boron, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	12/03/15 18:12	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/08/15 17:52	msh
Calcium, dissolved	M200.7 ICP	1	5.6			mg/L	0.1	0.5	12/03/15 18:12	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/15 18:12	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/15 18:12	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/03/15 18:12	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/15 18:12	aeb
Iron, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.02	0.05	12/03/15 18:12	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/08/15 17:52	msh
Lithium, dissolved	M200.7 ICP	1	0.022	B		mg/L	0.008	0.04	12/03/15 18:12	aeb
Magnesium, dissolved	M200.7 ICP	1	1.1			mg/L	0.2	1	12/03/15 18:12	aeb
Manganese, dissolved	M200.7 ICP	1	0.009	B	*	mg/L	0.005	0.03	12/03/15 18:12	aeb
Mercury, dissolved	M245.1 CVAA	1	0.0002	B		mg/L	0.0002	0.001	12/14/15 12:59	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/03/15 18:12	aeb
Nickel, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.008	0.04	12/03/15 18:12	aeb
Potassium, dissolved	M200.7 ICP	1	2.5			mg/L	0.2	1	12/03/15 18:12	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/15 18:12	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0069			mg/L	0.0001	0.0003	12/08/15 17:52	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/03/15 18:12	aeb
Sodium, dissolved	M200.7 ICP	1	3.9			mg/L	0.2	1	12/03/15 18:12	aeb
Strontium, dissolved	M200.7 ICP	1	0.042			mg/L	0.005	0.03	12/03/15 18:12	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	12/08/15 17:52	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/03/15 18:12	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/03/15 18:12	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/08/15 17:52	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/03/15 18:12	aeb
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	12/03/15 18:12	aeb

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L27933-09***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	3.8	B		mg/L	2	20	11/26/15 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Total Alkalinity		1	3.8	B	*	mg/L	2	20	11/26/15 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-1.4			%			12/17/15 11:04	calc
Sum of Anions			0.636			meq/L			12/17/15 11:04	calc
Sum of Cations			0.619			meq/L			12/17/15 11:04	calc
Chloride	SM4500Cl-E	1	1.4	B	*	mg/L	0.5	2	12/08/15 16:09	spl
Conductivity @25C	SM2510B	1	79.6		*	umhos/cm	1	10	11/26/15 5:03	id
Fluoride	SM4500F-C	1	0.15	B	*	mg/L	0.05	0.3	12/03/15 14:19	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		18.5			mg/L			12/17/15 11:04	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B	*	mg/L	0.02	0.1	12/02/15 22:43	pjb
Nitrogen, ammonia	M350.1	1	0.12	B		mg/L	0.05	0.2	12/10/15 10:45	krh
pH (lab)	SM4500H+ B									
pH		1	6.8	H	*	units	0.1	0.1	11/26/15 0:00	id
pH measured at		1	23.1			C	0.1	0.1	11/26/15 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.01	0.05	12/03/15 16:14	krh
Residue, Filterable (TDS) @180C	SM2540C	1	60		*	mg/L	10	20	12/01/15 16:40	enb
Sulfate	D516-02/-07 - Turbidimetric	1	24.4			mg/L	1	5	12/07/15 17:03	bsu
TDS (calculated)	Calculation		41.6			mg/L			12/17/15 11:04	calc
TDS (ratio - measured/calculated)	Calculation		1.44						12/17/15 11:04	calc

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L27933-10***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-		*				12/03/15 7:13	krh
Cyanide, WAD	SM4500-CN I- distillation				*				12/01/15 15:30	spl
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/02/15 11:19	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	3.69			mg/L	0.03	0.2	12/05/15 15:52	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/08/15 17:54	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0050		*	mg/L	0.0002	0.001	12/08/15 17:54	msh
Barium, dissolved	M200.7 ICP	1	0.063			mg/L	0.003	0.02	12/05/15 15:52	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00352			mg/L	0.00005	0.0003	12/08/15 17:54	msh
Bismuth, dissolved	M200.7 ICP	1	0.05	B	*	mg/L	0.04	0.2	12/03/15 18:15	aeb
Boron, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	12/03/15 18:15	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0047			mg/L	0.0001	0.0005	12/08/15 17:54	msh
Calcium, dissolved	M200.7 ICP	1	238			mg/L	0.1	0.5	12/03/15 18:15	aeb
Chromium, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/03/15 18:15	aeb
Cobalt, dissolved	M200.7 ICP	1	0.39			mg/L	0.01	0.05	12/03/15 18:15	aeb
Copper, dissolved	M200.7 ICP	1	23.60			mg/L	0.01	0.05	12/03/15 18:15	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/15 18:15	aeb
Iron, dissolved	M200.7 ICP	1	3.23		*	mg/L	0.02	0.05	12/03/15 18:15	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	12/08/15 17:54	msh
Lithium, dissolved	M200.7 ICP	1	0.101			mg/L	0.008	0.04	12/03/15 18:15	aeb
Magnesium, dissolved	M200.7 ICP	1	11.8			mg/L	0.2	1	12/03/15 18:15	aeb
Manganese, dissolved	M200.7 ICP	1	9.800		*	mg/L	0.005	0.03	12/03/15 18:15	aeb
Mercury, dissolved	M245.1 CVAA	1	0.0004	B		mg/L	0.0002	0.001	12/14/15 13:02	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/03/15 18:15	aeb
Nickel, dissolved	M200.7 ICP	1	1.350			mg/L	0.008	0.04	12/03/15 18:15	aeb
Potassium, dissolved	M200.7 ICP	1	23.8			mg/L	0.2	1	12/03/15 18:15	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/03/15 18:15	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0204			mg/L	0.0001	0.0003	12/08/15 17:54	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/03/15 18:15	aeb
Sodium, dissolved	M200.7 ICP	1	68.5			mg/L	0.2	1	12/03/15 18:15	aeb
Strontium, dissolved	M200.7 ICP	1	0.276			mg/L	0.005	0.03	12/03/15 18:15	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0094			mg/L	0.0001	0.0005	12/08/15 17:54	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/03/15 18:15	aeb
Titanium, dissolved	M200.7 ICP	1	0.015	B	*	mg/L	0.005	0.03	12/03/15 18:15	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0060			mg/L	0.0001	0.0005	12/08/15 17:54	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/03/15 18:15	aeb
Zinc, dissolved	M200.7 ICP	1	2.01			mg/L	0.01	0.05	12/03/15 18:15	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L27933-10***
Date Sampled: *11/24/15 00:00*
Date Received: *11/25/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	11/26/15 0:00	id
Total Alkalinity		1		U	*	mg/L	2	20	11/26/15 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			12/17/15 11:04	calc
Sum of Anions			19			meq/L			12/17/15 11:04	calc
Sum of Cations			19			meq/L			12/17/15 11:04	calc
Chloride	SM4500Cl-E	1	2.2		*	mg/L	0.5	2	12/08/15 16:09	spl
Conductivity @25C	SM2510B	1	1560		*	umhos/cm	1	10	11/26/15 5:08	id
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.022			mg/L	0.003	0.01	12/03/15 14:28	krh
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5	0.011		*	mg/L	0.003	0.01	12/03/15 13:31	krh
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	12/03/15 14:35	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		643			mg/L			12/17/15 11:04	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.20		*	mg/L	0.02	0.1	12/02/15 22:44	pjb
Nitrogen, ammonia	M350.1	1	9.23			mg/L	0.05	0.2	12/10/15 10:48	krh
pH (lab)	SM4500H+ B									
pH		1	4.4	H	*	units	0.1	0.1	11/26/15 0:00	id
pH measured at		1	23.0			C	0.1	0.1	11/26/15 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.01	B	*	mg/L	0.01	0.05	12/03/15 16:11	krh
Residue, Filterable (TDS) @180C	SM2540C	10	1360			mg/L	100	200	11/30/15 16:02	enb
Sulfate	D516-02/-07 - Turbidimetric	25	882			mg/L	25	125	12/07/15 17:09	bsu
TDS (calculated)	Calculation		1280			mg/L			12/17/15 11:04	calc
TDS (ratio - measured/calculated)	Calculation		1.06						12/17/15 11:04	calc

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG394909													
WG394909PBW1	PBW	11/25/15 16:50				U	mg/L		-20	20			
WG394909LCSW3	LCSW	11/25/15 17:07	WC151123-8	820.0001		802	mg/L	98	90	110			
WG394909LCSW6	LCSW	11/25/15 19:57	WC151123-8	820.0001		809	mg/L	99	90	110			
WG394909PBW2	PBW	11/25/15 20:05				U	mg/L		-20	20			
WG394909LCSW9	LCSW	11/25/15 23:35	WC151123-8	820.0001		810	mg/L	99	90	110			
WG394909PBW3	PBW	11/25/15 23:43				U	mg/L		-20	20			
WG394909LCSW12	LCSW	11/26/15 2:25	WC151123-8	820.0001		806	mg/L	98	90	110			
WG394909PBW4	PBW	11/26/15 2:33				U	mg/L		-20	20			
L27927-01DUP	DUP	11/26/15 4:08			90.5	81.4	mg/L				11	20	
L27933-10DUP	DUP	11/26/15 5:12			U	U	mg/L				0	20	RA
WG394909LCSW15	LCSW	11/26/15 5:30	WC151123-8	820.0001		837	mg/L	102	90	110			
WG395966													
WG395966PBW1	PBW	12/16/15 16:16				U	mg/L		-20	20			
WG395966LCSW3	LCSW	12/16/15 16:33	WC151211-9	820.0001		806	mg/L	98	90	110			
WG395966LCSW6	LCSW	12/16/15 19:25	WC151211-9	820.0001		788	mg/L	96	90	110			
WG395966PBW2	PBW	12/16/15 19:33				U	mg/L		-20	20			
WG395966LCSW9	LCSW	12/16/15 22:23	WC151211-9	820.0001		789	mg/L	96	90	110			
WG395966PBW3	PBW	12/16/15 22:31				U	mg/L		-20	20			
L28192-01DUP	DUP	12/17/15 0:23			513	517	mg/L				1	20	
WG395966LCSW12	LCSW	12/17/15 3:26	WC151211-9	820.0001		794	mg/L	97	90	110			
WG395966PBW4	PBW	12/17/15 3:34				U	mg/L		-20	20			
WG395966LCSW15	LCSW	12/17/15 6:20	WC151211-9	820.0001		797	mg/L	97	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		2.066	mg/L	103	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.09	0.09			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	1.0013		1.047	mg/L	105	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	1.0013	3.65	4.595	mg/L	94	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	1.0013	3.65	4.539	mg/L	89	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395443													
WG395443ICV	ICV	12/08/15 16:53	MS151201-3	.02		.02016	mg/L	101	90	110			
WG395443ICB	ICB	12/08/15 16:55				U	mg/L		-0.0012	0.0012			
WG395443LFB	LFB	12/08/15 16:57	MS151118-3	.01001		.0105	mg/L	105	85	115			
L27920-02AS	AS	12/08/15 17:04	MS151118-3	.01001	U	.00995	mg/L	99	70	130			
L27920-02ASD	ASD	12/08/15 17:06	MS151118-3	.01001	U	.01037	mg/L	104	70	130	4	20	
L27933-04AS	AS	12/08/15 17:35	MS151118-3	.02002	.0147	.03487	mg/L	101	70	130			
L27933-04ASD	ASD	12/08/15 17:37	MS151118-3	.02002	.0147	.03471	mg/L	100	70	130	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395443													
WG395443ICV	ICV	12/08/15 16:53	MS151201-3	.05		.05282	mg/L	106	90	110			
WG395443ICB	ICB	12/08/15 16:55				U	mg/L		-0.0006	0.0006			
WG395443LFB	LFB	12/08/15 16:57	MS151118-3	.0501		.05065	mg/L	101	85	115			
L27920-02AS	AS	12/08/15 17:04	MS151118-3	.0501	.0002	.05712	mg/L	114	70	130			
L27920-02ASD	ASD	12/08/15 17:06	MS151118-3	.0501	.0002	.05622	mg/L	112	70	130	2	20	
L27933-04AS	AS	12/08/15 17:35	MS151118-3	.1002	2.08	2.13412	mg/L	54	70	130			M3
L27933-04ASD	ASD	12/08/15 17:37	MS151118-3	.1002	2.08	2.11438	mg/L	34	70	130	1	20	M3
WG395546													
WG395546ICV	ICV	12/09/15 15:03	MS151201-3	.05		.05424	mg/L	108	90	110			
WG395546ICB	ICB	12/09/15 15:05				U	mg/L		-0.0006	0.0006			
WG395546LFB	LFB	12/09/15 15:07	MS151118-3	.0501		.04449	mg/L	89	85	115			
L27948-01AS	AS	12/09/15 15:32	MS151118-3	.0501	.004	.04946	mg/L	91	70	130			
L27948-01ASD	ASD	12/09/15 15:35	MS151118-3	.0501	.004	.05236	mg/L	97	70	130	6	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		1.9935	mg/L	100	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.009	0.009			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	.5		.4998	mg/L	100	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	.5	.058	.5535	mg/L	99	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	.5	.058	.5461	mg/L	98	85	115	1	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395443													
WG395443ICV	ICV	12/08/15 16:53	MS151201-3	.05		.05089	mg/L	102	90	110			
WG395443ICB	ICB	12/08/15 16:55				.000053	mg/L		-0.00015	0.00015			
WG395443LFB	LFB	12/08/15 16:57	MS151118-3	.0501		.050782	mg/L	101	85	115			
L27920-02AS	AS	12/08/15 17:04	MS151118-3	.0501	U	.04332	mg/L	86	70	130			
L27920-02ASD	ASD	12/08/15 17:06	MS151118-3	.0501	U	.04375	mg/L	87	70	130	1	20	
L27933-04AS	AS	12/08/15 17:35	MS151118-3	.1002	.0146	.11352	mg/L	99	70	130			
L27933-04ASD	ASD	12/08/15 17:37	MS151118-3	.1002	.0146	.11069	mg/L	96	70	130	3	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		2.03	mg/L	102	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.12	0.12			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	1		1.009	mg/L	101	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	1	U	1.021	mg/L	102	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	1	U	1.042	mg/L	104	85	115	2	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		2.019	mg/L	101	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.12	0.12			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	1		1.017	mg/L	102	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	1	U	1.053	mg/L	105	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	1	U	1.02	mg/L	102	85	115	3	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		1.97	mg/L	99	95	105			
WG395249ICB	ICB	12/03/15 16:34				.017	mg/L		-0.03	0.03			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	.5005		.501	mg/L	100	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	.5005	.17	.653	mg/L	97	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	.5005	.17	.655	mg/L	97	85	115	0	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		1.964	mg/L	98	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.03	0.03			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	.5005		.505	mg/L	101	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	.5005	.16	.656	mg/L	99	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	.5005	.16	.638	mg/L	96	85	115	3	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395443													
WG395443ICV	ICV	12/08/15 16:53	MS151201-3	.05		.05185	mg/L	104	90	110			
WG395443ICB	ICB	12/08/15 16:55				U	mg/L		-0.0003	0.0003			
WG395443LFB	LFB	12/08/15 16:57	MS151118-3	.05005		.05034	mg/L	101	85	115			
L27920-02AS	AS	12/08/15 17:04	MS151118-3	.05005	U	.05028	mg/L	100	70	130			
L27920-02ASD	ASD	12/08/15 17:06	MS151118-3	.05005	U	.05188	mg/L	104	70	130	3	20	
L27933-04AS	AS	12/08/15 17:35	MS151118-3	.1001	.0195	.11713	mg/L	98	70	130			
L27933-04ASD	ASD	12/08/15 17:37	MS151118-3	.1001	.0195	.11355	mg/L	94	70	130	3	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	100		101.15	mg/L	101	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.3	0.3			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	68.01261		69.57	mg/L	102	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	68.01261	214	277	mg/L	93	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	68.01261	214	275.9	mg/L	91	85	115	0	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	100		101.8	mg/L	102	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.3	0.3			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	68.01261		71.8	mg/L	106	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	68.01261	218	280.4	mg/L	92	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	68.01261	218	276.4	mg/L	86	85	115	1	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395469													
WG395469ICB	ICB	12/08/15 12:42				U	mg/L		-1.5	1.5			
WG395469ICV	ICV	12/08/15 12:42	WI150701-4	55.055		57.16	mg/L	104	90	110			
WG395469LFB1	LFB	12/08/15 15:14	WI150826-7	29.97		32.77	mg/L	109	90	110			
L27916-09AS	AS	12/08/15 15:51	WI150826-7	29.97	4.6	39.15	mg/L	115	90	110			M1
L27916-10DUP	DUP	12/08/15 15:51			7.1	7.08	mg/L				0	20	
WG395469LFB2	LFB	12/08/15 15:52	WI150826-7	29.97		32.64	mg/L	109	90	110			
L27933-02AS	AS	12/08/15 15:52	WI150826-7	29.97	6.6	40.23	mg/L	112	90	110			M1
L27933-03DUP	DUP	12/08/15 16:09			4.5	4.63	mg/L				3	20	RA

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		1.961	mg/L	98	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.03	0.03			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	.5005		.491	mg/L	98	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	.5005	.01	.492	mg/L	96	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	.5005	.01	.49	mg/L	96	85	115	0	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		1.948	mg/L	97	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.03	0.03			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	.5005		.49	mg/L	98	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	.5005	U	.483	mg/L	97	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	.5005	U	.473	mg/L	95	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2.002		1.908	mg/L	95	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.03	0.03			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	.5005		.49	mg/L	98	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	.5005	.1	.578	mg/L	96	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	.5005	.1	.581	mg/L	96	85	115	1	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2.002		1.905	mg/L	95	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.03	0.03			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	.5005		.494	mg/L	99	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	.5005	.09	.578	mg/L	98	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	.5005	.09	.567	mg/L	95	85	115	2	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG394909													
WG394909LCSW2	LCSW	11/25/15 16:55	PCN48869	1408		1470	umhos/cm	104	90	110			
WG394909LCSW5	LCSW	11/25/15 19:45	PCN48869	1408		1460	umhos/cm	104	90	110			
WG394909LCSW8	LCSW	11/25/15 23:22	PCN48869	1408		1420	umhos/cm	101	90	110			
WG394909LCSW11	LCSW	11/26/15 2:14	PCN48869	1408		1420	umhos/cm	101	90	110			
L27927-01DUP	DUP	11/26/15 4:08			279	278	umhos/cm				0	20	
L27933-10DUP	DUP	11/26/15 5:12			1560	1560	umhos/cm				0	20	
WG394909LCSW14	LCSW	11/26/15 5:17	PCN48869	1408		1410	umhos/cm	100	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		1.984	mg/L	99	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.03	0.03			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	.499		.499	mg/L	100	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	.499	.15	.642	mg/L	99	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	.499	.15	.637	mg/L	98	85	115	1	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		1.974	mg/L	99	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.03	0.03			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	.499		.506	mg/L	101	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	.499	.14	.642	mg/L	101	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	.499	.14	.63	mg/L	98	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395242													
WG395242ICV	ICV	12/03/15 13:18	WI151130-7	.3003		.2889	mg/L	96	90	110			
WG395242ICB	ICB	12/03/15 13:19				U	mg/L		-0.003	0.003			
WG395244													
WG395200LRB	LRB	12/03/15 14:01				U	mg/L		-0.003	0.003			
WG395200LFB	LFB	12/03/15 14:02	WI151130-4	.2		.2021	mg/L	101	90	110			
L27935-01LFM	LFM	12/03/15 14:06	WI151130-4	.2	.006	.1953	mg/L	95	90	110			
L27926-02DUP	DUP	12/03/15 14:27			20	19.73	mg/L				1	20	

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395242													
WG395242ICV	ICV	12/03/15 13:18	WI151130-7	.3003		.2889	mg/L	96	90	110			
WG395242ICB	ICB	12/03/15 13:19				U	mg/L		-0.003	0.003			
WG395042LRB	LRB	12/03/15 13:20				U	mg/L		-0.003	0.003			
WG395042LFB	LFB	12/03/15 13:21	WI151130-6	.2002		.1923	mg/L	96	90	110			
L27B79-01DUP	DUP	12/03/15 13:23			U	U	mg/L				0	20	RA
L27909-03LFM	LFM	12/03/15 13:24	WI151130-6	.2002	U	.1756	mg/L	88	90	110			M2

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395227													
WG395227ICV	ICV	12/03/15 12:14	WC151123-7	2		1.94	mg/L	97	95	105			
WG395227ICB	ICB	12/03/15 12:19				.062	mg/L		-0.15	0.15			
WG395227LFB1	LFB	12/03/15 12:26	WC151103-7	5		4.801	mg/L	96	90	110			
L27920-01AS	AS	12/03/15 12:32	WC151103-7	5	5.64	10.493	mg/L	97	90	110			
L27920-01DUP	DUP	12/03/15 12:40			5.64	5.531	mg/L				2	20	
L27933-05AS	AS	12/03/15 13:50	WC151103-7	5	1.51	5.613	mg/L	82	90	110			M2
L27933-05DUP	DUP	12/03/15 13:58			1.51	1.577	mg/L				4	20	
WG395227LFB2	LFB	12/03/15 14:56	WC151103-7	5		4.736	mg/L	95	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		2.04	mg/L	102	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.3	0.3			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	1		.97	mg/L	97	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	1	U	.97	mg/L	97	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	1	U	1	mg/L	100	85	115	3	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		1.99	mg/L	100	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.3	0.3			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	1		.98	mg/L	98	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	1	U	.98	mg/L	98	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	1	U	.94	mg/L	94	85	115	4	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		1.996	mg/L	100	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.06	0.06			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	1.0001		1	mg/L	100	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	1.0001	4.32	5.07	mg/L	75	85	115			M3
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	1.0001	4.32	5.073	mg/L	75	85	115	0	20	M3
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		1.983	mg/L	99	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.06	0.06			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	1.0001		1.036	mg/L	104	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	1.0001	4.32	5.122	mg/L	80	85	115			M3
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	1.0001	4.32	5.026	mg/L	71	85	115	2	20	M3

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395443													
WG395443ICV	ICV	12/08/15 16:53	MS151201-3	.05		.05248	mg/L	105	90	110			
WG395443ICB	ICB	12/08/15 16:55				U	mg/L		-0.0003	0.0003			
WG395443LFB	LFB	12/08/15 16:57	MS151118-3	.05005		.04988	mg/L	100	85	115			
L27920-02AS	AS	12/08/15 17:04	MS151118-3	.05005	U	.05154	mg/L	103	70	130			
L27920-02ASD	ASD	12/08/15 17:06	MS151118-3	.05005	U	.05315	mg/L	106	70	130	3	20	
L27933-04AS	AS	12/08/15 17:35	MS151118-3	.1001	.0139	.11479	mg/L	101	70	130			
L27933-04ASD	ASD	12/08/15 17:37	MS151118-3	.1001	.0139	.11222	mg/L	98	70	130	2	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		2.0552	mg/L	103	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.024	0.024			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	1.001		1.013	mg/L	101	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	1.001	.156	1.164	mg/L	101	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	1.001	.156	1.175	mg/L	102	85	115	1	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		2.0342	mg/L	102	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.024	0.024			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	1.001		1.014	mg/L	101	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	1.001	.154	1.171	mg/L	102	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	1.001	.154	1.156	mg/L	100	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	100		99.07	mg/L	99	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.6	0.6			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	50.00416		48.88	mg/L	98	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	50.00416	46.3	94.9	mg/L	97	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	50.00416	46.3	94.31	mg/L	96	85	115	1	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	100		99.76	mg/L	100	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.6	0.6			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	50.00416		50.44	mg/L	101	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	50.00416	47.1	95.71	mg/L	97	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	50.00416	47.1	94.59	mg/L	95	85	115	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		1.9855	mg/L	99	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.015	0.015			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	.499		.4942	mg/L	99	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	.499	1.98	2.386	mg/L	81	85	115			M3
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	.499	1.98	2.375	mg/L	79	85	115	0	20	M3
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		1.98	mg/L	99	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.015	0.015			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	.499		.5018	mg/L	101	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	.499	1.99	2.399	mg/L	82	85	115			M3
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	.499	1.99	2.373	mg/L	77	85	115	1	20	M3

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395690													
WG395690ICV2	ICV	12/14/15 12:21	II151130-3	.005		.0049	mg/L	98	95	105			
WG395690ICB	ICB	12/14/15 12:23				U	mg/L		-0.0002	0.0002			
WG395690LRB	LRB	12/14/15 12:25				U	mg/L		-0.00044	0.00044			
WG395690LFB	LFB	12/14/15 12:28	II151130-5	.002004		.00205	mg/L	102	85	115			
L27933-03LFM	LFM	12/14/15 12:40	II151130-5	.002004	U	.00196	mg/L	98	85	115			
L27933-03LFMD	LFMD	12/14/15 12:43	II151130-5	.002004	U	.00201	mg/L	100	85	115	3	20	
L27962-01LFM	LFM	12/14/15 13:08	II151130-5	.002004	U	.00199	mg/L	99	85	115			
L27962-01LFMD	LFMD	12/14/15 13:10	II151130-5	.002004	U	.00203	mg/L	101	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		2.036	mg/L	102	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.06	0.06			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	.4995		.503	mg/L	101	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	.4995	U	.51	mg/L	102	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	.4995	U	.51	mg/L	102	85	115	0	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		2.035	mg/L	102	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.06	0.06			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	.4995		.521	mg/L	104	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	.4995	U	.508	mg/L	102	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	.4995	U	.503	mg/L	101	85	115	1	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		1.9398	mg/L	97	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.024	0.024			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	.501		.4904	mg/L	98	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	.501	.14	.6246	mg/L	97	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	.501	.14	.6233	mg/L	96	85	115	0	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		1.9388	mg/L	97	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.024	0.024			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	.501		.5092	mg/L	102	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	.501	.146	.6332	mg/L	97	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	.501	.146	.6135	mg/L	93	85	115	3	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395195													
WG395195ICV	ICV	12/02/15 19:26	WI151024-1	2.416		2.343	mg/L	97	90	110			
WG395195ICB	ICB	12/02/15 19:27				U	mg/L		-0.02	0.02			
WG395197													
WG395197LFB	LFB	12/02/15 22:08	WI150613-3	2		1.896	mg/L	95	90	110			
L27900-01AS	AS	12/02/15 22:10	WI150613-3	2	1.05	3.049	mg/L	100	90	110			
L27900-02DUP	DUP	12/02/15 22:13			.8	.806	mg/L				1	20	
L27933-03AS	AS	12/02/15 22:30	WI150613-3	2	.1	1.446	mg/L	67	90	110			M2
L27933-04DUP	DUP	12/02/15 22:32			.32	.314	mg/L				2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

Nitrogen, ammonia M350.1

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395601													
WG395601ICV	ICV	12/10/15 10:21	WI151204-8	11.988		12.233	mg/L	102	90	110			
WG395601ICB	ICB	12/10/15 10:22				U	mg/L		-0.05	0.05			
WG395601LFB1	LFB	12/10/15 10:24	WI150204-10	10		10.767	mg/L	108	90	110			
L27839-05AS	AS	12/10/15 10:27	WI150204-10	10	U	11.003	mg/L	110	90	110			
L27933-09AS	AS	12/10/15 10:47	WI150204-10	10	.12	11.124	mg/L	110	90	110			
L27933-10DUP	DUP	12/10/15 10:50			9.23	9.146	mg/L				1	20	
WG395601LFB2	LFB	12/10/15 11:05	WI151204-8	11.988		10.859	mg/L	91	90	110			
WG395601ICV1	ICV	12/10/15 15:02	WI151204-8	11.988		12.24	mg/L	102	90	110			
WG395601ICB1	ICB	12/10/15 15:03				U	mg/L		-0.05	0.05			
L27866-01DUP	DUP	12/10/15 15:06			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG394909													
WG394909LCSW1	LCSW	11/25/15 16:53	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG394909LCSW4	LCSW	11/25/15 19:43	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG394909LCSW7	LCSW	11/25/15 23:21	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG394909LCSW10	LCSW	11/26/15 2:12	PCN48559	6.01		6.1	units	101	5.9	6.1			
L27927-01DUP	DUP	11/26/15 4:08			8.4	8.4	units				0	20	
L27933-10DUP	DUP	11/26/15 5:12			4.4	4.4	units				0	20	
WG394909LCSW13	LCSW	11/26/15 5:16	PCN48559	6.01		6	units	100	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395169													
WG395169ICV	ICV	12/02/15 16:36	WI151110-1	.65228		.692	mg/L	106	90	110			
WG395169ICB	ICB	12/02/15 16:38				U	mg/L		-0.01	0.01			
WG395094LRB	LRB	12/02/15 16:39				U	mg/L		-0.01	0.01			
WG395094LFB	LFB	12/02/15 16:41	WI151124-4	.5		.465	mg/L	93	90	110			
L27890-01DUP	DUP	12/02/15 16:43			.02	.017	mg/L				16	20	RA
L27890-02LFM	LFM	12/02/15 17:13	WI151124-4	.5	.01	.48	mg/L	94	90	110			
WG395169ICV1	ICV	12/03/15 15:57	WI151110-1	.65228		.678	mg/L	104	90	110			
WG395169ICB1	ICB	12/03/15 16:00				U	mg/L		-0.01	0.01			
L27933-03DUP	DUP	12/03/15 16:02			14.5	14.19	mg/L				2	20	
L27933-04LFM	LFM	12/03/15 16:04	WI151124-4	.5	5.9	6.2	mg/L	60	90	110			M2

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	20		19.61	mg/L	98	95	105			
WG395249ICB	ICB	12/03/15 16:34				.22	mg/L		-0.6	0.6			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	100.0125		95.98	mg/L	96	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	100.0125	60.9	157.8	mg/L	97	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	100.0125	60.9	157.6	mg/L	97	85	115	0	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	20		19.6	mg/L	98	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.6	0.6			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	100.0125		98.24	mg/L	98	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	100.0125	62	159.8	mg/L	98	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	100.0125	62	159	mg/L	97	85	115	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG394987													
WG394987PBW	PBW	11/30/15 15:30				U	mg/L		-20	20			
WG394987LCSW	LCSW	11/30/15 15:32	PCN49657	260		260	mg/L	100	80	120			
L27937-02DUP	DUP	11/30/15 16:15			3120	3110	mg/L				0	10	
WG395083													
WG395083PBW	PBW	12/01/15 16:30				U	mg/L		-20	20			
WG395083LCSW	LCSW	12/01/15 16:32	PCN49657	260		252	mg/L	97	80	120			
L27933-06DUP	DUP	12/01/15 16:36			126	132	mg/L				5	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		2.02	mg/L	101	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.3	0.3			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	1.0009		1.01	mg/L	101	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	1.0009	U	1.03	mg/L	103	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	1.0009	U	1.03	mg/L	103	85	115	0	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		2.01	mg/L	101	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.3	0.3			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	1.0009		1.03	mg/L	103	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	1.0009	U	1.02	mg/L	102	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	1.0009	U	1.01	mg/L	101	85	115	1	20	

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ACZ Project ID: ***L27933***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395443													
WG395443ICV	ICV	12/08/15 16:53	MS151201-3	.05		.05095	mg/L	102	90	110			
WG395443ICB	ICB	12/08/15 16:55				U	mg/L		-0.0003	0.0003			
WG395443LFB	LFB	12/08/15 16:57	MS151118-3	.0501		.04859	mg/L	97	85	115			
L27920-02AS	AS	12/08/15 17:04	MS151118-3	.0501	U	.05599	mg/L	112	70	130			
L27920-02ASD	ASD	12/08/15 17:06	MS151118-3	.0501	U	.05403	mg/L	108	70	130	4	20	
L27933-04AS	AS	12/08/15 17:35	MS151118-3	.1002	.0498	.16065	mg/L	111	70	130			
L27933-04ASD	ASD	12/08/15 17:37	MS151118-3	.1002	.0498	.16216	mg/L	112	70	130	1	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	1.001		1.005	mg/L	100	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.03	0.03			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	.502		.507	mg/L	101	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	.502	U	.41	mg/L	82	85	115			M2 ZA
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	.502	U	.4	mg/L	80	85	115	2	20	M2 ZA
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	1.001		.99	mg/L	99	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.03	0.03			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	.502		.52	mg/L	104	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	.502	U	.459	mg/L	91	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	.502	U	.454	mg/L	90	85	115	1	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	100		97.96	mg/L	98	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.6	0.6			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	100.0581		96.13	mg/L	96	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	100.0581	200	289.8	mg/L	90	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	100.0581	200	292.7	mg/L	93	85	115	1	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	100		98.04	mg/L	98	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.6	0.6			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	100.0581		98.64	mg/L	99	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	100.0581	205	295.9	mg/L	91	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	100.0581	205	295.4	mg/L	90	85	115	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L27933***

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		2.0085	mg/L	100	95	105			
WG395249ICB	ICB	12/03/15 16:34				.0066	mg/L		-0.015	0.015			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	.5005		.5065	mg/L	101	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	.5005	.619	1.108	mg/L	98	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	.5005	.619	1.106	mg/L	97	85	115	0	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		2.0042	mg/L	100	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.015	0.015			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	.5005		.5135	mg/L	103	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	.5005	.625	1.114	mg/L	98	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	.5005	.625	1.107	mg/L	96	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395411													
WG395411ICB	ICB	12/07/15 12:47				U	mg/L		-3	3			
WG395411ICV	ICV	12/07/15 12:47	WI151130-8	20		19.9	mg/L	100	90	110			
WG395411LFB	LFB	12/07/15 16:36	WI150904-1	10.01		9.9	mg/L	99	90	110			
L21709-51DUP	DUP	12/07/15 16:36			3.1	3	mg/L				3	20	RA
L21709-52AS	AS	12/07/15 16:36	WI150904-1	10.01	3.2	14.1	mg/L	109	90	110			
L27933-06AS	AS	12/07/15 17:03	WI150904-1	50.05	57	111	mg/L	108	90	110			
L27933-05DUP	DUP	12/07/15 17:09			1130	1150	mg/L				2	20	
WG395803													
WG395803ICB	ICB	12/14/15 12:45				U	mg/L		-3	3			
WG395803ICV	ICV	12/14/15 12:45	WI151130-8	20		19.8	mg/L	99	90	110			
WG395803LFB	LFB	12/14/15 13:21	WI150904-1	10.01		9.7	mg/L	97	90	110			
L27983-02AS	AS	12/14/15 13:21	WI150904-1	10.01	3.8	11.2	mg/L	74	90	110			M2
L27983-01DUP	DUP	12/14/15 13:33			772	777	mg/L				1	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395443													
WG395443ICV	ICV	12/08/15 16:53	MS151201-3	.05		.05367	mg/L	107	90	110			
WG395443ICB	ICB	12/08/15 16:55				U	mg/L		-0.0003	0.0003			
WG395443LFB	LFB	12/08/15 16:57	MS151118-3	.0501		.05097	mg/L	102	85	115			
L27920-02AS	AS	12/08/15 17:04	MS151118-3	.0501	U	.05271	mg/L	105	70	130			
L27920-02ASD	ASD	12/08/15 17:06	MS151118-3	.0501	U	.05433	mg/L	108	70	130	3	20	
L27933-04AS	AS	12/08/15 17:35	MS151118-3	.1002	.0149	.12053	mg/L	105	70	130			
L27933-04ASD	ASD	12/08/15 17:37	MS151118-3	.1002	.0149	.11767	mg/L	103	70	130	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		2.033	mg/L	102	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.12	0.12			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	1.001		.991	mg/L	99	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	1.001	U	.989	mg/L	99	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	1.001	U	.997	mg/L	100	85	115	1	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		2.038	mg/L	102	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.12	0.12			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	1.001		.986	mg/L	99	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	1.001	U	.971	mg/L	97	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	1.001	U	.953	mg/L	95	85	115	2	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		2.055	mg/L	103	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.015	0.015			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	1.003		1.02	mg/L	102	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	1.003	.015	1.031	mg/L	101	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	1.003	.015	1.031	mg/L	101	85	115	0	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		2.045	mg/L	102	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.015	0.015			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	1.003		1.034	mg/L	103	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	1.003	.013	1.03	mg/L	101	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	1.003	.013	1.018	mg/L	100	85	115	1	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395443													
WG395443ICV	ICV	12/08/15 16:53	MS151201-3	.05		.05262	mg/L	105	90	110			
WG395443ICB	ICB	12/08/15 16:55				U	mg/L		-0.0003	0.0003			
WG395443LFB	LFB	12/08/15 16:57	MS151118-3	.05		.04986	mg/L	100	85	115			
L27920-02AS	AS	12/08/15 17:04	MS151118-3	.05	.0001	.0531	mg/L	106	70	130			
L27920-02ASD	ASD	12/08/15 17:06	MS151118-3	.05	.0001	.05477	mg/L	109	70	130	3	20	
L27933-04AS	AS	12/08/15 17:35	MS151118-3	.1	.5134	.61359	mg/L	100	70	130			
L27933-04ASD	ASD	12/08/15 17:37	MS151118-3	.1	.5134	.61159	mg/L	98	70	130	0	20	
WG395546													
WG395546ICV	ICV	12/09/15 15:03	MS151201-3	.05		.05321	mg/L	106	90	110			
WG395546ICB	ICB	12/09/15 15:05				U	mg/L		-0.0003	0.0003			
WG395546LFB	LFB	12/09/15 15:07	MS151118-3	.05		.04675	mg/L	94	85	115			
L27948-01AS	AS	12/09/15 15:32	MS151118-3	.05	.0003	.04534	mg/L	90	70	130			
L27948-01ASD	ASD	12/09/15 15:35	MS151118-3	.05	.0003	.04806	mg/L	96	70	130	6	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L27933***

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		2.003	mg/L	100	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.015	0.015			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	.501		.5002	mg/L	100	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	.501	U	.5114	mg/L	102	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	.501	U	.5054	mg/L	101	85	115	1	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		2.0178	mg/L	101	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.015	0.015			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	.501		.5096	mg/L	102	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	.501	U	.5057	mg/L	101	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	.501	U	.4976	mg/L	99	85	115	2	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395249													
WG395249ICV	ICV	12/03/15 16:28	II151113-4	2		1.928	mg/L	96	95	105			
WG395249ICB	ICB	12/03/15 16:34				U	mg/L		-0.03	0.03			
WG395249LFB	LFB	12/03/15 16:47	II151202-8	.4995		.485	mg/L	97	85	115			
L27933-05AS	AS	12/03/15 17:50	II151202-8	.4995	.25	.705	mg/L	93	85	115			
L27933-05ASD	ASD	12/03/15 17:53	II151202-8	.4995	.25	.702	mg/L	92	85	115	0	20	
WG395324													
WG395324ICV	ICV	12/05/15 14:47	II151113-4	2		1.936	mg/L	97	95	105			
WG395324ICB	ICB	12/05/15 14:54				U	mg/L		-0.03	0.03			
WG395324LFB	LFB	12/05/15 15:07	II151202-8	.4995		.494	mg/L	99	85	115			
L27933-05AS	AS	12/05/15 15:26	II151202-8	.4995	.25	.707	mg/L	93	85	115			
L27933-05ASD	ASD	12/05/15 15:29	II151202-8	.4995	.25	.694	mg/L	91	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27933-01	WG395249	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395469	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG394909	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395601	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395169	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394987	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395411	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27933-02	WG395443	Arsenic, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395249	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395469	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395601	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395169	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394987	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395803	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395966	Total Alkalinity	SM2320B - Titration	C4	Confirmatory analysis was past holding time.

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27933-03	WG395249	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395469	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395227	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
	WG395197	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395601	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395169	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG394987	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395803	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG394909	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27933-04	WG395324	Barium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Bismuth, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Boron, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Chromium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Gallium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Lithium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Molybdenum, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Scandium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Silver, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Strontium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Tin, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Titanium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Vanadium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
	WG395469	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395227	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
	WG395197	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395601	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395169	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG394987	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG394909	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27933-05	WG395443	Arsenic, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395249	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395469	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395227	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395197	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395601	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395169	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG394987	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG394909	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27933-06	WG395443	Arsenic, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395249	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395469	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395227	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395197	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395601	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395169	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395083	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG394909	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27933-07	WG395249	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395469	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395227	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395197	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395601	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395169	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG394987	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG394909	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27933-08	WG395443	Arsenic, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395249	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395469	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395227	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395197	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395601	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395169	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395083	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG394909	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27933-09	WG395443	Arsenic, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395249	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395469	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395227	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395197	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG394909	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395169	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395083	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG394909	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L27933***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L27933-10	WG395200	Cyanide, total	M335.4 - Manual Distillation	Q3	Sample received with improper or inadequate chemical preservation.
	WG395042	Cyanide, WAD	SM4500-CN I- distillation	Q3	Sample received with improper or inadequate chemical preservation.
	WG395443	Arsenic, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395249	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395469	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG394909	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395242	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395227	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395197	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG394909	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395169	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG394909	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L27933
Date Received: 11/25/2015 09:25
Received By: ddp
Date Printed: 11/25/2015

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA23004	2	<=6.0	14	N/A

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L27933
Date Received:	11/25/2015 09:25
Received By:	ddp
Date Printed:	11/25/2015

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc.

L27933

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [ ] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:

Project/PO #: 3981

Reporting state for compliance testing:

Sampler's Name: Robert

Are any samples NRC licensable material?

ANALYSES REQUESTED (attach list or use quote number)

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Tabel 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	11/24/15	WW	1	X							
CAL-004 (860-875)		WW	1	X							
CAL-003 (675-685)		WW	1	X							
GMC-012 (832-851)		WW	1	X							
CAL-004 (295-315)		WW	1	X							
CAL-001 (750-762)		WW	1	X							
GMC-014 (176-184)		WW	1	X							
CAL-001 (380-400)		WW	1	X							
CAL-002 (177-187)		WW	1	X							
Calico Leach Res. after CN Destruct		WW	1	X	X	X					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 0
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[illegible]	11/24/15	BCK	11-25-15 T,20

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L27933 Chain of Custody

ACZ Laboratories, Inc.

L27933

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ☐ NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:

Project/PO #: 3981 - ω

Reporting state for compliance testing:

Sampler's Name: Robert

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE/TIME	Matrix	# of Containers	Tabel 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	11/24/15	WW	1	X							
CAL-004 (860-875)		WW	1	X							
CAL-003 (675-685)		WW	1	X							
GMC-012 (832-851)		WW	1	X							
CAL-004 (295-315)		WW	1	X							
CAL-001 (750-762)		WW	1	X							
GMC-014 (176-184)		WW	1	X							
CAL-001 (380-400)		WW	1	X							
CAL-002 (177-187)		WW	1	X							
Calico Leach Res. after CN Destruct		WW	1	X	X	X					

COPY

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 0
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
[illegible]	11/24/15	BCR	11-25-15 9:20

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

*****Gray out Analyses DOESN'T get done on all Samples, just 1 of the Sample SEE COC*****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 29, 2015

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L28023

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 04, 2015. This project has been assigned to ACZ's project number, L28023. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L28023. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 28, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L28023-01***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/11/15 16:30	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.28			mg/L	0.03	0.2	12/10/15 20:51	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0093			mg/L	0.0004	0.002	12/09/15 21:02	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0130			mg/L	0.0002	0.001	12/09/15 21:02	msh
Barium, dissolved	M200.7 ICP	1	0.021			mg/L	0.003	0.02	12/09/15 18:03	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00035			mg/L	0.00005	0.0003	12/09/15 21:02	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/09/15 18:03	gss
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/09/15 18:03	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	12/09/15 21:02	msh
Calcium, dissolved	M200.7 ICP	1	37.8			mg/L	0.1	0.5	12/09/15 18:03	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 18:03	gss
Cobalt, dissolved	M200.7 ICP	1	0.18			mg/L	0.01	0.05	12/09/15 18:03	gss
Copper, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	12/09/15 18:03	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 18:03	gss
Iron, dissolved	M200.7 ICP	1	2.90			mg/L	0.02	0.05	12/09/15 18:03	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	12/09/15 21:02	msh
Lithium, dissolved	M200.7 ICP	1	0.042			mg/L	0.008	0.04	12/09/15 18:03	gss
Magnesium, dissolved	M200.7 ICP	1	6.9			mg/L	0.2	1	12/09/15 18:03	gss
Manganese, dissolved	M200.7 ICP	1	0.557			mg/L	0.005	0.03	12/09/15 18:03	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/18/15 15:05	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/09/15 18:03	gss
Nickel, dissolved	M200.7 ICP	1	1.110			mg/L	0.008	0.04	12/09/15 18:03	gss
Potassium, dissolved	M200.7 ICP	1	11.5			mg/L	0.2	1	12/09/15 18:03	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 18:03	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0123			mg/L	0.0001	0.0003	12/09/15 21:02	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/09/15 18:03	gss
Sodium, dissolved	M200.7 ICP	1	4.8			mg/L	0.2	1	12/09/15 18:03	gss
Strontium, dissolved	M200.7 ICP	1	0.235			mg/L	0.005	0.03	12/09/15 18:03	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0114			mg/L	0.0001	0.0005	12/09/15 21:02	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/09/15 18:03	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/09/15 18:03	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	12/09/15 21:02	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 18:03	gss
Zinc, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	12/09/15 18:03	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L28023-01***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	12/04/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.0			%			12/28/15 0:00	calc
Sum of Anions			3.4			meq/L			12/28/15 0:00	calc
Sum of Cations			3.2			meq/L			12/28/15 0:00	calc
Chloride	SM4500Cl-E	1	5.9		*	mg/L	0.5	2	12/12/15 16:01	mss2
Conductivity @25C	SM2510B	1	334		*	umhos/cm	1	10	12/04/15 21:52	sck
Fluoride	SM4500F-C	1	0.12	B	*	mg/L	0.05	0.3	12/08/15 15:37	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		123			mg/L			12/28/15 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	12/15/15 23:24	pjb
Nitrogen, ammonia	M350.1	1	0.06	B	*	mg/L	0.05	0.2	12/14/15 10:17	krh
pH (lab)	SM4500H+ B									
pH		1	5.5	H	*	units	0.1	0.1	12/04/15 0:00	sck
pH measured at		1	22.2			C	0.1	0.1	12/04/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	12/11/15 21:28	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	276		*	mg/L	10	20	12/07/15 15:56	enb
Sulfate	D516-02/-07 - Turbidimetric	5	155		*	mg/L	5	25	12/14/15 19:09	mss2
TDS (calculated)	Calculation		226			mg/L			12/28/15 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.22						12/28/15 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L28023-02***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/11/15 16:34	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	2.78			mg/L	0.03	0.2	12/10/15 20:54	gss
Antimony, dissolved	M200.8 ICP-MS	10	0.043			mg/L	0.004	0.02	12/10/15 18:15	msh
Arsenic, dissolved	M200.8 ICP-MS	10	0.108		*	mg/L	0.002	0.01	12/10/15 18:15	msh
Barium, dissolved	M200.7 ICP	1	0.752			mg/L	0.003	0.02	12/09/15 18:06	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00031			mg/L	0.00005	0.0003	12/09/15 21:04	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/09/15 18:06	gss
Boron, dissolved	M200.7 ICP	1	0.17			mg/L	0.01	0.05	12/09/15 18:06	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	12/09/15 21:04	msh
Calcium, dissolved	M200.7 ICP	1	5.3			mg/L	0.1	0.5	12/09/15 18:06	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 18:06	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 18:06	gss
Copper, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	12/09/15 18:06	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 18:06	gss
Iron, dissolved	M200.7 ICP	1	1.82			mg/L	0.02	0.05	12/09/15 18:06	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0033			mg/L	0.0001	0.0005	12/09/15 21:04	msh
Lithium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.008	0.04	12/09/15 18:06	gss
Magnesium, dissolved	M200.7 ICP	1	0.9	B		mg/L	0.2	1	12/09/15 18:06	gss
Manganese, dissolved	M200.7 ICP	1	0.104			mg/L	0.005	0.03	12/09/15 18:06	gss
Mercury, dissolved	M245.1 CVAA	1	0.0026			mg/L	0.0002	0.001	12/18/15 15:07	pta
Molybdenum, dissolved	M200.7 ICP	1	0.12			mg/L	0.02	0.1	12/09/15 18:06	gss
Nickel, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.008	0.04	12/09/15 18:06	gss
Potassium, dissolved	M200.7 ICP	1	4.2			mg/L	0.2	1	12/09/15 18:06	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 18:06	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0113			mg/L	0.0001	0.0003	12/09/15 21:04	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/09/15 18:06	gss
Sodium, dissolved	M200.7 ICP	1	48.4			mg/L	0.2	1	12/09/15 18:06	gss
Strontium, dissolved	M200.7 ICP	1	0.039			mg/L	0.005	0.03	12/09/15 18:06	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	12/09/15 21:04	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/09/15 18:06	gss
Titanium, dissolved	M200.7 ICP	1	0.010	B	*	mg/L	0.005	0.03	12/09/15 18:06	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	12/09/15 21:04	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 18:06	gss
Zinc, dissolved	M200.7 ICP	1	0.18			mg/L	0.01	0.05	12/09/15 18:06	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L28023-02***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	56.2			mg/L	2	20	12/04/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Total Alkalinity		1	56.2		*	mg/L	2	20	12/04/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			13.2			%			12/28/15 0:00	calc
Sum of Anions			2.3			meq/L			12/28/15 0:00	calc
Sum of Cations			3.0			meq/L			12/28/15 0:00	calc
Chloride	SM4500Cl-E	1	3		*	mg/L	0.5	2	12/12/15 16:01	mss2
Conductivity @25C	SM2510B	1	215		*	umhos/cm	1	10	12/04/15 22:00	sck
Fluoride	SM4500F-C	1	1.27		*	mg/L	0.05	0.3	12/08/15 15:40	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		16.9			mg/L			12/28/15 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.13		*	mg/L	0.02	0.1	12/15/15 23:27	pjb
Nitrogen, ammonia	M350.1	1	0.20		*	mg/L	0.05	0.2	12/14/15 10:20	krh
pH (lab)	SM4500H+ B									
pH		1	7.9	H	*	units	0.1	0.1	12/04/15 0:00	sck
pH measured at		1	22.7			C	0.1	0.1	12/04/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.07		*	mg/L	0.02	0.05	12/11/15 21:32	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	334		*	mg/L	10	20	12/07/15 15:58	enb
Sulfate	D516-02/-07 - Turbidimetric	5	50.2		*	mg/L	5	25	12/14/15 19:09	mss2
TDS (calculated)	Calculation		153			mg/L			12/28/15 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.18						12/28/15 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L28023-03***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/11/15 16:37	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	10	202			mg/L	0.3	2	12/10/15 20:57	gss
Antimony, dissolved	M200.8 ICP-MS	2	0.0022	B		mg/L	0.0008	0.004	12/09/15 21:06	msh
Arsenic, dissolved	M200.8 ICP-MS	5	0.906		*	mg/L	0.001	0.005	12/10/15 18:17	msh
Barium, dissolved	M200.7 ICP	10		U	*	mg/L	0.03	0.2	12/11/15 14:27	aeb
Beryllium, dissolved	M200.8 ICP-MS	2	0.0159			mg/L	0.0001	0.0005	12/09/15 21:06	msh
Bismuth, dissolved	M200.7 ICP	10		U	*	mg/L	0.4	2	12/10/15 20:57	gss
Boron, dissolved	M200.7 ICP	10		U	*	mg/L	0.1	0.5	12/10/15 20:57	gss
Cadmium, dissolved	M200.8 ICP-MS	2	0.0197			mg/L	0.0002	0.001	12/09/15 21:06	msh
Calcium, dissolved	M200.7 ICP	10	189			mg/L	1	5	12/10/15 20:57	gss
Chromium, dissolved	M200.7 ICP	10	0.3	B	*	mg/L	0.1	0.5	12/10/15 20:57	gss
Cobalt, dissolved	M200.7 ICP	10	1.9			mg/L	0.1	0.5	12/10/15 20:57	gss
Copper, dissolved	M200.7 ICP	10	7.2			mg/L	0.1	0.5	12/10/15 20:57	gss
Gallium, dissolved	M200.7 ICP	10		U	*	mg/L	1	5	12/10/15 20:57	gss
Iron, dissolved	M200.7 ICP	10	417			mg/L	0.2	0.5	12/10/15 20:57	gss
Lead, dissolved	M200.8 ICP-MS	2	0.0046			mg/L	0.0002	0.001	12/09/15 21:06	msh
Lithium, dissolved	M200.7 ICP	10	0.15	B	*	mg/L	0.08	0.4	12/10/15 20:57	gss
Magnesium, dissolved	M200.7 ICP	10	46			mg/L	2	10	12/10/15 20:57	gss
Manganese, dissolved	M200.7 ICP	10	2.17			mg/L	0.05	0.3	12/10/15 20:57	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/18/15 15:13	pta
Molybdenum, dissolved	M200.7 ICP	10		U	*	mg/L	0.2	1	12/10/15 20:57	gss
Nickel, dissolved	M200.7 ICP	10	2.35			mg/L	0.08	0.4	12/10/15 20:57	gss
Potassium, dissolved	M200.7 ICP	10	10			mg/L	2	10	12/10/15 20:57	gss
Scandium, dissolved	M200.7 ICP	10		U	*	mg/L	1	5	12/10/15 20:57	gss
Selenium, dissolved	M200.8 ICP-MS	2	0.0294			mg/L	0.0002	0.0005	12/09/15 21:06	msh
Silver, dissolved	M200.7 ICP	10		U	*	mg/L	0.1	0.3	12/15/15 13:53	gss
Sodium, dissolved	M200.7 ICP	10	16			mg/L	2	10	12/10/15 20:57	gss
Strontium, dissolved	M200.7 ICP	10	0.18	B	*	mg/L	0.05	0.3	12/10/15 20:57	gss
Thallium, dissolved	M200.8 ICP-MS	2	0.0080			mg/L	0.0002	0.001	12/09/15 21:06	msh
Tin, dissolved	M200.7 ICP	10		U	*	mg/L	0.4	2	12/10/15 20:57	gss
Titanium, dissolved	M200.7 ICP	10		U	*	mg/L	0.05	0.3	12/10/15 20:57	gss
Uranium, dissolved	M200.8 ICP-MS	5	0.4554			mg/L	0.0005	0.003	12/10/15 18:17	msh
Vanadium, dissolved	M200.7 ICP	10	0.13	B	*	mg/L	0.05	0.3	12/10/15 20:57	gss
Zinc, dissolved	M200.7 ICP	10	5.8			mg/L	0.1	0.5	12/10/15 20:57	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L28023-03***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	12/04/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			7.3			%			12/28/15 0:00	calc
Sum of Anions			51			meq/L			12/28/15 0:00	calc
Sum of Cations			59			meq/L			12/28/15 0:00	calc
Chloride	SM4500Cl-E	1	1.5	B	*	mg/L	0.5	2	12/12/15 16:01	mss2
Conductivity @25C	SM2510B	1	4140		*	umhos/cm	1	10	12/04/15 22:13	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	12/14/15 11:19	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		661			mg/L			12/28/15 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.13		*	mg/L	0.02	0.1	12/15/15 23:28	pjb
Nitrogen, ammonia	M350.1	1	0.45		*	mg/L	0.05	0.2	12/14/15 10:23	krh
pH (lab)	SM4500H+ B									
pH		1	2.3	H	*	units	0.1	0.1	12/04/15 0:00	sck
pH measured at		1	22.5			C	0.1	0.1	12/04/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	10	3		*	mg/L	0.2	0.5	12/11/15 21:52	pjb
Residue, Filterable (TDS) @180C	SM2540C	2	4360		*	mg/L	20	40	12/08/15 11:38	enb
Sulfate	D516-02/-07 - Turbidimetric	100	2420		*	mg/L	100	500	12/14/15 20:02	mss2
TDS (calculated)	Calculation		3320			mg/L			12/28/15 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.31						12/28/15 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L28023-04***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/11/15 16:40	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.27			mg/L	0.03	0.2	12/10/15 21:07	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0044			mg/L	0.0004	0.002	12/09/15 21:12	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0270		*	mg/L	0.0002	0.001	12/10/15 18:25	msh
Barium, dissolved	M200.7 ICP	1	0.077			mg/L	0.003	0.02	12/09/15 18:12	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00050			mg/L	0.00005	0.0003	12/09/15 21:12	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/09/15 18:12	gss
Boron, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	12/09/15 18:12	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/09/15 21:12	msh
Calcium, dissolved	M200.7 ICP	1	9.9		*	mg/L	0.1	0.5	12/09/15 18:12	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 18:12	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 18:12	gss
Copper, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/09/15 18:12	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 18:12	gss
Iron, dissolved	M200.7 ICP	1	0.19			mg/L	0.02	0.05	12/09/15 18:12	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	12/09/15 21:12	msh
Lithium, dissolved	M200.7 ICP	1	0.028	B		mg/L	0.008	0.04	12/09/15 18:12	gss
Magnesium, dissolved	M200.7 ICP	1	2.3		*	mg/L	0.2	1	12/09/15 18:12	gss
Manganese, dissolved	M200.7 ICP	1	0.102			mg/L	0.005	0.03	12/09/15 18:12	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/18/15 15:19	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/09/15 18:12	gss
Nickel, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.008	0.04	12/09/15 18:12	gss
Potassium, dissolved	M200.7 ICP	1	15			mg/L	0.2	1	12/09/15 18:12	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 18:12	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0478			mg/L	0.0001	0.0003	12/09/15 21:12	msh
Silver, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.03	12/09/15 18:12	gss
Sodium, dissolved	M200.7 ICP	1	21			mg/L	0.2	1	12/09/15 18:12	gss
Strontium, dissolved	M200.7 ICP	1	0.033		*	mg/L	0.005	0.03	12/09/15 18:12	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	12/09/15 21:12	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/09/15 18:12	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/09/15 18:12	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	12/09/15 21:12	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 18:12	gss
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/09/15 18:12	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L28023-04***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	12/04/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.5			%			12/28/15 0:00	calc
Sum of Anions			2.3			meq/L			12/28/15 0:00	calc
Sum of Cations			2.1			meq/L			12/28/15 0:00	calc
Chloride	SM4500Cl-E	1	3.3		*	mg/L	0.5	2	12/12/15 16:01	mss2
Conductivity @25C	SM2510B	1	255		*	umhos/cm	1	10	12/04/15 22:18	sck
Fluoride	SM4500F-C	1	0.23	B	*	mg/L	0.05	0.3	12/08/15 15:55	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		34.2			mg/L			12/28/15 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	12/15/15 23:29	pjb
Nitrogen, ammonia	M350.1	1	0.18	B	*	mg/L	0.05	0.2	12/22/15 13:45	mss2
pH (lab)	SM4500H+ B									
pH		1	4.4	H	*	units	0.1	0.1	12/04/15 0:00	sck
pH measured at		1	22.2			C	0.1	0.1	12/04/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	12/11/15 21:34	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	208		*	mg/L	10	20	12/07/15 16:02	enb
Sulfate	D516-02/-07 - Turbidimetric	5	105		*	mg/L	5	25	12/14/15 19:09	mss2
TDS (calculated)	Calculation		158			mg/L			12/28/15 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.32						12/28/15 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L28023-05***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/11/15 16:44	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.12	B		mg/L	0.03	0.2	12/10/15 21:10	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0004	0.002	12/09/15 21:14	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0051			mg/L	0.0002	0.001	12/09/15 21:14	msh
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	12/09/15 18:15	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00008	B		mg/L	0.00005	0.0003	12/09/15 21:14	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/09/15 18:15	gss
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/09/15 18:15	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/09/15 21:14	msh
Calcium, dissolved	M200.7 ICP	1	17.9		*	mg/L	0.1	0.5	12/09/15 18:15	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 18:15	gss
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/09/15 18:15	gss
Copper, dissolved	M200.7 ICP	1	0.48			mg/L	0.01	0.05	12/09/15 18:15	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 18:15	gss
Iron, dissolved	M200.7 ICP	1	0.22			mg/L	0.02	0.05	12/09/15 18:15	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/09/15 21:14	msh
Lithium, dissolved	M200.7 ICP	1	0.044			mg/L	0.008	0.04	12/09/15 18:15	gss
Magnesium, dissolved	M200.7 ICP	1	3.2		*	mg/L	0.2	1	12/09/15 18:15	gss
Manganese, dissolved	M200.7 ICP	1	0.051			mg/L	0.005	0.03	12/09/15 18:15	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/18/15 15:21	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/09/15 18:15	gss
Nickel, dissolved	M200.7 ICP	1	0.065			mg/L	0.008	0.04	12/09/15 18:15	gss
Potassium, dissolved	M200.7 ICP	1	17			mg/L	0.2	1	12/09/15 18:15	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 18:15	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0490			mg/L	0.0001	0.0003	12/09/15 21:14	msh
Silver, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.03	12/09/15 18:15	gss
Sodium, dissolved	M200.7 ICP	1	9.9			mg/L	0.2	1	12/09/15 18:15	gss
Strontium, dissolved	M200.7 ICP	1	0.205		*	mg/L	0.005	0.03	12/09/15 18:15	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	12/09/15 21:14	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/09/15 18:15	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/09/15 18:15	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	12/09/15 21:14	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 18:15	gss
Zinc, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	12/09/15 18:15	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L28023-05***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	12/04/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			2.3			%			12/28/15 0:00	calc
Sum of Anions			2.1			meq/L			12/28/15 0:00	calc
Sum of Cations			2.2			meq/L			12/28/15 0:00	calc
Chloride	SM4500Cl-E	1	3		*	mg/L	0.5	2	12/12/15 16:01	mss2
Conductivity @25C	SM2510B	1	250		*	umhos/cm	1	10	12/04/15 22:23	sck
Fluoride	SM4500F-C	1	0.15	B	*	mg/L	0.05	0.3	12/14/15 11:38	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		57.9			mg/L			12/28/15 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.15		*	mg/L	0.02	0.1	12/15/15 23:31	pjb
Nitrogen, ammonia	M350.1	1	1.17		*	mg/L	0.05	0.2	12/14/15 10:30	krh
pH (lab)	SM4500H+ B									
pH		1	5.0	H	*	units	0.1	0.1	12/04/15 0:00	sck
pH measured at		1	22.1			C	0.1	0.1	12/04/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	12/11/15 21:35	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	182		*	mg/L	10	20	12/07/15 16:04	enb
Sulfate	D516-02/-07 - Turbidimetric	5	95.5		*	mg/L	5	25	12/14/15 19:12	mss2
TDS (calculated)	Calculation		149			mg/L			12/28/15 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.22						12/28/15 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L28023-06***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/11/15 16:47	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	10	754			mg/L	0.3	2	12/10/15 21:13	gss
Antimony, dissolved	M200.8 ICP-MS	10	0.010	B		mg/L	0.004	0.02	12/09/15 21:16	msh
Arsenic, dissolved	M200.8 ICP-MS	50	5.62		*	mg/L	0.01	0.05	12/10/15 18:27	msh
Barium, dissolved	M200.7 ICP	10		U		mg/L	0.03	0.2	12/09/15 18:18	gss
Beryllium, dissolved	M200.8 ICP-MS	10	0.1960			mg/L	0.0005	0.003	12/09/15 21:16	msh
Bismuth, dissolved	M200.7 ICP	10		U	*	mg/L	0.4	2	12/09/15 18:18	gss
Boron, dissolved	M200.7 ICP	10		U		mg/L	0.1	0.5	12/09/15 18:18	gss
Cadmium, dissolved	M200.8 ICP-MS	10	0.064			mg/L	0.001	0.005	12/09/15 21:16	msh
Calcium, dissolved	M200.7 ICP	10	274		*	mg/L	1	5	12/09/15 18:18	gss
Chromium, dissolved	M200.7 ICP	10	0.2	B		mg/L	0.1	0.5	12/09/15 18:18	gss
Cobalt, dissolved	M200.7 ICP	10	4.2			mg/L	0.1	0.5	12/09/15 18:18	gss
Copper, dissolved	M200.7 ICP	10	8.3			mg/L	0.1	0.5	12/09/15 18:18	gss
Gallium, dissolved	M200.7 ICP	10		U	*	mg/L	1	5	12/09/15 18:18	gss
Iron, dissolved	M200.7 ICP	10	721			mg/L	0.2	0.5	12/09/15 18:18	gss
Lead, dissolved	M200.8 ICP-MS	10	0.006			mg/L	0.001	0.005	12/09/15 21:16	msh
Lithium, dissolved	M200.7 ICP	10	0.36	B		mg/L	0.08	0.4	12/09/15 18:18	gss
Magnesium, dissolved	M200.7 ICP	10	88		*	mg/L	2	10	12/09/15 18:18	gss
Manganese, dissolved	M200.7 ICP	10	7.84			mg/L	0.05	0.3	12/09/15 18:18	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/18/15 15:23	pta
Molybdenum, dissolved	M200.7 ICP	10		U		mg/L	0.2	1	12/09/15 18:18	gss
Nickel, dissolved	M200.7 ICP	10	4.30			mg/L	0.08	0.4	12/09/15 18:18	gss
Potassium, dissolved	M200.7 ICP	10	30			mg/L	2	10	12/09/15 18:18	gss
Scandium, dissolved	M200.7 ICP	10		U	*	mg/L	1	5	12/09/15 18:18	gss
Selenium, dissolved	M200.8 ICP-MS	10	0.036			mg/L	0.001	0.003	12/09/15 21:16	msh
Silver, dissolved	M200.7 ICP	10		U		mg/L	0.1	0.3	12/09/15 18:18	gss
Sodium, dissolved	M200.7 ICP	10	27			mg/L	2	10	12/09/15 18:18	gss
Strontium, dissolved	M200.7 ICP	10	0.05	B	*	mg/L	0.05	0.3	12/09/15 18:18	gss
Thallium, dissolved	M200.8 ICP-MS	10	0.018			mg/L	0.001	0.005	12/09/15 21:16	msh
Tin, dissolved	M200.7 ICP	10		U		mg/L	0.4	2	12/09/15 18:18	gss
Titanium, dissolved	M200.7 ICP	10		U	*	mg/L	0.05	0.3	12/09/15 18:18	gss
Uranium, dissolved	M200.8 ICP-MS	10	0.086			mg/L	0.001	0.005	12/09/15 21:16	msh
Vanadium, dissolved	M200.7 ICP	10	0.14	B		mg/L	0.05	0.3	12/09/15 18:18	gss
Zinc, dissolved	M200.7 ICP	10	15.9			mg/L	0.1	0.5	12/09/15 18:18	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L28023-06***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	12/04/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-12.3			%			12/28/15 0:00	calc
Sum of Anions			187			meq/L			12/28/15 0:00	calc
Sum of Cations			146			meq/L			12/28/15 0:00	calc
Chloride	SM4500Cl-E	1	4.9		*	mg/L	0.5	2	12/12/15 16:01	mss2
Conductivity @25C	SM2510B	1	6910		*	umhos/cm	1	10	12/04/15 22:28	sck
Fluoride	SM4500F-C	200	10	B	*	mg/L	10	50	12/14/15 11:44	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1050			mg/L			12/28/15 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B	*	mg/L	0.02	0.1	12/15/15 23:32	pjb
Nitrogen, ammonia	M350.1	1	1.24		*	mg/L	0.05	0.2	12/14/15 10:32	krh
pH (lab)	SM4500H+ B									
pH		1	2.3	H	*	units	0.1	0.1	12/04/15 0:00	sck
pH measured at		1	22.1			C	0.1	0.1	12/04/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	20	5.8		*	mg/L	0.4	1	12/11/15 21:53	pjb
Residue, Filterable (TDS) @180C	SM2540C	5	12000		*	mg/L	50	100	12/08/15 11:40	enb
Sulfate	D516-02/-07 - Turbidimetric	500	8850		*	mg/L	500	2500	12/15/15 7:51	mss2
TDS (calculated)	Calculation		10800			mg/L			12/28/15 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.11						12/28/15 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L28023-07***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/11/15 16:54	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.05	B		mg/L	0.03	0.2	12/10/15 21:16	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0052			mg/L	0.0004	0.002	12/09/15 21:18	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0442		*	mg/L	0.0002	0.001	12/10/15 18:29	msh
Barium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.003	0.02	12/09/15 18:21	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/09/15 21:18	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/09/15 18:21	gss
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/09/15 18:21	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 21:18	msh
Calcium, dissolved	M200.7 ICP	1	13.7		*	mg/L	0.1	0.5	12/09/15 18:21	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 18:21	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 18:21	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 18:21	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 18:21	gss
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	12/09/15 18:21	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/09/15 21:18	msh
Lithium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.008	0.04	12/09/15 18:21	gss
Magnesium, dissolved	M200.7 ICP	1	1.1		*	mg/L	0.2	1	12/09/15 18:21	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 18:21	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/21/15 10:39	pta
Molybdenum, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.1	12/09/15 18:21	gss
Nickel, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.008	0.04	12/09/15 18:21	gss
Potassium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	12/09/15 18:21	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 18:21	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0053			mg/L	0.0001	0.0003	12/09/15 21:18	msh
Silver, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.03	12/09/15 18:21	gss
Sodium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	12/09/15 18:21	gss
Strontium, dissolved	M200.7 ICP	1	0.092		*	mg/L	0.005	0.03	12/09/15 18:21	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/09/15 21:18	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/09/15 18:21	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/09/15 18:21	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/09/15 21:18	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 18:21	gss
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/09/15 18:21	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L28023-07***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	11.9	B		mg/L	2	20	12/04/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Total Alkalinity		1	11.9	B	*	mg/L	2	20	12/04/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			1.3			%			12/28/15 0:00	calc
Sum of Anions			0.809			meq/L			12/28/15 0:00	calc
Sum of Cations			0.831			meq/L			12/28/15 0:00	calc
Chloride	SM4500Cl-E	1	0.9	B	*	mg/L	0.5	2	12/12/15 16:02	mss2
Conductivity @25C	SM2510B	1	99.8		*	umhos/cm	1	10	12/04/15 22:36	sck
Fluoride	SM4500F-C	1	0.15	B	*	mg/L	0.05	0.3	12/14/15 11:52	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		38.7			mg/L			12/28/15 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	12/15/15 23:38	pjb
Nitrogen, ammonia	M350.1	1	0.06	B	*	mg/L	0.05	0.2	12/14/15 10:33	krh
pH (lab)	SM4500H+ B									
pH		1	7.3	H	*	units	0.1	0.1	12/04/15 0:00	sck
pH measured at		1	22.1			C	0.1	0.1	12/04/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.04	B	*	mg/L	0.02	0.05	12/11/15 21:55	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	74		*	mg/L	10	20	12/07/15 16:10	enb
Sulfate	D516-02/-07 - Turbidimetric	1	25.6		*	mg/L	1	5	12/15/15 17:29	mss2
TDS (calculated)	Calculation		50.1			mg/L			12/28/15 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.48						12/28/15 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L28023-08***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/11/15 17:01	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.05	B		mg/L	0.03	0.2	12/10/15 21:19	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0004	0.002	12/09/15 21:25	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0046			mg/L	0.0002	0.001	12/09/15 21:25	msh
Barium, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.003	0.02	12/09/15 18:24	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/09/15 21:25	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/09/15 18:24	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 18:24	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 21:25	msh
Calcium, dissolved	M200.7 ICP	1	9.3		*	mg/L	0.1	0.5	12/09/15 18:24	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 18:24	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 18:24	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 18:24	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 18:24	gss
Iron, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.02	0.05	12/09/15 18:24	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/09/15 21:25	msh
Lithium, dissolved	M200.7 ICP	1	0.028	B		mg/L	0.008	0.04	12/09/15 18:24	gss
Magnesium, dissolved	M200.7 ICP	1	1.9		*	mg/L	0.2	1	12/09/15 18:24	gss
Manganese, dissolved	M200.7 ICP	1	0.017	B		mg/L	0.005	0.03	12/09/15 18:24	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/21/15 10:41	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/09/15 18:24	gss
Nickel, dissolved	M200.7 ICP	1	0.112			mg/L	0.008	0.04	12/09/15 18:24	gss
Potassium, dissolved	M200.7 ICP	1	2.4			mg/L	0.2	1	12/09/15 18:24	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 18:24	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0083			mg/L	0.0001	0.0003	12/09/15 21:25	msh
Silver, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.03	12/09/15 18:24	gss
Sodium, dissolved	M200.7 ICP	1	5.3			mg/L	0.2	1	12/09/15 18:24	gss
Strontium, dissolved	M200.7 ICP	1	0.060		*	mg/L	0.005	0.03	12/09/15 18:24	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	12/09/15 21:25	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/09/15 18:24	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/09/15 18:24	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/09/15 21:25	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 18:24	gss
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/09/15 18:24	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L28023-08***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	12/04/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			5.1			%			12/28/15 0:00	calc
Sum of Anions			0.841			meq/L			12/28/15 0:00	calc
Sum of Cations			0.931			meq/L			12/28/15 0:00	calc
Chloride	SM4500Cl-E	1	1.6	B	*	mg/L	0.5	2	12/12/15 16:02	mss2
Conductivity @25C	SM2510B	1	111		*	umhos/cm	1	10	12/04/15 22:43	sck
Fluoride	SM4500F-C	1	0.12	B	*	mg/L	0.05	0.3	12/14/15 12:00	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		31			mg/L			12/28/15 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	12/15/15 23:39	pjb
Nitrogen, ammonia	M350.1	1	0.06	B	*	mg/L	0.05	0.2	12/14/15 10:34	krh
pH (lab)	SM4500H+ B									
pH		1	6.6	H	*	units	0.1	0.1	12/04/15 0:00	sck
pH measured at		1	22.3			C	0.1	0.1	12/04/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	12/11/15 21:41	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	92		*	mg/L	10	20	12/07/15 16:12	enb
Sulfate	D516-02/-07 - Turbidimetric	5	37.6		*	mg/L	5	25	12/14/15 19:11	mss2
TDS (calculated)	Calculation		58.5			mg/L			12/28/15 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.57						12/28/15 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L28023-09***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/12/15 13:30	spl
Cyanide, WAD	SM4500-CN I- distillation				*				12/11/15 14:24	spl
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/11/15 17:04	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.45			mg/L	0.03	0.2	12/10/15 21:23	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/09/15 21:27	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0002	0.001	12/09/15 21:27	msh
Barium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.003	0.02	12/09/15 18:27	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00083			mg/L	0.00005	0.0003	12/09/15 21:27	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/09/15 18:27	gss
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/09/15 18:27	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	12/09/15 21:27	msh
Calcium, dissolved	M200.7 ICP	1	28.6		*	mg/L	0.1	0.5	12/09/15 18:27	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/09/15 18:27	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/09/15 18:27	gss
Copper, dissolved	M200.7 ICP	1	3.69			mg/L	0.01	0.05	12/09/15 18:27	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 18:27	gss
Iron, dissolved	M200.7 ICP	1	0.14			mg/L	0.02	0.05	12/09/15 18:27	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	12/09/15 21:27	msh
Lithium, dissolved	M200.7 ICP	1	0.018	B		mg/L	0.008	0.04	12/09/15 18:27	gss
Magnesium, dissolved	M200.7 ICP	1	1.1		*	mg/L	0.2	1	12/09/15 18:27	gss
Manganese, dissolved	M200.7 ICP	1	0.628			mg/L	0.005	0.03	12/09/15 18:27	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/21/15 10:47	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/09/15 18:27	gss
Nickel, dissolved	M200.7 ICP	1	0.097			mg/L	0.008	0.04	12/09/15 18:27	gss
Potassium, dissolved	M200.7 ICP	1	6.2			mg/L	0.2	1	12/09/15 18:27	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/09/15 18:27	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0040			mg/L	0.0001	0.0003	12/09/15 21:27	msh
Silver, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.03	12/09/15 18:27	gss
Sodium, dissolved	M200.7 ICP	1	6.4			mg/L	0.2	1	12/09/15 18:27	gss
Strontium, dissolved	M200.7 ICP	1	0.078		*	mg/L	0.005	0.03	12/09/15 18:27	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0005	12/09/15 21:27	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/09/15 18:27	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/09/15 18:27	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	12/09/15 21:27	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/09/15 18:27	gss
Zinc, dissolved	M200.7 ICP	1	0.18			mg/L	0.01	0.05	12/09/15 18:27	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L28023-09***
Date Sampled: *12/02/15 00:00*
Date Received: *12/04/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/04/15 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	12/04/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.2			%			12/28/15 0:00	calc
Sum of Anions			2.5			meq/L			12/28/15 0:00	calc
Sum of Cations			2.3			meq/L			12/28/15 0:00	calc
Chloride	SM4500Cl-E	1	1.5	B	*	mg/L	0.5	2	12/12/15 16:02	mss2
Conductivity @25C	SM2510B	1	255		*	umhos/cm	1	10	12/04/15 22:48	sck
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.004	B	*	mg/L	0.003	0.01	12/15/15 17:29	spl
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5	0.011		*	mg/L	0.003	0.01	12/15/15 14:38	spl
Fluoride	SM4500F-C	1	0.28	B	*	mg/L	0.05	0.3	12/14/15 12:08	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		75.9			mg/L			12/28/15 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.09	B	*	mg/L	0.02	0.1	12/15/15 23:40	pjb
Nitrogen, ammonia	M350.1	1	1.50		*	mg/L	0.05	0.2	12/14/15 10:36	krh
pH (lab)	SM4500H+ B									
pH		1	4.7	H	*	units	0.1	0.1	12/04/15 0:00	sck
pH measured at		1	22.4			C	0.1	0.1	12/04/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	12/11/15 21:42	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	218		*	mg/L	10	20	12/07/15 16:14	enb
Sulfate	D516-02/-07 - Turbidimetric	5	118		*	mg/L	5	25	12/15/15 13:19	mss2
TDS (calculated)	Calculation		169			mg/L			12/28/15 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.29						12/28/15 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395338													
WG395338PBW1	PBW	12/04/15 16:49				2.3	mg/L		-20	20			
WG395338LCSW3	LCSW	12/04/15 17:07	WC151123-8	820.0001		794	mg/L	97	90	110			
WG395338LCSW6	LCSW	12/04/15 20:38	WC151123-8	820.0001		806	mg/L	98	90	110			
WG395338PBW2	PBW	12/04/15 20:46				U	mg/L		-20	20			
L28023-02DUP	DUP	12/04/15 22:09			56.2	56.9	mg/L				1	20	
L28042-03DUP	DUP	12/04/15 23:16			144	143	mg/L				1	20	
WG395338LCSW9	LCSW	12/04/15 23:33	WC151123-8	820.0001		805	mg/L	98	90	110			
WG395338PBW3	PBW	12/04/15 23:41				U	mg/L		-20	20			
WG395338LCSW12	LCSW	12/05/15 1:24	WC151123-8	820.0001		801	mg/L	98	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		2.091	mg/L	105	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.09	0.09			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	1.0013		1.075	mg/L	107	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	1.0013	U	1.081	mg/L	108	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	1.0013	U	1.06	mg/L	106	85	115	2	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	1.0013	.45	1.469	mg/L	102	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	1.0013	.45	1.456	mg/L	100	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395573													
WG395573ICV	ICV	12/09/15 20:55	MS151201-3	.02		.0194	mg/L	97	90	110			
WG395573ICB	ICB	12/09/15 20:57				U	mg/L		-0.0012	0.0012			
WG395573LFB	LFB	12/09/15 20:59	MS151118-3	.01001		.01033	mg/L	103	85	115			
L28023-03AS	AS	12/09/15 21:08	MS151118-3	.02002	.0022	.02292	mg/L	103	70	130			
L28023-03ASD	ASD	12/09/15 21:10	MS151118-3	.02002	.0022	.02336	mg/L	106	70	130	2	20	
WG395680													
WG395680ICV	ICV	12/10/15 18:09	MS151201-3	.02		.02003	mg/L	100	90	110			
WG395680ICB	ICB	12/10/15 18:11				U	mg/L		-0.0012	0.0012			
WG395680LFB	LFB	12/10/15 18:13	MS151118-3	.01001		.00947	mg/L	95	85	115			
L28023-03AS	AS	12/10/15 18:19	MS151118-3	.05005	.002	.0471	mg/L	90	70	130			
L28023-03ASD	ASD	12/10/15 18:23	MS151118-3	.05005	.002	.0464	mg/L	89	70	130	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395573													
WG395573ICV	ICV	12/09/15 20:55	MS151201-3	.05		.05364	mg/L	107	90	110			
WG395573ICB	ICB	12/09/15 20:57				U	mg/L		-0.0006	0.0006			
WG395573LFB	LFB	12/09/15 20:59	MS151118-3	.0501		.04756	mg/L	95	85	115			
L28023-03AS	AS	12/09/15 21:08	MS151118-3	.1002	.9508	1.04474	mg/L	94	70	130			
L28023-03ASD	ASD	12/09/15 21:10	MS151118-3	.1002	.9508	1.03361	mg/L	83	70	130	1	20	
WG395680													
WG395680ICV	ICV	12/10/15 18:09	MS151201-3	.05		.05292	mg/L	106	90	110			
WG395680ICB	ICB	12/10/15 18:11				U	mg/L		-0.0006	0.0006			
WG395680LFB	LFB	12/10/15 18:13	MS151118-3	.0501		.04567	mg/L	91	85	115			
L28023-03AS	AS	12/10/15 18:19	MS151118-3	.2505	.906	1.0725	mg/L	66	70	130			MA
L28023-03ASD	ASD	12/10/15 18:23	MS151118-3	.2505	.906	1.129	mg/L	89	70	130	5	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		2.0133	mg/L	101	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.009	0.009			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	.5		.4899	mg/L	98	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	.5	.023	.5103	mg/L	97	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	.5	.023	.5092	mg/L	97	85	115	0	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	1	.014	.9654	mg/L	95	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	1	.014	.9694	mg/L	96	85	115	0	20	
WG395719													
WG395719ICV	ICV	12/11/15 14:01	II151210-1	2		2.0152	mg/L	101	95	105			
WG395719ICB	ICB	12/11/15 14:07				U	mg/L		-0.009	0.009			
WG395719LFB	LFB	12/11/15 14:20	II151202-8	.5		.5177	mg/L	104	85	115			
L28032-01AS	AS	12/11/15 14:33	II151202-8	.5	.084	.5852	mg/L	100	85	115			
L28032-01ASD	ASD	12/11/15 14:36	II151202-8	.5	.084	.5839	mg/L	100	85	115	0	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395573													
WG395573ICV	ICV	12/09/15 20:55	MS151201-3	.05		.050029	mg/L	100	90	110			
WG395573ICB	ICB	12/09/15 20:57				U	mg/L		-0.00015	0.00015			
WG395573LFB	LFB	12/09/15 20:59	MS151118-3	.0501		.048314	mg/L	96	85	115			
L28023-03AS	AS	12/09/15 21:08	MS151118-3	.1002	.0159	.13132	mg/L	115	70	130			
L28023-03ASD	ASD	12/09/15 21:10	MS151118-3	.1002	.0159	.13808	mg/L	122	70	130	5	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		2.083	mg/L	104	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.12	0.12			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	1		1.026	mg/L	103	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	1	U	1.008	mg/L	101	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	1	U	1.001	mg/L	100	85	115	1	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	2	U	2.064	mg/L	103	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	2	U	2.064	mg/L	103	85	115	0	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		2.009	mg/L	100	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.12	0.12			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	1		1.011	mg/L	101	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	1	U	1.038	mg/L	104	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	1	U	1.017	mg/L	102	85	115	2	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	1	U	.925	mg/L	93	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	1	U	.953	mg/L	95	85	115	3	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		1.987	mg/L	99	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.03	0.03			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	.5005		.491	mg/L	98	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	.5005	.06	.534	mg/L	95	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	.5005	.06	.535	mg/L	95	85	115	0	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	1.001	.38	1.42	mg/L	104	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	1.001	.38	1.391	mg/L	101	85	115	2	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		1.919	mg/L	96	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.03	0.03			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	.5005		.484	mg/L	97	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	.5005	.06	.552	mg/L	98	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	.5005	.06	.538	mg/L	96	85	115	3	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	.5005	.02	.488	mg/L	94	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	.5005	.02	.485	mg/L	93	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395573													
WG395573ICV	ICV	12/09/15 20:55	MS151201-3	.05		.05086	mg/L	102	90	110			
WG395573ICB	ICB	12/09/15 20:57				U	mg/L		-0.0003	0.0003			
WG395573LFB	LFB	12/09/15 20:59	MS151118-3	.05005		.04946	mg/L	99	85	115			
L28023-03AS	AS	12/09/15 21:08	MS151118-3	.1001	.0197	.11757	mg/L	98	70	130			
L28023-03ASD	ASD	12/09/15 21:10	MS151118-3	.1001	.0197	.11867	mg/L	99	70	130	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	100		103.03	mg/L	103	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.3	0.3			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	68.01261		72.79	mg/L	107	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	68.01261	76.8	137.6	mg/L	89	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	68.01261	76.8	137.9	mg/L	90	85	115	0	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	136.02522	153	336.2	mg/L	135	85	115			M1
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	136.02522	153	326.4	mg/L	127	85	115	3	20	M1
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	100		102.73	mg/L	103	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.3	0.3			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	68.01261		72.3	mg/L	106	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	68.01261	79.7	147.1	mg/L	99	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	68.01261	79.7	144.8	mg/L	96	85	115	2	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	68.01261	31.3	100.4	mg/L	102	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	68.01261	31.3	99.59	mg/L	100	85	115	1	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395772													
WG395772ICB	ICB	12/12/15 9:52				U	mg/L		-1.5	1.5			
WG395772ICV	ICV	12/12/15 9:52	WI150701-4	55.055		57.01	mg/L	104	90	110			
L27947-01DUP	DUP	12/12/15 16:01			5.4	5.36	mg/L				1	20	
L28023-01AS	AS	12/12/15 16:01	WI150826-7	29.97	5.9	40.03	mg/L	114	90	110			M1
WG395772LFB2	LFB	12/12/15 16:11	WI150826-7	29.97		31.08	mg/L	104	90	110			
WG395772LFB1	LFB	12/12/15 16:18	WI150826-7	29.97		32.9	mg/L	110	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		1.967	mg/L	98	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.03	0.03			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	.5005		.486	mg/L	97	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	.5005	U	.478	mg/L	96	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	.5005	U	.465	mg/L	93	85	115	3	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	1.001	U	1.023	mg/L	102	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	1.001	U	1.036	mg/L	103	85	115	1	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		1.936	mg/L	97	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.03	0.03			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	.5005		.49	mg/L	98	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	.5005	U	.494	mg/L	99	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	.5005	U	.477	mg/L	95	85	115	4	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	.5005	U	.474	mg/L	95	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	.5005	U	.475	mg/L	95	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2.002		1.969	mg/L	98	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.03	0.03			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	.5005		.503	mg/L	100	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	.5005	U	.471	mg/L	94	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	.5005	U	.47	mg/L	94	85	115	0	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	1.001	U	1.051	mg/L	105	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	1.001	U	1.049	mg/L	105	85	115	0	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2.002		1.918	mg/L	96	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.03	0.03			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	.5005		.5	mg/L	100	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	.5005	U	.494	mg/L	99	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	.5005	U	.483	mg/L	97	85	115	2	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	.5005	.03	.512	mg/L	96	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	.5005	.03	.509	mg/L	96	85	115	1	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395338													
WG395338LCSW2	LCSW	12/04/15 16:54	PCN48869	1408		1360	umhos/cm	97	90	110			
WG395338LCSW5	LCSW	12/04/15 20:26	PCN48869	1408		1330	umhos/cm	94	90	110			
L28023-02DUP	DUP	12/04/15 22:09			215	217	umhos/cm				1	20	
L28042-03DUP	DUP	12/04/15 23:16			3070	3070	umhos/cm				0	20	
WG395338LCSW8	LCSW	12/04/15 23:21	PCN48869	1408		1320	umhos/cm	94	90	110			
WG395338LCSW11	LCSW	12/05/15 1:13	PCN48869	1408		1290	umhos/cm	92	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		2.009	mg/L	100	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.03	0.03			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	.499		.497	mg/L	100	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	.499	U	.502	mg/L	101	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	.499	U	.499	mg/L	100	85	115	1	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	.998	U	.969	mg/L	97	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	.998	U	.976	mg/L	98	85	115	1	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		1.976	mg/L	99	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.03	0.03			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	.499		.506	mg/L	101	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	.499	U	.508	mg/L	102	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	.499	U	.497	mg/L	100	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395876													
WG395876ICV	ICV	12/15/15 17:20	WI151215-5	.3003		.2825	mg/L	94	90	110			
WG395876ICB	ICB	12/15/15 17:21				U	mg/L		-0.003	0.003			
WG395769LRB	LRB	12/15/15 17:23				U	mg/L		-0.003	0.003			
WG395769LFB	LFB	12/15/15 17:23	WI151212-2	.201		.1923	mg/L	96	90	110			
L28005-01DUP	DUP	12/15/15 17:25			U	U	mg/L				0	20	RA
L28008-03LFM	LFM	12/15/15 17:27	WI151212-2	.201	U	.1978	mg/L	98	90	110			

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395869													
WG395869ICV	ICV	12/15/15 14:25	WI151215-5	.3003		.2849	mg/L	95	90	110			
WG395869ICB	ICB	12/15/15 14:26				U	mg/L		-0.003	0.003			
WG395723LRB	LRB	12/15/15 14:27				U	mg/L		-0.003	0.003			
WG395723LFB	LFB	12/15/15 14:27	WI151130-6	.2002		.1832	mg/L	92	90	110			
L27927-01DUP	DUP	12/15/15 14:29			U	U	mg/L				0	20	RA
L28007-02LFM	LFM	12/15/15 14:31	WI151130-6	.2002	U	.1757	mg/L	88	90	110			M2

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395434													
WG395434ICV	ICV	12/08/15 11:15	WC151207-7	2		1.913	mg/L	96	95	105			
WG395434ICB	ICB	12/08/15 11:21				U	mg/L		-0.15	0.15			
WG395434LFB1	LFB	12/08/15 11:28	WC151103-7	5		4.818	mg/L	96	90	110			
L27992-05AS	AS	12/08/15 12:35	WC151103-7	5	.09	4.84	mg/L	95	90	110			
L27992-05DUP	DUP	12/08/15 12:39			.09	.109	mg/L				19	20	RA
WG395785													
WG395785ICV	ICV	12/14/15 10:53	WC151207-7	2		1.914	mg/L	96	95	105			
WG395785ICB	ICB	12/14/15 11:01				U	mg/L		-0.15	0.15			
WG395785LFB1	LFB	12/14/15 11:11	WC151103-7	5		4.817	mg/L	96	90	110			
L28023-03AS	AS	12/14/15 11:25	WC151103-7	1000	U	827	mg/L	83	90	110			M2
L28023-03DUP	DUP	12/14/15 11:31			U	20	mg/L				200	20	RA
WG395785LFB2	LFB	12/14/15 14:27	WC151103-7	5		4.795	mg/L	96	90	110			

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		2.1	mg/L	105	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.3	0.3			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	1		1.02	mg/L	102	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	1	U	1.01	mg/L	101	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	1	U	1.01	mg/L	101	85	115	0	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	2	U	1.96	mg/L	98	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	2	U	1.97	mg/L	99	85	115	1	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		2.02	mg/L	101	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.3	0.3			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	1		1.01	mg/L	101	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	1	U	.98	mg/L	98	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	1	U	.93	mg/L	93	85	115	5	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	1	U	.91	mg/L	91	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	1	U	.93	mg/L	93	85	115	2	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		2.028	mg/L	101	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.06	0.06			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	1.0001		1.022	mg/L	102	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	1.0001	U	.991	mg/L	99	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	1.0001	U	.974	mg/L	97	85	115	2	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	2.0002	U	2.022	mg/L	101	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	2.0002	U	2.018	mg/L	101	85	115	0	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		1.981	mg/L	99	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.06	0.06			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	1.0001		1.028	mg/L	103	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	1.0001	U	1.082	mg/L	106	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	1.0001	U	.999	mg/L	98	85	115	8	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	1.0001	.16	1.137	mg/L	98	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	1.0001	.16	1.124	mg/L	96	85	115	1	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395573													
WG395573ICV	ICV	12/09/15 20:55	MS151201-3	.05		.05243	mg/L	105	90	110			
WG395573ICB	ICB	12/09/15 20:57				U	mg/L		-0.0003	0.0003			
WG395573LFB	LFB	12/09/15 20:59	MS151118-3	.05005		.04964	mg/L	99	85	115			
L28023-03AS	AS	12/09/15 21:08	MS151118-3	.1001	.0046	.10528	mg/L	101	70	130			
L28023-03ASD	ASD	12/09/15 21:10	MS151118-3	.1001	.0046	.10404	mg/L	99	70	130	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		2.0502	mg/L	103	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.024	0.024			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	1.001		.9755	mg/L	97	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	1.001	.016	1.038	mg/L	102	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	1.001	.016	1.031	mg/L	101	85	115	1	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	2.002	.51	2.422	mg/L	96	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	2.002	.51	2.436	mg/L	96	85	115	1	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		2.0198	mg/L	101	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.024	0.024			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	1.001		1.004	mg/L	100	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	1.001	.022	1.035	mg/L	101	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	1.001	.022	1.009	mg/L	99	85	115	3	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	1.001	.021	.9451	mg/L	92	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	1.001	.021	.9431	mg/L	92	85	115	0	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	100		101.73	mg/L	102	95	105			
WG395586ICB	ICB	12/09/15 17:09				.3	mg/L		-0.6	0.6			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	50.00416		50.53	mg/L	101	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	50.00416	8.3	54.45	mg/L	92	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	50.00416	8.3	55.08	mg/L	94	85	115	1	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	100.00832	119	246.4	mg/L	127	85	115			M1
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	100.00832	119	239.2	mg/L	120	85	115	3	20	M1
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	100		100.79	mg/L	101	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.6	0.6			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	50.00416		50.88	mg/L	102	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	50.00416	8.6	58.95	mg/L	101	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	50.00416	8.6	57.96	mg/L	99	85	115	2	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	50.00416	.8	50.33	mg/L	99	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	50.00416	.8	49.82	mg/L	98	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		1.9898	mg/L	99	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.015	0.015			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	.499		.4969	mg/L	100	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	.499	U	.4805	mg/L	96	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	.499	U	.4772	mg/L	96	85	115	1	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	.998	U	.994	mg/L	100	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	.998	U	.993	mg/L	99	85	115	0	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		1.9775	mg/L	99	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.015	0.015			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	.499		.5056	mg/L	101	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	.499	U	.5035	mg/L	101	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	.499	U	.4944	mg/L	99	85	115	2	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	.499	.651	1.095	mg/L	89	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	.499	.651	1.092	mg/L	88	85	115	0	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396045													
WG396045ICV	ICV	12/18/15 10:27	II151130-3	.005		.0052	mg/L	104	95	105			
WG396045ICB	ICB	12/18/15 10:29				U	mg/L		-0.0002	0.0002			
WG395939													
WG395939LRB	LRB	12/18/15 14:26				U	mg/L		-0.00044	0.00044			
WG395939LFB	LFB	12/18/15 14:28	II151130-5	.002004		.00226	mg/L	113	85	115			
L28023-03LFM	LFM	12/18/15 15:15	II151130-5	.002004	U	.00207	mg/L	103	85	115			
L28023-03LFMD	LFMD	12/18/15 15:17	II151130-5	.002004	U	.00208	mg/L	104	85	115	0	20	
WG396116													
WG396116ICV	ICV	12/21/15 10:19	II151130-3	.005		.00525	mg/L	105	95	105			
WG396116LRB	LRB	12/21/15 10:23				U	mg/L		-0.00044	0.00044			
WG396116LFB	LFB	12/21/15 10:25	II151217-3	.002004		.00187	mg/L	93	85	115			
L22741-46LFM	LFM	12/21/15 10:33	II151217-3	.002004	U	.00186	mg/L	93	85	115			
L22741-46LFMD	LFMD	12/21/15 10:35	II151217-3	.002004	U	.00192	mg/L	96	85	115	3	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		2.064	mg/L	103	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.06	0.06			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	.4995		.533	mg/L	107	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	.4995	U	.486	mg/L	97	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	.4995	U	.499	mg/L	100	85	115	3	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	.999	.05	1.143	mg/L	109	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	.999	.05	1.131	mg/L	108	85	115	1	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		2.033	mg/L	102	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.06	0.06			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	.4995		.518	mg/L	104	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	.4995	U	.509	mg/L	102	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	.4995	U	.503	mg/L	101	85	115	1	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	.4995	U	.501	mg/L	100	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	.4995	U	.494	mg/L	99	85	115	1	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		1.9675	mg/L	98	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.024	0.024			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	.501		.501	mg/L	100	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	.501	U	.477	mg/L	95	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	.501	U	.4747	mg/L	95	85	115	0	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	1.002	U	1.051	mg/L	105	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	1.002	U	1.05	mg/L	105	85	115	0	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		1.9572	mg/L	98	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.024	0.024			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	.501		.5002	mg/L	100	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	.501	U	.4941	mg/L	99	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	.501	U	.4892	mg/L	98	85	115	1	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	.501	.101	.5786	mg/L	95	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	.501	.101	.5714	mg/L	94	85	115	1	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395908													
WG395908ICV	ICV	12/15/15 21:01	WI151024-1	2.416		2.433	mg/L	101	90	110			
WG395908ICB	ICB	12/15/15 21:03				U	mg/L		-0.02	0.02			
WG395910													
WG395910LFB	LFB	12/15/15 23:20	WI151215-9	2		1.988	mg/L	99	90	110			
L28008-04AS	AS	12/15/15 23:23	WI151215-9	20	10.3	29.87	mg/L	98	90	110			
L28023-01DUP	DUP	12/15/15 23:26			U	U	mg/L				0	20	RA

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Nitrogen, ammonia M350.1

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395754													
WG395754ICV	ICV	12/14/15 9:34	WI151212-6	11.988		12.226	mg/L	102	90	110			
WG395754ICB	ICB	12/14/15 9:36				U	mg/L		-0.05	0.05			
WG395754LFB1	LFB	12/14/15 9:37	WI150204-10	10		10.116	mg/L	101	90	110			
L28007-04AS	AS	12/14/15 10:00	WI150204-10	10	U	10.192	mg/L	102	90	110			
L28008-01DUP	DUP	12/14/15 10:03			U	U	mg/L				0	20	RA
WG395754LFB2	LFB	12/14/15 10:19	WI150204-10	10		9.768	mg/L	98	90	110			
L28023-02AS	AS	12/14/15 10:22	WI150204-10	10	.2	10.675	mg/L	105	90	110			
L28023-03DUP	DUP	12/14/15 10:24			.45	.463	mg/L				3	20	RA
WG396248													
WG396248ICV	ICV	12/22/15 12:02	WI151212-6	11.988		12.955	mg/L	108	90	110			
WG396248ICB	ICB	12/22/15 12:03				U	mg/L		-0.05	0.05			
WG396248LFB1	LFB	12/22/15 12:05	WI150204-10	10		10.342	mg/L	103	90	110			
L28124-01AS	AS	12/22/15 12:11	WI150204-10	10	U	10.986	mg/L	110	90	110			
WG396248ICV1	ICV	12/22/15 12:57	WI151212-6	11.988		12.625	mg/L	105	90	110			
WG396248ICB1	ICB	12/22/15 12:58				U	mg/L		-0.05	0.05			
WG396248LFB2	LFB	12/22/15 13:24	WI150204-10	10		10.001	mg/L	100	90	110			
L28023-04DUP	DUP	12/22/15 13:47			.18	.199	mg/L				10	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395338													
WG395338LCSW1	LCSW	12/04/15 16:52	PCN48559	6.01		6	units	100	5.9	6.1			
WG395338LCSW4	LCSW	12/04/15 20:24	PCN48559	6.01		6.1	units	101	5.9	6.1			
L28023-02DUP	DUP	12/04/15 22:09			7.9	7.9	units				0	20	
L28042-03DUP	DUP	12/04/15 23:16			8.2	8.2	units				0	20	
WG395338LCSW7	LCSW	12/04/15 23:19	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG395338LCSW10	LCSW	12/05/15 1:11	PCN48559	6.01		6	units	100	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395749													
WG395749ICV	ICV	12/11/15 21:14	WI151110-1	.65228		.684	mg/L	105	90	110			
WG395749ICB	ICB	12/11/15 21:17				U	mg/L		-0.02	0.02			
WG395741LRB	LRB	12/11/15 21:18				U	mg/L		-0.02	0.02			
WG395741LFB	LFB	12/11/15 21:19	WI151210-2	.5		.483	mg/L	97	90	110			
L28007-04LFM	LFM	12/11/15 21:21	WI151210-2	.5	.02	.47	mg/L	90	90	110			
L28008-01DUP	DUP	12/11/15 21:24			.07	.072	mg/L				3	20	RA
L28023-06LFM	LFM	12/11/15 21:54	WI151210-2	.5	5.8	6.12	mg/L	64	90	110			M3
L28023-07DUP	DUP	12/11/15 21:59			.04	.039	mg/L				3	20	RA

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	20		19.91	mg/L	100	95	105			
WG395586ICB	ICB	12/09/15 17:09				.22	mg/L		-0.6	0.6			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	100.0125		97.52	mg/L	98	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	100.0125	4.1	99.5	mg/L	95	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	100.0125	4.1	100.3	mg/L	96	85	115	1	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	200.025	12	200.4	mg/L	94	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	200.025	12	202	mg/L	95	85	115	1	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	20		19.74	mg/L	99	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.6	0.6			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	100.0125		98.7	mg/L	99	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	100.0125	4.3	103.6	mg/L	99	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	100.0125	4.3	102	mg/L	98	85	115	2	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	100.0125	6	103.1	mg/L	97	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	100.0125	6	101.7	mg/L	96	85	115	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395408													
WG395408PBW	PBW	12/07/15 15:45				U	mg/L		-20	20			
WG395408LCSW	LCSW	12/07/15 15:46	PCN49659	260		266	mg/L	102	80	120			
L28058-04DUP	DUP	12/07/15 16:29			166	170	mg/L				2	10	
WG395450													
WG395450PBW	PBW	12/08/15 11:35				U	mg/L		-20	20			
WG395450LCSW	LCSW	12/08/15 11:36	PCN49659	260		270	mg/L	104	80	120			
L28042-06DUP	DUP	12/08/15 11:58			3160	3140	mg/L				1	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		2.03	mg/L	102	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.3	0.3			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	1.0009		1.01	mg/L	101	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	1.0009	U	1	mg/L	100	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	1.0009	U	1	mg/L	100	85	115	0	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	2.0018	U	2	mg/L	100	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	2.0018	U	2.01	mg/L	100	85	115	0	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		2.01	mg/L	101	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.3	0.3			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	1.0009		1.03	mg/L	103	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	1.0009	U	1.04	mg/L	104	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	1.0009	U	1.01	mg/L	101	85	115	3	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	1.0009	U	1	mg/L	100	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	1.0009	U	1	mg/L	100	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395573													
WG395573ICV	ICV	12/09/15 20:55	MS151201-3	.05		.0499	mg/L	100	90	110			
WG395573ICB	ICB	12/09/15 20:57				U	mg/L		-0.0003	0.0003			
WG395573LFB	LFB	12/09/15 20:59	MS151118-3	.0501		.04856	mg/L	97	85	115			
L28023-03AS	AS	12/09/15 21:08	MS151118-3	.1002	.0294	.12036	mg/L	91	70	130			
L28023-03ASD	ASD	12/09/15 21:10	MS151118-3	.1002	.0294	.12223	mg/L	93	70	130	2	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	1.001		1.014	mg/L	101	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.03	0.03			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	.502		.517	mg/L	103	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	.502	U	.41	mg/L	82	85	115			MA
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	.502	U	.446	mg/L	89	85	115	8	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	1.004	U	.933	mg/L	93	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	1.004	U	.902	mg/L	90	85	115	3	20	
WG395853													
WG395853ICV	ICV	12/15/15 13:31	II151210-1	1.001		1.027	mg/L	103	95	105			
WG395853ICB	ICB	12/15/15 13:37				U	mg/L		-0.03	0.03			
WG395853LFB	LFB	12/15/15 13:50	II151202-8	.502		.489	mg/L	97	85	115			
L28065-01AS	AS	12/15/15 14:02	II151202-8	.502	U	.425	mg/L	85	85	115			
L28065-01ASD	ASD	12/15/15 14:05	II151202-8	.502	U	.387	mg/L	77	85	115	9	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	100		97.61	mg/L	98	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.6	0.6			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	100.0581		96.97	mg/L	97	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	100.0581	26.3	124.2	mg/L	98	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	100.0581	26.3	123.7	mg/L	97	85	115	0	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	200.1162	214	417.6	mg/L	102	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	200.1162	214	418.4	mg/L	102	85	115	0	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	100		99.22	mg/L	99	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.6	0.6			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	100.0581		99.15	mg/L	99	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	100.0581	27.1	124.6	mg/L	97	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	100.0581	27.1	122.2	mg/L	95	85	115	2	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	100.0581	6	102.7	mg/L	97	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	100.0581	6	101.7	mg/L	96	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		2.0157	mg/L	101	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.015	0.015			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	.5005		.5106	mg/L	102	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	.5005	.698	1.147	mg/L	90	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	.5005	.698	1.148	mg/L	90	85	115	0	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	1.001	3.16	4.4	mg/L	124	85	115			M1
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	1.001	3.16	4.32	mg/L	116	85	115	2	20	M1
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		1.9987	mg/L	100	95	105			
WG395640ICB	ICB	12/10/15 20:16				.0062	mg/L		-0.015	0.015			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	.5005		.5139	mg/L	103	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	.5005	.711	1.178	mg/L	93	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	.5005	.711	1.155	mg/L	89	85	115	2	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	.5005	.082	.575	mg/L	99	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	.5005	.082	.57	mg/L	98	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395826													
WG395826ICB	ICB	12/14/15 12:45				U	mg/L		-3	3			
WG395826ICV	ICV	12/14/15 12:45	WI151130-8	20		19.8	mg/L	99	90	110			
L28023-08DUP	DUP	12/14/15 19:11			37.6	38	mg/L				1	20	RA
WG395826LFB	LFB	12/14/15 19:38	WI150904-1	10.01		9.8	mg/L	98	90	110			
L28022-02DUP	DUP	12/14/15 19:44			262	247	mg/L				6	20	
L28022-03AS	AS	12/14/15 19:45	SO4TURB20X	10	342	363	mg/L	210	90	110			M3
L28042-01AS	AS	12/14/15 20:02	SO4TURB	10	2320	2240	mg/L	-800	90	110			M3
WG395827													
WG395827ICB	ICB	12/15/15 13:02				U	mg/L		-3	3			
WG395827ICV	ICV	12/15/15 13:02	WI151130-8	20		19.7	mg/L	99	90	110			
WG395827LFB	LFB	12/15/15 13:11	WI150904-1	10.01		11	mg/L	110	90	110			
L28043-01DUP	DUP	12/15/15 14:06			1750	1700	mg/L				3	20	
L28043-02AS	AS	12/15/15 14:06	SO4TURB50X	10	1240	1240	mg/L	0	90	110			M3
WG395894													
WG395894ICB	ICB	12/15/15 13:02				U	mg/L		-3	3			
WG395894ICV	ICV	12/15/15 13:02	WI151215-3	20		19.7	mg/L	99	90	110			
WG395894LFB	LFB	12/15/15 17:29	WI150904-1	10.01		10.1	mg/L	101	90	110			
L28091-03DUP	DUP	12/15/15 17:29			1.9	1.7	mg/L				11	20	RA
L28091-04AS	AS	12/15/15 17:33	WI150904-1	10.01	2.1	11.9	mg/L	98	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395573													
WG395573ICV	ICV	12/09/15 20:55	MS151201-3	.05		.05341	mg/L	107	90	110			
WG395573ICB	ICB	12/09/15 20:57				U	mg/L		-0.0003	0.0003			
WG395573LFB	LFB	12/09/15 20:59	MS151118-3	.0501		.05044	mg/L	101	85	115			
L28023-03AS	AS	12/09/15 21:08	MS151118-3	.1002	.008	.1133	mg/L	105	70	130			
L28023-03ASD	ASD	12/09/15 21:10	MS151118-3	.1002	.008	.11188	mg/L	104	70	130	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		2.05	mg/L	103	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.12	0.12			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	1.001		.979	mg/L	98	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	1.001	U	.908	mg/L	91	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	1.001	U	.926	mg/L	93	85	115	2	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	2.002	U	2.136	mg/L	107	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	2.002	U	2.086	mg/L	104	85	115	2	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		2.014	mg/L	101	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.12	0.12			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	1.001		.986	mg/L	99	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	1.001	U	1	mg/L	100	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	1.001	U	.967	mg/L	97	85	115	3	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	1.001	U	.911	mg/L	91	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	1.001	U	.91	mg/L	91	85	115	0	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		2.0822	mg/L	104	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.015	0.015			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	1.003		1.017	mg/L	101	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	1.003	.006	1.008	mg/L	100	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	1.003	.006	1.004	mg/L	100	85	115	0	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	2.006	.01	2.018	mg/L	100	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	2.006	.01	2.016	mg/L	100	85	115	0	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		2.0332	mg/L	102	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.015	0.015			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	1.003		1.028	mg/L	102	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	1.003	.007	1.036	mg/L	103	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	1.003	.007	1.009	mg/L	100	85	115	3	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	1.003	U	.9471	mg/L	94	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	1.003	U	.9499	mg/L	95	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395573													
WG395573ICV	ICV	12/09/15 20:55	MS151201-3	.05		.05341	mg/L	107	90	110			
WG395573ICB	ICB	12/09/15 20:57				U	mg/L		-0.0003	0.0003			
WG395573LFB	LFB	12/09/15 20:59	MS151118-3	.05		.05063	mg/L	101	85	115			
L28023-03AS	AS	12/09/15 21:08	MS151118-3	.1	.4683	.54808	mg/L	80	70	130			
L28023-03ASD	ASD	12/09/15 21:10	MS151118-3	.1	.4683	.55479	mg/L	86	70	130	1	20	
WG395680													
WG395680ICV	ICV	12/10/15 18:09	MS151201-3	.05		.05213	mg/L	104	90	110			
WG395680ICB	ICB	12/10/15 18:11				U	mg/L		-0.0003	0.0003			
WG395680LFB	LFB	12/10/15 18:13	MS151118-3	.05		.04702	mg/L	94	85	115			
L28023-03AS	AS	12/10/15 18:19	MS151118-3	.25	.4554	.66737	mg/L	85	70	130			
L28023-03ASD	ASD	12/10/15 18:23	MS151118-3	.25	.4554	.65306	mg/L	79	70	130	2	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		2.0458	mg/L	102	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.015	0.015			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	.501		.5204	mg/L	104	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	.501	U	.4919	mg/L	98	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	.501	U	.4947	mg/L	99	85	115	1	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	1.002	U	1.018	mg/L	102	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	1.002	U	1.015	mg/L	101	85	115	0	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		2.0095	mg/L	100	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.015	0.015			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	.501		.5074	mg/L	101	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	.501	.007	.5099	mg/L	100	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	.501	.007	.5026	mg/L	99	85	115	1	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	.501	U	.4969	mg/L	99	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	.501	U	.4919	mg/L	98	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395586													
WG395586ICV	ICV	12/09/15 17:03	II151113-4	2		2.048	mg/L	102	95	105			
WG395586ICB	ICB	12/09/15 17:09				U	mg/L		-0.03	0.03			
WG395586LFB	LFB	12/09/15 17:22	II151202-8	.4995		.521	mg/L	104	85	115			
L28008-02AS	AS	12/09/15 17:31	II151202-8	.4995	.02	.504	mg/L	97	85	115			
L28008-02ASD	ASD	12/09/15 17:34	II151202-8	.4995	.02	.505	mg/L	97	85	115	0	20	
L28043-02AS	AS	12/09/15 18:43	II151202-8	.999	U	1.031	mg/L	103	85	115			
L28043-02ASD	ASD	12/09/15 18:46	II151202-8	.999	U	1.071	mg/L	107	85	115	4	20	
WG395640													
WG395640ICV	ICV	12/10/15 20:10	II151113-4	2		1.929	mg/L	96	95	105			
WG395640ICB	ICB	12/10/15 20:16				U	mg/L		-0.03	0.03			
WG395640LFB	LFB	12/10/15 20:29	II151202-8	.4995		.497	mg/L	99	85	115			
L28008-02AS	AS	12/10/15 20:38	II151202-8	.4995	.02	.503	mg/L	97	85	115			
L28008-02ASD	ASD	12/10/15 20:41	II151202-8	.4995	.02	.496	mg/L	95	85	115	1	20	
L28023-09AS	AS	12/10/15 21:26	II151202-8	.4995	.19	.66	mg/L	94	85	115			
L28023-09ASD	ASD	12/10/15 21:29	II151202-8	.4995	.19	.652	mg/L	92	85	115	1	20	

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L28023***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28023-01	WG395586	Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG395772	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395434	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395910	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395338	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395749	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395408	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RO	The duplicate originally assigned to this sample was not used for precision assessment because residue density exceeded the method limits. Another duplicate in the batch was used to assess precision. Method required duplicate frequency was not met.
	WG395826	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L28023***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28023-02	WG395680	Arsenic, dissolved	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG395586	Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG395772	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395434	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395910	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395338	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395749	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395408	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RO	The duplicate originally assigned to this sample was not used for precision assessment because residue density exceeded the method limits. Another duplicate in the batch was used to assess precision. Method required duplicate frequency was not met.
	WG395826	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28023-03	WG395680	Arsenic, dissolved	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG395719	Barium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
	WG395640	Bismuth, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Boron, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Chromium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Gallium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Lithium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Molybdenum, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Scandium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
	WG395853	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG395640	Strontium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Tin, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Titanium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Vanadium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
	WG395772	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395785	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395910	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395338	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395749	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395450	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395826	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28023-04	WG395680	Arsenic, dissolved	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG395586	Calcium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Magnesium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395772	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395434	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395910	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396248	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395338	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395749	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395408	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RO	The duplicate originally assigned to this sample was not used for precision assessment because residue density exceeded the method limits. Another duplicate in the batch was used to assess precision. Method required duplicate frequency was not met.
	WG395826	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28023-05	WG395586	Calcium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Magnesium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395772	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395785	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395910	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395338	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395749	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395408	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RO	The duplicate originally assigned to this sample was not used for precision assessment because residue density exceeded the method limits. Another duplicate in the batch was used to assess precision. Method required duplicate frequency was not met.
	WG395826	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

ACZ Laboratories, Inc.
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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L28023***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28023-06	WG395680	Arsenic, dissolved	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG395586	Calcium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Magnesium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395772	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395785	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395910	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395338	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395749	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395450	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395826	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28023-07	WG395680	Arsenic, dissolved	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG395586	Calcium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Magnesium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395772	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395785	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395910	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395338	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395749	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395408	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395894	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395338	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28023-08	WG395586	Calcium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Magnesium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395772	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395785	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395910	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395338	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395749	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395408	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395826	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395338	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L28023***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28023-09	WG395586	Calcium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Magnesium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395772	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395876	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395869	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395785	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395910	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395338	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395749	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395408	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395827	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395338	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
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Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L28023
Date Received: 12/04/2015 09:32
Received By: ddp
Date Printed: 12/4/2015

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	X		

A change was made in the sample information and remarks section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L28023-01 : A Green and Yellow container not received and a new container created from the White .

L28023-02 : A Green and Yellow container not received and a new container created from the White .

L28023-03 : A Green and Yellow container not received and a new container created from the White .

L28023-04 : A Green and Yellow container not received and a new container created from the White .

L28023-05 : A Green and Yellow container not received and a new container created from the White .

L28023-06 : A Green and Yellow container not received and a new container created from the White .

L28023-07 : A Green and Yellow container not received and a new container created from the White .

L28023-08 : A Green and Yellow container not received and a new container created from the White .

L28023-09 : A Green, Purple and Yellow container not received

McClelland Laboratories, Inc.
3981

ACZ Project ID: L28023
Date Received: 12/04/2015 09:32
Received By: ddp
Date Printed: 12/4/2015

and a new container created from the White .

16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA23043	4.3	<=6.0	14	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

28023

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Tabel 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	12/2/15	WW	1	X							
CAL-004 (860-875)		WW	1	X							
[redacted]		WW	1	X							
GMC-012 (832-851)		WW	1	X							
CAL-004 (295-315)		WW	1	X							
CAL-001 (750-762)		WW	1	X							
GMC-014 (176-184)		WW	1	X							
CAL-001 (380-400)		WW	1	X							
CAL-002 (177-187)		WW	1	X							
Calico Leach Res. after CN Destruct		WW	1	X	X	X					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC ~~1-10~~ WK: 1 HC-1, 2, 4-10
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	12/3/15 9AM	[signature]	12/4/15 9:20

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L28023 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

*****Gray out Analyses DOESN'T get done on all Samples, Just 1 of the Sample SEE COC*****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 22, 2015

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L28066

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 08, 2015. This project has been assigned to ACZ's project number, L28066. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L28066. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 21, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L28066-01***
Date Sampled: *12/07/15 00:00*
Date Received: *12/08/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/11/15 16:07	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	5	214		*	mg/L	0.2	0.8	12/16/15 13:56	aeb
Antimony, dissolved	M200.8 ICP-MS	5	0.015			mg/L	0.002	0.01	12/15/15 20:38	msh
Arsenic, dissolved	M200.8 ICP-MS	20	2.270			mg/L	0.004	0.02	12/16/15 19:16	mfm
Barium, dissolved	M200.7 ICP	5	0.04	B		mg/L	0.02	0.08	12/16/15 13:56	aeb
Beryllium, dissolved	M200.8 ICP-MS	5	0.0625			mg/L	0.0003	0.001	12/15/15 20:38	msh
Bismuth, dissolved	M200.7 ICP	5		U	*	mg/L	0.2	1	12/16/15 13:56	aeb
Boron, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/16/15 13:56	aeb
Cadmium, dissolved	M200.8 ICP-MS	5	0.0565			mg/L	0.0005	0.003	12/15/15 20:38	msh
Calcium, dissolved	M200.7 ICP	5	481			mg/L	0.5	3	12/16/15 13:56	aeb
Chromium, dissolved	M200.7 ICP	5	0.08	B		mg/L	0.05	0.3	12/16/15 13:56	aeb
Cobalt, dissolved	M200.7 ICP	5	5.88			mg/L	0.05	0.3	12/16/15 13:56	aeb
Copper, dissolved	M200.7 ICP	5	2.06			mg/L	0.05	0.3	12/16/15 13:56	aeb
Gallium, dissolved	M200.7 ICP	5		U	*	mg/L	0.5	3	12/16/15 13:56	aeb
Iron, dissolved	M200.7 ICP	5	1240		*	mg/L	0.1	0.3	12/16/15 13:56	aeb
Lead, dissolved	M200.8 ICP-MS	5	0.3487			mg/L	0.0005	0.003	12/15/15 20:38	msh
Lithium, dissolved	M200.7 ICP	5	0.27			mg/L	0.04	0.2	12/16/15 13:56	aeb
Magnesium, dissolved	M200.7 ICP	5	201			mg/L	1	5	12/16/15 13:56	aeb
Manganese, dissolved	M200.7 ICP	5	1.08			mg/L	0.03	0.1	12/16/15 13:56	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/21/15 10:51	pta
Molybdenum, dissolved	M200.7 ICP	5	0.2	B		mg/L	0.1	0.5	12/16/15 13:56	aeb
Nickel, dissolved	M200.7 ICP	5	5.52			mg/L	0.04	0.2	12/16/15 13:56	aeb
Potassium, dissolved	M200.7 ICP	5	76			mg/L	1	5	12/16/15 13:56	aeb
Scandium, dissolved	M200.7 ICP	5		U	*	mg/L	0.5	3	12/16/15 13:56	aeb
Selenium, dissolved	M200.8 ICP-MS	5	0.1044			mg/L	0.0005	0.001	12/15/15 20:38	msh
Silver, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.1	12/16/15 13:56	aeb
Sodium, dissolved	M200.7 ICP	5	95			mg/L	1	5	12/16/15 13:56	aeb
Strontium, dissolved	M200.7 ICP	5	8.19			mg/L	0.03	0.1	12/16/15 13:56	aeb
Thallium, dissolved	M200.8 ICP-MS	5	0.0485			mg/L	0.0005	0.003	12/15/15 20:38	msh
Tin, dissolved	M200.7 ICP	5		U		mg/L	0.2	1	12/16/15 13:56	aeb
Titanium, dissolved	M200.7 ICP	5	0.03	B	*	mg/L	0.03	0.1	12/16/15 13:56	aeb
Uranium, dissolved	M200.8 ICP-MS	5	0.0591			mg/L	0.0005	0.003	12/15/15 20:38	msh
Vanadium, dissolved	M200.7 ICP	5	0.11			mg/L	0.03	0.1	12/16/15 13:56	aeb
Zinc, dissolved	M200.7 ICP	5	5.88			mg/L	0.05	0.3	12/16/15 13:56	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L28066-01***
Date Sampled: *12/07/15 00:00*
Date Received: *12/08/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	42.1			mg/L	3	20	12/12/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	3	20	12/12/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	3	20	12/12/15 0:00	sck
Total Alkalinity		1	42.1			mg/L	3	20	12/12/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			12.3			%			12/22/15 10:44	calc
Sum of Anions			107			meq/L			12/22/15 10:44	calc
Sum of Cations			137			meq/L			12/22/15 10:44	calc
Chloride	SM4500Cl-E	1	0.5	B		mg/L	0.5	2	12/12/15 16:18	mss2
Conductivity @25C	SM2510B	1	6630		*	umhos/cm	1	10	12/08/15 21:35	sck
Fluoride	SM4500F-C	40	15		*	mg/L	2	10	12/10/15 16:59	enb
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2030			mg/L			12/22/15 10:44	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.11		*	mg/L	0.02	0.1	12/17/15 0:34	pjb
Nitrogen, ammonia	M350.1	1	0.86		*	mg/L	0.05	0.2	12/14/15 10:37	krh
pH (lab)	SM4500H+ B									
pH		1	2.6	H		units	0.1	0.1	12/12/15 0:00	sck
pH measured at		1	23.5			C	0.1	0.1	12/12/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	10	2.8		*	mg/L	0.2	0.5	12/11/15 22:43	pjb
Residue, Filterable (TDS) @180C	SM2540C	5	9230		*	mg/L	50	100	12/11/15 16:45	sck
Sulfate	D516-02/-07 - Turbidimetric	500	5010		*	mg/L	500	2500	12/17/15 15:54	bsu
TDS (calculated)	Calculation		7380			mg/L			12/22/15 10:44	calc
TDS (ratio - measured/calculated)	Calculation		1.25						12/22/15 10:44	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for Instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L28066***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395757													
WG395757PBW	PBW	12/12/15 10:30				2	mg/L		-20	20			
WG395757LCSW	LCSW	12/12/15 10:45	WC151211-9	820.0001		782	mg/L	95	90	110			
L28154-01DUP	DUP	12/12/15 11:30			514	524	mg/L				2	20	

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		2.079	mg/L	104	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.09	0.09			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	1.0013		1.048	mg/L	105	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	5.0065	214	220.05	mg/L	121	85	115			M3
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	5.0065	214	218.95	mg/L	99	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395897													
WG395897ICV	ICV	12/15/15 20:29	MS151201-3	.02		.02069	mg/L	103	90	110			
WG395897ICB	ICB	12/15/15 20:31				U	mg/L		-0.0012	0.0012			
WG395897LFB	LFB	12/15/15 20:33	MS151118-3	.01001		.00967	mg/L	97	85	115			
L28085-04AS	AS	12/15/15 20:48	MS151118-3	.01001	U	.00966	mg/L	97	70	130			
L28085-04ASD	ASD	12/15/15 20:50	MS151118-3	.01001	U	.00999	mg/L	100	70	130	3	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395990													
WG395990ICV	ICV	12/16/15 18:12	MS151201-3	.05		.0518	mg/L	104	90	110			
WG395990ICB	ICB	12/16/15 18:15				U	mg/L		-0.0006	0.0006			
WG395990LFB	LFB	12/16/15 18:18	MS151118-3	.0501		.04338	mg/L	87	85	115			
L28082-01AS	AS	12/16/15 19:22	MS151118-3	.1002	.2094	.3116	mg/L	102	70	130			
L28082-01ASD	ASD	12/16/15 19:31	MS151118-3	.1002	.2094	.3034	mg/L	94	70	130	3	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		2.0053	mg/L	100	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.009	0.009			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	.5		.4903	mg/L	98	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	2.5	.04	2.491	mg/L	98	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	2.5	.04	2.48	mg/L	98	85	115	0	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395897													
WG395897ICV	ICV	12/15/15 20:29	MS151201-3	.05		.050921	mg/L	102	90	110			
WG395897ICB	ICB	12/15/15 20:31				.000052	mg/L		-0.00015	0.00015			
WG395897LFB	LFB	12/15/15 20:33	MS151118-3	.0501		.050294	mg/L	100	85	115			
L28085-04AS	AS	12/15/15 20:48	MS151118-3	.0501	U	.053944	mg/L	108	70	130			
L28085-04ASD	ASD	12/15/15 20:50	MS151118-3	.0501	U	.054221	mg/L	108	70	130	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28066***

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		2.023	mg/L	101	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.12	0.12			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	1		1.032	mg/L	103	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	5	U	5.2	mg/L	104	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	5	U	5.12	mg/L	102	85	115	2	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		1.929	mg/L	96	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.03	0.03			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	.5005		.491	mg/L	98	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	2.5025	U	2.416	mg/L	97	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	2.5025	U	2.387	mg/L	95	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395897													
WG395897ICV	ICV	12/15/15 20:29	MS151201-3	.05		.05148	mg/L	103	90	110			
WG395897ICB	ICB	12/15/15 20:31				U	mg/L		-0.0003	0.0003			
WG395897LFB	LFB	12/15/15 20:33	MS151118-3	.05005		.05058	mg/L	101	85	115			
L28085-04AS	AS	12/15/15 20:48	MS151118-3	.05005	U	.05061	mg/L	101	70	130			
L28085-04ASD	ASD	12/15/15 20:50	MS151118-3	.05005	U	.05085	mg/L	102	70	130	0	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	100		100.51	mg/L	101	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.3	0.3			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	68.01261		69.32	mg/L	102	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	340.06305	481	827	mg/L	102	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	340.06305	481	825.5	mg/L	101	85	115	0	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395772													
WG395772ICB	ICB	12/12/15 9:52				U	mg/L		-1.5	1.5			
WG395772ICV	ICV	12/12/15 9:52	WI150701-4	55.055		57.01	mg/L	104	90	110			
WG395772LFB2	LFB	12/12/15 16:11	WI150826-7	29.97		31.08	mg/L	104	90	110			
L28058-03DUP	DUP	12/12/15 16:11			6	5.83	mg/L				3	20	
L28058-04AS	AS	12/12/15 16:18	WI150826-7	29.97	4.7	37.71	mg/L	110	90	110			
WG395772LFB1	LFB	12/12/15 16:18	WI150826-7	29.97		32.9	mg/L	110	90	110			

McClelland Laboratories, Inc. ACZ Project ID: ***L28066***

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		1.936	mg/L	97	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.03	0.03			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	.5005		.48	mg/L	96	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	2.5025	U	2.449	mg/L	95	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	2.5025	U	2.431	mg/L	94	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2.002		1.914	mg/L	96	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.03	0.03			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	.5005		.487	mg/L	97	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	2.5025	5.88	8.33	mg/L	98	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	2.5025	5.88	8.215	mg/L	93	85	115	1	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395481													
WG395481LCSW2	LCSW	12/08/15 16:15	PCN48869	1408		1380	umhos/cm	98	90	110			
WG395481LCSW5	LCSW	12/08/15 19:55	PCN48869	1408		1350	umhos/cm	96	90	110			
L28080-01DUP	DUP	12/08/15 22:33			600	600	umhos/cm				0	20	
WG395481LCSW8	LCSW	12/08/15 22:38	PCN48869	1408		1340	umhos/cm	95	90	110			
WG395481LCSW11	LCSW	12/09/15 1:21	PCN48869	1408		1340	umhos/cm	95	90	110			
WG395481LCSW14	LCSW	12/09/15 2:12	PCN48869	1408		1330	umhos/cm	94	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		1.97	mg/L	99	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.03	0.03			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	.499		.491	mg/L	98	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	2.495	2.06	4.471	mg/L	97	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	2.495	2.06	4.467	mg/L	96	85	115	0	20	

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395627													
WG395627ICV	ICV	12/10/15 10:28	WC151207-7	2		1.914	mg/L	96	95	105			
WG395627ICB	ICB	12/10/15 10:35				U	mg/L		-0.15	0.15			
WG395655													
WG395655ICV	ICV	12/10/15 14:11	WC151207-7	2		1.931	mg/L	97	95	105			
WG395655ICB	ICB	12/10/15 14:19				U	mg/L		-0.15	0.15			
WG395655LFB1	LFB	12/10/15 14:26	WC151103-7	5		4.715	mg/L	94	90	110			
L28058-03AS	AS	12/10/15 15:59	WC151103-7	5	.82	4.91	mg/L	82	90	110			M2
L28058-03DUP	DUP	12/10/15 16:07			.82	.82	mg/L				0	20	
WG395655LFB2	LFB	12/10/15 17:26	WC151103-7	5		4.589	mg/L	92	90	110			

McClelland Laboratories, Inc. ACZ Project ID: ***L28066***

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		2.05	mg/L	103	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.3	0.3			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	1		.97	mg/L	97	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	5	U	4.83	mg/L	97	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	5	U	4.8	mg/L	96	85	115	1	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		1.979	mg/L	99	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.06	0.06			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	1.0001		.997	mg/L	100	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	5.0005	1240	1231	mg/L	-180	85	115			M3
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	5.0005	1240	1224.5	mg/L	-310	85	115	1	20	M3

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395897													
WG395897ICV	ICV	12/15/15 20:29	MS151201-3	.05		.05308	mg/L	106	90	110			
WG395897ICB	ICB	12/15/15 20:31				U	mg/L		-0.0003	0.0003			
WG395897LFB	LFB	12/15/15 20:33	MS151118-3	.05005		.05099	mg/L	102	85	115			
L28085-04AS	AS	12/15/15 20:48	MS151118-3	.05005	U	.05035	mg/L	101	70	130			
L28085-04ASD	ASD	12/15/15 20:50	MS151118-3	.05005	U	.05117	mg/L	102	70	130	2	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		2.0392	mg/L	102	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.024	0.024			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	1.001		.9946	mg/L	99	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	5.005	.27	5.32	mg/L	101	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	5.005	.27	5.29	mg/L	100	85	115	1	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	100		99.25	mg/L	99	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.6	0.6			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	50.00416		49.06	mg/L	98	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	250.0208	201	447.5	mg/L	99	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	250.0208	201	447.2	mg/L	98	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28066***

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		1.9828	mg/L	99	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.015	0.015			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	.499		.493	mg/L	99	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	2.495	1.08	3.506	mg/L	97	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	2.495	1.08	3.49	mg/L	97	85	115	0	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396116													
WG396116ICV	ICV	12/21/15 10:19	II151130-3	.005		.00525	mg/L	105	95	105			
WG396116LRB	LRB	12/21/15 10:23				U	mg/L		-0.00044	0.00044			
WG396116LFB	LFB	12/21/15 10:25	II151217-3	.002004		.00187	mg/L	93	85	115			
L22741-46LFM	LFM	12/21/15 10:33	II151217-3	.002004	U	.00186	mg/L	93	85	115			
L22741-46LFMD	LFMD	12/21/15 10:35	II151217-3	.002004	U	.00192	mg/L	96	85	115	3	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		2.039	mg/L	102	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.06	0.06			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	.4995		.5	mg/L	100	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	2.4975	.2	2.69	mg/L	100	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	2.4975	.2	2.66	mg/L	98	85	115	1	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		1.9695	mg/L	98	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.024	0.024			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	.501		.4902	mg/L	98	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	2.505	5.52	7.95	mg/L	97	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	2.505	5.52	7.82	mg/L	92	85	115	2	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395998													
WG395998ICV	ICV	12/17/15 0:22	WI151024-1	2.416		2.385	mg/L	99	90	110			
WG395998ICB	ICB	12/17/15 0:23				U	mg/L		-0.02	0.02			
WG395998LFB	LFB	12/17/15 0:24	WI151215-9	2		1.952	mg/L	98	90	110			
L28065-02DUP	DUP	12/17/15 0:30			U	U	mg/L				0	20	RA
L28065-01AS	AS	12/17/15 1:03	WI151215-9	2	.15	2.152	mg/L	100	90	110			

McClelland Laboratories, Inc. ACZ Project ID: ***L28066***

Nitrogen, ammonia M350.1

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395754													
WG395754ICV	ICV	12/14/15 9:34	WI151212-6	11.988		12.226	mg/L	102	90	110			
WG395754ICB	ICB	12/14/15 9:36				U	mg/L		-0.05	0.05			
WG395754LFB1	LFB	12/14/15 9:37	WI150204-10	10		10.116	mg/L	101	90	110			
WG395754LFB2	LFB	12/14/15 10:19	WI150204-10	10		9.768	mg/L	98	90	110			
L28023-02AS	AS	12/14/15 10:22	WI150204-10	10	.2	10.675	mg/L	105	90	110			
L28023-03DUP	DUP	12/14/15 10:24			.45	.463	mg/L				3	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395761													
WG395761ICV	ICV	12/12/15 11:00	PCN48559	6.01		6.1	units	101	5.9	6.1			
L28066-01DUP	DUP	12/12/15 11:12			2.6	2.6	units				0	20	

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395749													
WG395749ICV	ICV	12/11/15 21:14	WI151110-1	.65228		.684	mg/L	105	90	110			
WG395749ICB	ICB	12/11/15 21:17				U	mg/L		-0.02	0.02			
WG395750													
WG395743LRB	LRB	12/11/15 22:08				U	mg/L		-0.02	0.02			
WG395743LFB	LFB	12/11/15 22:10	WI151210-2	.5		.471	mg/L	94	90	110			
L28067-01DUP	DUP	12/11/15 22:13			U	U	mg/L				0	20	RA
L28067-02LFM	LFM	12/11/15 22:15	WI151210-2	.5	.02	.485	mg/L	93	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	20		19.44	mg/L	97	95	105			
WG395952ICB	ICB	12/16/15 13:40				.27	mg/L		-0.6	0.6			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	100.0125		95.03	mg/L	95	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	500.0625	76	559.5	mg/L	97	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	500.0625	76	557	mg/L	96	85	115	0	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395737													
WG395737PBW	PBW	12/11/15 16:30				U	mg/L		-20	20			
WG395737LCSW	LCSW	12/11/15 16:32	PCN49659	260		268	mg/L	103	80	120			
L28074-01DUP	DUP	12/11/15 17:01			2880	2870	mg/L				0	10	

McClelland Laboratories, Inc. ACZ Project ID: ***L28066***

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		2.02	mg/L	101	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.3	0.3			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	1.0009		1.01	mg/L	101	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	5.0045	U	5.15	mg/L	103	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	5.0045	U	5.13	mg/L	103	85	115	0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395897													
WG395897ICV	ICV	12/15/15 20:29	MS151201-3	.05		.05392	mg/L	108	90	110			
WG395897ICB	ICB	12/15/15 20:31				U	mg/L		-0.0003	0.0003			
WG395897LFB	LFB	12/15/15 20:33	MS151118-3	.0501		.051	mg/L	102	85	115			
L28085-04AS	AS	12/15/15 20:48	MS151118-3	.0501	U	.05257	mg/L	105	70	130			
L28085-04ASD	ASD	12/15/15 20:50	MS151118-3	.0501	U	.0523	mg/L	104	70	130	1	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	1.001		1.009	mg/L	101	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.03	0.03			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	.502		.512	mg/L	102	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	2.51	U	2.456	mg/L	98	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	2.51	U	2.343	mg/L	93	85	115	5	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	100		96.82	mg/L	97	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.6	0.6			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	100.0581		95.23	mg/L	95	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	500.2905	95	581	mg/L	97	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	500.2905	95	579.5	mg/L	97	85	115	0	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		2.0088	mg/L	100	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.015	0.015			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	.5005		.5037	mg/L	101	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	2.5025	8.19	10.69	mg/L	100	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	2.5025	8.19	10.635	mg/L	98	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28066***

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396052													
WG396052ICB	ICB	12/17/15 15:38				U	mg/L		-3	3			
WG396052ICV	ICV	12/17/15 15:38	WI151215-3	20		20	mg/L	100	90	110			
WG396052LFB	LFB	12/17/15 15:46	WI150904-1	10.01		9.3	mg/L	93	90	110			
L28063-01DUP	DUP	12/17/15 15:46			5.9	5.7	mg/L				3	20	RA
L28063-02AS	AS	12/17/15 15:46	WI150904-1	10.01	5.7	15.6	mg/L	99	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395897													
WG395897ICV	ICV	12/15/15 20:29	MS151201-3	.05		.05326	mg/L	107	90	110			
WG395897ICB	ICB	12/15/15 20:31				U	mg/L		-0.0003	0.0003			
WG395897LFB	LFB	12/15/15 20:33	MS151118-3	.0501		.05071	mg/L	101	85	115			
L28085-04AS	AS	12/15/15 20:48	MS151118-3	.0501	U	.05041	mg/L	101	70	130			
L28085-04ASD	ASD	12/15/15 20:50	MS151118-3	.0501	U	.05138	mg/L	103	70	130	2	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		2.012	mg/L	101	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.12	0.12			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	1.001		.965	mg/L	96	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	5.005	U	4.77	mg/L	95	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	5.005	U	4.73	mg/L	95	85	115	1	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		2.049	mg/L	102	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.015	0.015			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	1.003		1.011	mg/L	101	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	5.015	.03	5.055	mg/L	100	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	5.015	.03	5.02	mg/L	100	85	115	1	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395897													
WG395897ICV	ICV	12/15/15 20:29	MS151201-3	.05		.0531	mg/L	106	90	110			
WG395897ICB	ICB	12/15/15 20:31				U	mg/L		-0.0003	0.0003			
WG395897LFB	LFB	12/15/15 20:33	MS151118-3	.05		.05094	mg/L	102	85	115			
L28085-04AS	AS	12/15/15 20:48	MS151118-3	.05	U	.05145	mg/L	103	70	130			
L28085-04ASD	ASD	12/15/15 20:50	MS151118-3	.05	U	.05205	mg/L	104	70	130	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28066***

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		2.0122	mg/L	101	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.015	0.015			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	.501		.4978	mg/L	99	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	2.505	.11	2.586	mg/L	99	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	2.505	.11	2.568	mg/L	98	85	115	1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395952													
WG395952ICV	ICV	12/16/15 13:34	II151210-1	2		1.941	mg/L	97	95	105			
WG395952ICB	ICB	12/16/15 13:40				U	mg/L		-0.03	0.03			
WG395952LFB	LFB	12/16/15 13:53	II151202-8	.4995		.485	mg/L	97	85	115			
L28066-01AS	AS	12/16/15 13:59	II151202-8	2.4975	6.01	8.14	mg/L	90	85	115			
L28066-01ASD	ASD	12/16/15 14:02	II151202-8	2.4975	6.01	8.095	mg/L	89	85	115	1	20	

ACZ Laboratories, Inc.
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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L28066***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28066-01	WG395952	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395481	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395655	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395998	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395754	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395750	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395737	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396052	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.	
Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP
The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.	
Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L28066
Date Received: 12/08/2015 09:30
Received By: ddp
Date Printed: 12/8/2015

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	X		

A change was made in the ID Lines 1+2 and 4-10, Remarks section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?		X	

L28066-01 Container B1665640 (WHITE): There is limited supply in this container.

L28066-01 Container B1665641 (GREEN): There is limited supply in this container.

L28066-01 Container B1665642 (YELLOW): There is limited supply in this container.

	YES	NO	NA
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L28066-01 : A Green and Yellow container not received and a new container created from the White .

	YES	NO	NA
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp	Rad(µR/Hr)	Custody Seal

McClelland Laboratories, Inc.
3981

ACZ Project ID: L28066
Date Received: 12/08/2015 09:30
Received By: ddp
Date Printed: 12/8/2015

		Criteria(°C)		Intact?
NA23065	5.2	<=6.0	13	N/A

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L28066

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mll@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mll@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
[redacted]	[redacted]	[redacted]									
CAL-003 (675-685)	12/7/15	WW	1	X							
[redacted]		[redacted]									

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC[redacted] WK[redacted] 1 Limited Sample Dil as necd.
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	12/7/15	[signature]	12-8-15 0930

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L28066 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

Gray out Analyses DOESN'T get done on all Samples, just 1 of the Sample SEE COC

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 28, 2015

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L28126

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 10, 2015. This project has been assigned to ACZ's project number, L28126. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L28126. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 27, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Spnngs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L28126-01***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/17/15 15:47	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.42			mg/L	0.03	0.2	12/17/15 16:17	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0096			mg/L	0.0004	0.002	12/17/15 17:45	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0176			mg/L	0.0002	0.001	12/17/15 17:45	msh
Barium, dissolved	M200.7 ICP	1	0.022			mg/L	0.003	0.02	12/17/15 16:17	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00044			mg/L	0.00005	0.0003	12/17/15 17:45	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/17/15 16:17	gss
Boron, dissolved	M200.7 ICP	1	0.01	B	*	mg/L	0.01	0.05	12/17/15 16:17	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	12/17/15 17:45	msh
Calcium, dissolved	M200.7 ICP	1	31			mg/L	0.1	0.5	12/17/15 16:17	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:17	gss
Cobalt, dissolved	M200.7 ICP	1	0.21			mg/L	0.01	0.05	12/17/15 16:17	gss
Copper, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	12/17/15 16:17	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 16:17	gss
Iron, dissolved	M200.7 ICP	1	6.20			mg/L	0.02	0.05	12/17/15 16:17	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	12/17/15 17:45	msh
Lithium, dissolved	M200.7 ICP	1	0.021	B		mg/L	0.008	0.04	12/17/15 16:17	gss
Magnesium, dissolved	M200.7 ICP	1	4.6			mg/L	0.2	1	12/17/15 16:17	gss
Manganese, dissolved	M200.7 ICP	1	0.544			mg/L	0.005	0.03	12/17/15 16:17	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/21/15 17:16	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/17/15 16:17	gss
Nickel, dissolved	M200.7 ICP	1	1.320			mg/L	0.008	0.04	12/17/15 16:17	gss
Potassium, dissolved	M200.7 ICP	1	7.5			mg/L	0.2	1	12/18/15 18:18	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 16:17	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0090			mg/L	0.0001	0.0003	12/17/15 17:45	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/17/15 16:17	gss
Sodium, dissolved	M200.7 ICP	1	2.2		*	mg/L	0.2	1	12/17/15 16:17	gss
Strontium, dissolved	M200.7 ICP	1	0.181			mg/L	0.005	0.03	12/17/15 16:17	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0104			mg/L	0.0001	0.0005	12/17/15 17:45	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/17/15 16:17	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/17/15 16:17	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	12/17/15 17:45	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/17/15 16:17	gss
Zinc, dissolved	M200.7 ICP	1	0.14			mg/L	0.01	0.05	12/17/15 16:17	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L28126-01***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	12/12/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			12/23/15 13:58	calc
Sum of Anions			2.6			meq/L			12/23/15 13:58	calc
Sum of Cations			2.6			meq/L			12/23/15 13:58	calc
Chloride	SM4500Cl-E	1	2.4			mg/L	0.5	2	12/22/15 14:04	krh/mss
Conductivity @25C	SM2510B	1	304		*	umhos/cm	1	10	12/12/15 13:28	sck
Fluoride	SM4500F-C	1	0.17	B	*	mg/L	0.05	0.3	12/14/15 16:20	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		96.3			mg/L			12/23/15 13:58	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	12/18/15 23:51	pjb
Nitrogen, ammonia	M350.1	1		U	*	mg/L	0.05	0.2	12/22/15 12:15	mss2
pH (lab)	SM4500H+ B									
pH		1	5.1	H	*	units	0.1	0.1	12/12/15 0:00	sck
pH measured at		1	22.5			C	0.1	0.1	12/12/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	12/19/15 0:49	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	196		*	mg/L	10	20	12/15/15 11:07	sck
Sulfate	D516-02/-07 - Turbidimetric	5	120		*	mg/L	5	25	12/21/15 13:12	krh/bsu
TDS (calculated)	Calculation		175			mg/L			12/23/15 13:58	calc
TDS (ratio - measured/calculated)	Calculation		1.12						12/23/15 13:58	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L28126-02***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/17/15 15:57	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.34			mg/L	0.03	0.2	12/17/15 16:20	gss
Antimony, dissolved	M200.8 ICP-MS	5	0.041			mg/L	0.002	0.01	12/22/15 12:40	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0995			mg/L	0.0002	0.001	12/17/15 17:47	msh
Barium, dissolved	M200.7 ICP	1	0.516			mg/L	0.003	0.02	12/17/15 16:20	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/17/15 17:47	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/17/15 16:20	gss
Boron, dissolved	M200.7 ICP	1	0.14		*	mg/L	0.01	0.05	12/17/15 16:20	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/17/15 17:47	msh
Calcium, dissolved	M200.7 ICP	1	2.9			mg/L	0.1	0.5	12/17/15 16:20	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:20	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:20	gss
Copper, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	12/17/15 16:20	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 16:20	gss
Iron, dissolved	M200.7 ICP	1	1.27			mg/L	0.02	0.05	12/17/15 16:20	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0001	0.0005	12/17/15 17:47	msh
Lithium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.008	0.04	12/17/15 16:20	gss
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	12/17/15 16:20	gss
Manganese, dissolved	M200.7 ICP	1	0.066			mg/L	0.005	0.03	12/17/15 16:20	gss
Mercury, dissolved	M245.1 CVAA	1	0.0019			mg/L	0.0002	0.001	12/21/15 17:18	pta
Molybdenum, dissolved	M200.7 ICP	1	0.08	B		mg/L	0.02	0.1	12/17/15 16:20	gss
Nickel, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.008	0.04	12/17/15 16:20	gss
Potassium, dissolved	M200.7 ICP	1	2.1			mg/L	0.2	1	12/18/15 18:22	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 16:20	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0098			mg/L	0.0001	0.0003	12/17/15 17:47	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/17/15 16:20	gss
Sodium, dissolved	M200.7 ICP	1	26.8		*	mg/L	0.2	1	12/17/15 16:20	gss
Strontium, dissolved	M200.7 ICP	1	0.024	B		mg/L	0.005	0.03	12/17/15 16:20	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/17/15 17:47	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/17/15 16:20	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/17/15 16:20	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	12/17/15 17:47	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/17/15 16:20	gss
Zinc, dissolved	M200.7 ICP	1	0.21			mg/L	0.01	0.05	12/17/15 16:20	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L28126-02***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	31.3			mg/L	2	20	12/12/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Total Alkalinity		1	31.3		*	mg/L	2	20	12/12/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			31.3			%			12/23/15 13:58	calc
Sum of Anions			0.784			meq/L			12/23/15 13:58	calc
Sum of Cations			1.5			meq/L			12/23/15 13:58	calc
Chloride	SM4500Cl-E	1	2			mg/L	0.5	2	12/22/15 14:04	krh/mss
Conductivity @25C	SM2510B	1	146		*	umhos/cm	1	10	12/12/15 13:37	sck
Fluoride	SM4500F-C	1	0.98		*	mg/L	0.05	0.3	12/14/15 16:28	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		8.48			mg/L			12/23/15 13:58	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B		mg/L	0.02	0.1	12/18/15 23:52	pjb
Nitrogen, ammonia	M350.1	1	0.19	B	*	mg/L	0.05	0.2	12/22/15 12:16	mss2
pH (lab)	SM4500H+ B									
pH		1	7.6	H	*	units	0.1	0.1	12/12/15 0:00	sck
pH measured at		1	22.3			C	0.1	0.1	12/12/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.06		*	mg/L	0.02	0.05	12/19/15 0:50	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	192		*	mg/L	10	20	12/15/15 11:10	sck
Sulfate	D516-02/-07 - Turbidimetric	1	2.4	B	*	mg/L	1	5	12/21/15 13:05	krh/bsu
TDS (calculated)	Calculation		58.7			mg/L			12/23/15 13:58	calc
TDS (ratio - measured/calculated)	Calculation		3.27						12/23/15 13:58	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L28126-03***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/17/15 16:07	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	10	129			mg/L	0.3	2	12/18/15 18:25	aeb
Antimony, dissolved	M200.8 ICP-MS	2	0.0015	B		mg/L	0.0008	0.004	12/17/15 17:49	msh
Arsenic, dissolved	M200.8 ICP-MS	5	0.574			mg/L	0.001	0.005	12/22/15 12:42	msh
Barium, dissolved	M200.7 ICP	10	0.04	B	*	mg/L	0.03	0.2	12/18/15 18:25	aeb
Beryllium, dissolved	M200.8 ICP-MS	5	0.0106			mg/L	0.0003	0.001	12/22/15 12:42	msh
Bismuth, dissolved	M200.7 ICP	10		U	*	mg/L	0.4	2	12/18/15 18:25	aeb
Boron, dissolved	M200.7 ICP	10		U	*	mg/L	0.1	0.5	12/18/15 18:25	aeb
Cadmium, dissolved	M200.8 ICP-MS	5	0.0152			mg/L	0.0005	0.003	12/22/15 12:42	msh
Calcium, dissolved	M200.7 ICP	10	188			mg/L	1	5	12/18/15 18:25	aeb
Chromium, dissolved	M200.7 ICP	10	0.3	B	*	mg/L	0.1	0.5	12/18/15 18:25	aeb
Cobalt, dissolved	M200.7 ICP	10	1.2			mg/L	0.1	0.5	12/21/15 15:59	aeb
Copper, dissolved	M200.7 ICP	10	4.6			mg/L	0.1	0.5	12/18/15 18:25	aeb
Gallium, dissolved	M200.7 ICP	10		U	*	mg/L	1	5	12/18/15 18:25	aeb
Iron, dissolved	M200.7 ICP	10	270			mg/L	0.2	0.5	12/18/15 18:25	aeb
Lead, dissolved	M200.8 ICP-MS	5	0.0019	B		mg/L	0.0005	0.003	12/22/15 12:42	msh
Lithium, dissolved	M200.7 ICP	10	0.12	B	*	mg/L	0.08	0.4	12/18/15 18:25	aeb
Magnesium, dissolved	M200.7 ICP	10	31			mg/L	2	10	12/18/15 18:25	aeb
Manganese, dissolved	M200.7 ICP	10	1.47			mg/L	0.05	0.3	12/18/15 18:25	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/21/15 17:20	pta
Molybdenum, dissolved	M200.7 ICP	10		U	*	mg/L	0.2	1	12/18/15 18:25	aeb
Nickel, dissolved	M200.7 ICP	10	1.59			mg/L	0.08	0.4	12/18/15 18:25	aeb
Potassium, dissolved	M200.7 ICP	10	7	B	*	mg/L	2	10	12/18/15 18:25	aeb
Scandium, dissolved	M200.7 ICP	10		U	*	mg/L	1	5	12/18/15 18:25	aeb
Selenium, dissolved	M200.8 ICP-MS	5	0.0209			mg/L	0.0005	0.001	12/22/15 12:42	msh
Silver, dissolved	M200.7 ICP	10		U	*	mg/L	0.1	0.3	12/18/15 18:25	aeb
Sodium, dissolved	M200.7 ICP	10	10			mg/L	2	10	12/18/15 18:25	aeb
Strontium, dissolved	M200.7 ICP	10	0.16	B	*	mg/L	0.05	0.3	12/18/15 18:25	aeb
Thallium, dissolved	M200.8 ICP-MS	5	0.0062			mg/L	0.0005	0.003	12/22/15 12:42	msh
Tin, dissolved	M200.7 ICP	10		U	*	mg/L	0.4	2	12/18/15 18:25	aeb
Titanium, dissolved	M200.7 ICP	10	0.06	B	*	mg/L	0.05	0.3	12/18/15 18:25	aeb
Uranium, dissolved	M200.8 ICP-MS	5	0.3182			mg/L	0.0005	0.003	12/22/15 12:42	msh
Vanadium, dissolved	M200.7 ICP	10	0.10	B	*	mg/L	0.05	0.3	12/18/15 18:25	aeb
Zinc, dissolved	M200.7 ICP	10	3.9			mg/L	0.1	0.5	12/18/15 18:25	aeb

** Please refer to Qualifier Reports for details.*

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L28126-03***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	12/12/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			2.4			%			12/23/15 13:59	calc
Sum of Anions			40			meq/L			12/23/15 13:59	calc
Sum of Cations			42			meq/L			12/23/15 13:59	calc
Chloride	SM4500Cl-E	1	1.7	B		mg/L	0.5	2	12/22/15 14:04	krh/mss
Conductivity @25C	SM2510B	1	3950		*	umhos/cm	1	10	12/12/15 13:41	sck
Fluoride	SM4500F-C	1	0.06	B	*	mg/L	0.05	0.3	12/14/15 16:36	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		597			mg/L			12/23/15 13:59	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.11			mg/L	0.02	0.1	12/18/15 23:57	pjb
Nitrogen, ammonia	M350.1	1	0.56		*	mg/L	0.05	0.2	12/22/15 12:18	mss2
pH (lab)	SM4500H+ B									
pH		1	2.3	H	*	units	0.1	0.1	12/12/15 0:00	sck
pH measured at		1	22.3			C	0.1	0.1	12/12/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	5	1.5			mg/L	0.1	0.3	12/19/15 1:07	pjb
Residue, Filterable (TDS) @180C	SM2540C	2	3120		*	mg/L	20	40	12/15/15 11:13	sck
Sulfate	D516-02/-07 - Turbidimetric	100	1880		*	mg/L	100	500	12/21/15 13:36	krh/bsu
TDS (calculated)	Calculation		2530			mg/L			12/23/15 13:59	calc
TDS (ratio - measured/calculated)	Calculation		1.23						12/23/15 13:59	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L28126-04***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/17/15 16:28	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.51			mg/L	0.03	0.2	12/17/15 16:26	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0034			mg/L	0.0004	0.002	12/17/15 17:55	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0066		*	mg/L	0.0002	0.001	12/17/15 17:55	msh
Barium, dissolved	M200.7 ICP	1	0.120			mg/L	0.003	0.02	12/17/15 16:26	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00076			mg/L	0.00005	0.0003	12/22/15 12:44	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/17/15 16:26	gss
Boron, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.01	0.05	12/17/15 16:26	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/22/15 12:44	msh
Calcium, dissolved	M200.7 ICP	1	21.8			mg/L	0.1	0.5	12/17/15 16:26	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:26	gss
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/17/15 16:26	gss
Copper, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	12/17/15 16:26	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 16:26	gss
Iron, dissolved	M200.7 ICP	1	0.37			mg/L	0.02	0.05	12/17/15 16:26	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	12/22/15 12:44	msh
Lithium, dissolved	M200.7 ICP	1	0.029	B		mg/L	0.008	0.04	12/17/15 16:26	gss
Magnesium, dissolved	M200.7 ICP	1	4.5			mg/L	0.2	1	12/17/15 16:26	gss
Manganese, dissolved	M200.7 ICP	1	0.227			mg/L	0.005	0.03	12/17/15 16:26	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/21/15 17:22	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/17/15 16:26	gss
Nickel, dissolved	M200.7 ICP	1	0.022	B		mg/L	0.008	0.04	12/17/15 16:26	gss
Potassium, dissolved	M200.7 ICP	1	18.7			mg/L	0.2	1	12/18/15 18:28	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 16:26	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0309			mg/L	0.0001	0.0003	12/22/15 12:44	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/17/15 16:26	gss
Sodium, dissolved	M200.7 ICP	1	13.6		*	mg/L	0.2	1	12/17/15 16:26	gss
Strontium, dissolved	M200.7 ICP	1	0.070			mg/L	0.005	0.03	12/17/15 16:26	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	12/22/15 12:44	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/17/15 16:26	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/17/15 16:26	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/22/15 12:44	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/17/15 16:26	gss
Zinc, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	12/17/15 16:26	gss

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L28126-04***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	12/12/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			12/23/15 13:59	calc
Sum of Anions			2.7			meq/L			12/23/15 13:59	calc
Sum of Cations			2.7			meq/L			12/23/15 13:59	calc
Chloride	SM4500Cl-E	1	0.8	B		mg/L	0.5	2	12/22/15 14:04	krh/mss
Conductivity @25C	SM2510B	1	336		*	umhos/cm	1	10	12/12/15 13:46	sck
Fluoride	SM4500F-C	1	0.39		*	mg/L	0.05	0.3	12/14/15 16:43	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		73			mg/L			12/23/15 13:59	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B		mg/L	0.02	0.1	12/18/15 23:59	pjb
Nitrogen, ammonia	M350.1	1	0.22		*	mg/L	0.05	0.2	12/22/15 12:59	mss2
pH (lab)	SM4500H+ B									
pH		1	4.5	H	*	units	0.1	0.1	12/12/15 0:00	sck
pH measured at		1	22.4			C	0.1	0.1	12/12/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	12/19/15 0:53	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	232		*	mg/L	10	20	12/15/15 11:15	sck
Sulfate	D516-02/-07 - Turbidimetric	5	128		*	mg/L	5	25	12/21/15 13:12	krh/bsu
TDS (calculated)	Calculation		189			mg/L			12/23/15 13:59	calc
TDS (ratio - measured/calculated)	Calculation		1.23						12/23/15 13:59	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L28126-05***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/17/15 16:48	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.03	0.2	12/17/15 16:36	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0004	0.002	12/17/15 17:57	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0034		*	mg/L	0.0002	0.001	12/17/15 17:57	msh
Barium, dissolved	M200.7 ICP	1	0.135			mg/L	0.003	0.02	12/17/15 16:36	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/22/15 12:50	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/17/15 16:36	gss
Boron, dissolved	M200.7 ICP	1	0.07		*	mg/L	0.01	0.05	12/17/15 16:36	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/22/15 12:50	msh
Calcium, dissolved	M200.7 ICP	1	8.4			mg/L	0.1	0.5	12/17/15 16:36	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:36	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:36	gss
Copper, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	12/17/15 16:36	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 16:36	gss
Iron, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.02	0.05	12/17/15 16:36	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/22/15 12:50	msh
Lithium, dissolved	M200.7 ICP	1	0.023	B		mg/L	0.008	0.04	12/17/15 16:36	gss
Magnesium, dissolved	M200.7 ICP	1	1.4			mg/L	0.2	1	12/17/15 16:36	gss
Manganese, dissolved	M200.7 ICP	1	0.023	B		mg/L	0.005	0.03	12/17/15 16:36	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/21/15 17:24	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/17/15 16:36	gss
Nickel, dissolved	M200.7 ICP	1	0.032	B		mg/L	0.008	0.04	12/17/15 16:36	gss
Potassium, dissolved	M200.7 ICP	1	9.8			mg/L	0.2	1	12/18/15 18:31	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 16:36	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0367			mg/L	0.0001	0.0003	12/22/15 12:50	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/17/15 16:36	gss
Sodium, dissolved	M200.7 ICP	1	6		*	mg/L	0.2	1	12/17/15 16:36	gss
Strontium, dissolved	M200.7 ICP	1	0.090			mg/L	0.005	0.03	12/17/15 16:36	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	12/22/15 12:50	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/17/15 16:36	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/17/15 16:36	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/22/15 12:50	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/17/15 16:36	gss
Zinc, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	12/17/15 16:36	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L28126-05***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	12/12/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			12/23/15 13:59	calc
Sum of Anions			1.1			meq/L			12/23/15 13:59	calc
Sum of Cations			1.1			meq/L			12/23/15 13:59	calc
Chloride	SM4500Cl-E	1	1.4	B		mg/L	0.5	2	12/22/15 14:04	krh/mss
Conductivity @25C	SM2510B	1	147		*	umhos/cm	1	10	12/12/15 13:51	sck
Fluoride	SM4500F-C	1	0.14	B	*	mg/L	0.05	0.3	12/14/15 16:51	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		26.7			mg/L			12/23/15 13:59	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.10			mg/L	0.02	0.1	12/19/15 0:00	pjb
Nitrogen, ammonia	M350.1	1	0.66		*	mg/L	0.05	0.2	12/22/15 13:01	mss2
pH (lab)	SM4500H+ B									
pH		1	5.5	H	*	units	0.1	0.1	12/12/15 0:00	sck
pH measured at		1	22.2			C	0.1	0.1	12/12/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	12/19/15 0:56	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	92		*	mg/L	10	20	12/15/15 11:18	sck
Sulfate	D516-02/-07 - Turbidimetric	5	51.9		*	mg/L	5	25	12/21/15 13:43	krh/bsu
TDS (calculated)	Calculation		80.1			mg/L			12/23/15 13:59	calc
TDS (ratio - measured/calculated)	Calculation		1.15						12/23/15 13:59	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L28126-06***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/17/15 16:58	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	10	349			mg/L	0.3	2	12/18/15 18:41	aeb
Antimony, dissolved	M200.8 ICP-MS	2	0.0055			mg/L	0.0008	0.004	12/17/15 17:59	msh
Arsenic, dissolved	M200.8 ICP-MS	50	4.69			mg/L	0.01	0.05	12/22/15 12:52	msh
Barium, dissolved	M200.7 ICP	10	0.04	B	*	mg/L	0.03	0.2	12/18/15 18:41	aeb
Beryllium, dissolved	M200.8 ICP-MS	50	0.085			mg/L	0.003	0.01	12/22/15 12:52	msh
Bismuth, dissolved	M200.7 ICP	10		U	*	mg/L	0.4	2	12/18/15 18:41	aeb
Boron, dissolved	M200.7 ICP	10	0.1	B	*	mg/L	0.1	0.5	12/18/15 18:41	aeb
Cadmium, dissolved	M200.8 ICP-MS	50	0.033			mg/L	0.005	0.03	12/22/15 12:52	msh
Calcium, dissolved	M200.7 ICP	10	196			mg/L	1	5	12/18/15 18:41	aeb
Chromium, dissolved	M200.7 ICP	10	0.2	B	*	mg/L	0.1	0.5	12/18/15 18:41	aeb
Cobalt, dissolved	M200.7 ICP	10	2.5			mg/L	0.1	0.5	12/21/15 16:02	aeb
Copper, dissolved	M200.7 ICP	10	4			mg/L	0.1	0.5	12/18/15 18:41	aeb
Gallium, dissolved	M200.7 ICP	10		U	*	mg/L	1	5	12/18/15 18:41	aeb
Iron, dissolved	M200.7 ICP	10	441			mg/L	0.2	0.5	12/18/15 18:41	aeb
Lead, dissolved	M200.8 ICP-MS	50	0.007	B		mg/L	0.005	0.03	12/22/15 12:52	msh
Lithium, dissolved	M200.7 ICP	10	0.21	B	*	mg/L	0.08	0.4	12/18/15 18:41	aeb
Magnesium, dissolved	M200.7 ICP	10	51			mg/L	2	10	12/18/15 18:41	aeb
Manganese, dissolved	M200.7 ICP	10	4.46			mg/L	0.05	0.3	12/18/15 18:41	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/21/15 17:26	pta
Molybdenum, dissolved	M200.7 ICP	10		U	*	mg/L	0.2	1	12/18/15 18:41	aeb
Nickel, dissolved	M200.7 ICP	10	2.55			mg/L	0.08	0.4	12/18/15 18:41	aeb
Potassium, dissolved	M200.7 ICP	10	20			mg/L	2	10	12/18/15 18:41	aeb
Scandium, dissolved	M200.7 ICP	10		U	*	mg/L	1	5	12/18/15 18:41	aeb
Selenium, dissolved	M200.8 ICP-MS	50	0.021			mg/L	0.005	0.01	12/22/15 12:52	msh
Silver, dissolved	M200.7 ICP	10	0.2	B	*	mg/L	0.1	0.3	12/18/15 18:41	aeb
Sodium, dissolved	M200.7 ICP	10	13			mg/L	2	10	12/18/15 18:41	aeb
Strontium, dissolved	M200.7 ICP	10	0.08	B	*	mg/L	0.05	0.3	12/18/15 18:41	aeb
Thallium, dissolved	M200.8 ICP-MS	50	0.011	B		mg/L	0.005	0.03	12/22/15 12:52	msh
Tin, dissolved	M200.7 ICP	10		U	*	mg/L	0.4	2	12/18/15 18:41	aeb
Titanium, dissolved	M200.7 ICP	10	0.05	B	*	mg/L	0.05	0.3	12/18/15 18:41	aeb
Uranium, dissolved	M200.8 ICP-MS	50	0.040			mg/L	0.005	0.03	12/22/15 12:52	msh
Vanadium, dissolved	M200.7 ICP	10	0.09	B	*	mg/L	0.05	0.3	12/18/15 18:41	aeb
Zinc, dissolved	M200.7 ICP	10	9.2			mg/L	0.1	0.5	12/18/15 18:41	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L28126-06***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	12/12/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			4.7			%			12/23/15 13:59	calc
Sum of Anions			71			meq/L			12/23/15 13:59	calc
Sum of Cations			78			meq/L			12/23/15 13:59	calc
Chloride	SM4500Cl-E	1	2.3			mg/L	0.5	2	12/22/15 14:05	krh/mss
Conductivity @25C	SM2510B	1	4960		*	umhos/cm	1	10	12/12/15 13:56	sck
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	12/14/15 16:59	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		699			mg/L			12/23/15 13:59	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	10		U	*	mg/L	0.2	1	12/19/15 1:06	pjb
Nitrogen, ammonia	M350.1	1	0.80		*	mg/L	0.05	0.2	12/22/15 13:51	mss2
pH (lab)	SM4500H+ B									
pH		1	2.4	H	*	units	0.1	0.1	12/12/15 0:00	sck
pH measured at		1	22.5			C	0.1	0.1	12/12/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	10	2.4			mg/L	0.2	0.5	12/19/15 1:19	pjb
Residue, Filterable (TDS) @180C	SM2540C	2	5820		*	mg/L	20	40	12/16/15 16:50	sck
Sulfate	D516-02/-07 - Turbidimetric	200	3390		*	mg/L	200	1000	12/21/15 13:57	krh/bsu
TDS (calculated)	Calculation		4480			mg/L			12/23/15 13:59	calc
TDS (ratio - measured/calculated)	Calculation		1.30						12/23/15 13:59	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L28126-07***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/17/15 17:09	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.10	B		mg/L	0.03	0.2	12/17/15 16:42	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0036			mg/L	0.0004	0.002	12/17/15 18:01	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0444		*	mg/L	0.0002	0.001	12/17/15 18:01	msh
Barium, dissolved	M200.7 ICP	1	0.017	B		mg/L	0.003	0.02	12/17/15 16:42	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/22/15 12:54	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/17/15 16:42	gss
Boron, dissolved	M200.7 ICP	1	0.01	B	*	mg/L	0.01	0.05	12/17/15 16:42	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/22/15 12:54	msh
Calcium, dissolved	M200.7 ICP	1	8.6			mg/L	0.1	0.5	12/17/15 16:42	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:42	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:42	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:42	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 16:42	gss
Iron, dissolved	M200.7 ICP	1	0.11			mg/L	0.02	0.05	12/17/15 16:42	gss
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/22/15 12:54	msh
Lithium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.008	0.04	12/17/15 16:42	gss
Magnesium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	12/17/15 16:42	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/17/15 16:42	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/21/15 17:28	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/17/15 16:42	gss
Nickel, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.008	0.04	12/17/15 16:42	gss
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/18/15 18:44	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 16:42	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0001	0.0003	12/22/15 12:54	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/17/15 16:42	gss
Sodium, dissolved	M200.7 ICP	1	0.4	B	*	mg/L	0.2	1	12/17/15 16:42	gss
Strontium, dissolved	M200.7 ICP	1	0.062			mg/L	0.005	0.03	12/17/15 16:42	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/22/15 12:54	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/17/15 16:42	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/17/15 16:42	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/22/15 12:54	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/17/15 16:42	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:42	gss

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L28126-07***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	12.0	B		mg/L	2	20	12/12/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Total Alkalinity		1	12.0	B	*	mg/L	2	20	12/12/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-5.5			%			12/23/15 14:00	calc
Sum of Anions			0.589			meq/L			12/23/15 14:00	calc
Sum of Cations			0.528			meq/L			12/23/15 14:00	calc
Chloride	SM4500Cl-E	1	1	B		mg/L	0.5	2	12/22/15 14:05	krh/mss
Conductivity @25C	SM2510B	1	62.0		*	umhos/cm	1	10	12/12/15 14:04	sck
Fluoride	SM4500F-C	1	0.11	B	*	mg/L	0.05	0.3	12/14/15 17:07	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		24.4			mg/L			12/23/15 14:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	12/19/15 0:04	pjb
Nitrogen, ammonia	M350.1	1	0.06	B	*	mg/L	0.05	0.2	12/22/15 13:52	mss2
pH (lab)	SM4500H+ B									
pH		1	7.5	H	*	units	0.1	0.1	12/12/15 0:00	sck
pH measured at		1	22.7			C	0.1	0.1	12/12/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B		mg/L	0.02	0.05	12/19/15 1:00	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	42		*	mg/L	10	20	12/15/15 11:23	sck
Sulfate	D516-02/-07 - Turbidimetric	1	15.0		*	mg/L	1	5	12/21/15 13:35	krh/bsu
TDS (calculated)	Calculation		33.5			mg/L			12/23/15 14:00	calc
TDS (ratio - measured/calculated)	Calculation		1.25						12/23/15 14:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L28126-08***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/17/15 17:19	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/17/15 16:45	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0020			mg/L	0.0004	0.002	12/17/15 18:08	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0044		*	mg/L	0.0002	0.001	12/17/15 18:08	msh
Barium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.003	0.02	12/17/15 16:45	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/22/15 12:57	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/17/15 16:45	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:45	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/22/15 12:57	msh
Calcium, dissolved	M200.7 ICP	1	4.8			mg/L	0.1	0.5	12/17/15 16:45	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:45	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:45	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:45	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 16:45	gss
Iron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.05	12/17/15 16:45	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	12/22/15 12:57	msh
Lithium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.008	0.04	12/17/15 16:45	gss
Magnesium, dissolved	M200.7 ICP	1	1			mg/L	0.2	1	12/17/15 16:45	gss
Manganese, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	12/17/15 16:45	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/21/15 17:30	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/17/15 16:45	gss
Nickel, dissolved	M200.7 ICP	1	0.069			mg/L	0.008	0.04	12/17/15 16:45	gss
Potassium, dissolved	M200.7 ICP	1	1.2			mg/L	0.2	1	12/18/15 18:47	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 16:45	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0065			mg/L	0.0001	0.0003	12/22/15 12:57	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/17/15 16:45	gss
Sodium, dissolved	M200.7 ICP	1	2.7			mg/L	0.2	1	12/17/15 16:45	gss
Strontium, dissolved	M200.7 ICP	1	0.032		*	mg/L	0.005	0.03	12/17/15 16:45	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	12/22/15 12:57	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/17/15 16:45	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/17/15 16:45	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/22/15 12:57	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/17/15 16:45	gss
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/17/15 16:45	gss

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L28126-08***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	12/12/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.2			%			12/23/15 14:00	calc
Sum of Anions			0.506			meq/L			12/23/15 14:00	calc
Sum of Cations			0.475	B		meq/L			12/23/15 14:00	calc
Chloride	SM4500Cl-E	1	1.1	B		mg/L	0.5	2	12/22/15 14:05	krh/mss
Conductivity @25C	SM2510B	1	63.3		*	umhos/cm	1	10	12/12/15 14:11	sck
Fluoride	SM4500F-C	1	0.09	B	*	mg/L	0.05	0.3	12/14/15 17:26	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		16.1			mg/L			12/23/15 14:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	12/19/15 0:06	pjb
Nitrogen, ammonia	M350.1	1		U	*	mg/L	0.05	0.2	12/22/15 13:07	mss2
pH (lab)	SM4500H+ B									
pH		1	6.5	H	*	units	0.1	0.1	12/12/15 0:00	sck
pH measured at		1	22.8			C	0.1	0.1	12/12/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	12/19/15 1:01	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	48		*	mg/L	10	20	12/15/15 11:26	sck
Sulfate	D516-02/-07 - Turbidimetric	1	22.4		*	mg/L	1	5	12/21/15 13:35	krh/bsu
TDS (calculated)	Calculation		33.4			mg/L			12/23/15 14:00	calc
TDS (ratio - measured/calculated)	Calculation		1.44						12/23/15 14:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L28126-09***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/15/15 15:26	krh
Cyanide, WAD	SM4500-CN I- distillation				*				12/15/15 17:16	krh
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/17/15 17:29	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.23			mg/L	0.03	0.2	12/17/15 16:48	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/17/15 18:10	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0029		*	mg/L	0.0002	0.001	12/17/15 18:10	msh
Barium, dissolved	M200.7 ICP	1	0.021			mg/L	0.003	0.02	12/17/15 16:48	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00041			mg/L	0.00005	0.0003	12/22/15 12:59	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/17/15 16:48	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:48	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/22/15 12:59	msh
Calcium, dissolved	M200.7 ICP	1	13.8			mg/L	0.1	0.5	12/17/15 16:48	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:48	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/17/15 16:48	gss
Copper, dissolved	M200.7 ICP	1	1.89			mg/L	0.01	0.05	12/17/15 16:48	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 16:48	gss
Iron, dissolved	M200.7 ICP	1	0.06			mg/L	0.02	0.05	12/17/15 16:48	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	12/22/15 12:59	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/17/15 16:48	gss
Magnesium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	12/17/15 16:48	gss
Manganese, dissolved	M200.7 ICP	1	0.262			mg/L	0.005	0.03	12/17/15 16:48	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/21/15 17:32	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/17/15 16:48	gss
Nickel, dissolved	M200.7 ICP	1	0.043			mg/L	0.008	0.04	12/17/15 16:48	gss
Potassium, dissolved	M200.7 ICP	1	3.3			mg/L	0.2	1	12/18/15 18:50	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 16:48	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0003	12/22/15 12:59	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/17/15 16:48	gss
Sodium, dissolved	M200.7 ICP	1	2.1			mg/L	0.2	1	12/17/15 16:48	gss
Strontium, dissolved	M200.7 ICP	1	0.049		*	mg/L	0.005	0.03	12/17/15 16:48	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	12/22/15 12:59	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/17/15 16:48	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/17/15 16:48	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	12/22/15 12:59	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/17/15 16:48	gss
Zinc, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	12/17/15 16:48	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L28126-09***
Date Sampled: *12/09/15 00:00*
Date Received: *12/10/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	12/12/15 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	12/12/15 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.3			%			12/23/15 14:00	calc
Sum of Anions			1.2			meq/L			12/23/15 14:00	calc
Sum of Cations			1.1			meq/L			12/23/15 14:00	calc
Chloride	SM4500Cl-E	1	0.9	B		mg/L	0.5	2	12/22/15 14:05	krh/mss
Conductivity @25C	SM2510B	1	141		*	umhos/cm	1	10	12/12/15 14:16	sck
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.005	B	*	mg/L	0.003	0.01	12/16/15 21:02	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/16/15 22:14	pjb
Fluoride	SM4500F-C	1	0.20	B		mg/L	0.05	0.3	12/15/15 12:26	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		36.1			mg/L			12/23/15 14:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	12/19/15 0:07	pjb
Nitrogen, ammonia	M350.1	1	0.54		*	mg/L	0.05	0.2	12/22/15 13:09	mss2
pH (lab)	SM4500H+ B									
pH		1	4.7	H	*	units	0.1	0.1	12/12/15 0:00	sck
pH measured at		1	22.4			C	0.1	0.1	12/12/15 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	12/19/15 1:02	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	100		*	mg/L	10	20	12/15/15 11:28	sck
Sulfate	D516-02/-07 - Turbidimetric	5	53.8		*	mg/L	5	25	12/21/15 13:47	krh/bsu
TDS (calculated)	Calculation		77.6			mg/L			12/23/15 14:00	calc
TDS (ratio - measured/calculated)	Calculation		1.29						12/23/15 14:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395768													
WG395768PBW1	PBW	12/12/15 13:06				U	mg/L		-20	20			
WG395768LCSW3	LCSW	12/12/15 13:23	WC151211-9	820.0001		784	mg/L	96	90	110			
L28130-01DUP	DUP	12/12/15 14:34			25.6	26	mg/L				2	20	
WG395768LCSW6	LCSW	12/12/15 16:24	WC151211-9	820.0001		782	mg/L	95	90	110			
WG395768PBW2	PBW	12/12/15 16:32				U	mg/L		-20	20			
WG395768LCSW9	LCSW	12/12/15 20:04	WC151211-9	820.0001		791	mg/L	96	90	110			
WG395768PBW3	PBW	12/12/15 20:12				U	mg/L		-20	20			
WG395768LCSW12	LCSW	12/12/15 23:42	WC151211-9	820.0001		799	mg/L	97	90	110			
WG395768PBW4	PBW	12/12/15 23:50				U	mg/L		-20	20			
WG395768LCSW15	LCSW	12/13/15 2:08	WC151211-9	820.0001		808	mg/L	99	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		2.067	mg/L	103	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.09	0.09			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	1.0013		1.032	mg/L	103	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	1.0013	U	1.056	mg/L	105	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	1.0013	U	1.059	mg/L	106	85	115	0	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	1.0013	U	1.044	mg/L	104	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	1.0013	U	1.059	mg/L	106	85	115	1	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		2.032	mg/L	102	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.09	0.09			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	1.0013		1.011	mg/L	101	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	1.0013	U	1.019	mg/L	102	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	1.0013	U	1.044	mg/L	104	85	115	2	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396053													
WG396053ICV	ICV	12/17/15 17:08	MS151201-3	.02		.01956	mg/L	98	90	110			
WG396053ICB	ICB	12/17/15 17:10				U	mg/L		-0.0012	0.0012			
WG396053LFB	LFB	12/17/15 17:12	MS151217-2	.01001		.01007	mg/L	101	85	115			
L28125-02AS	AS	12/17/15 17:27	MS151217-2	.01001	U	.00952	mg/L	95	70	130			
L28125-02ASD	ASD	12/17/15 17:30	MS151217-2	.01001	U	.00967	mg/L	97	70	130	2	20	
L28126-03AS	AS	12/17/15 17:51	MS151217-2	.02002	.0015	.02109	mg/L	98	70	130			
L28126-03ASD	ASD	12/17/15 17:53	MS151217-2	.02002	.0015	.02103	mg/L	98	70	130	0	20	
WG396244													
WG396244ICV	ICV	12/22/15 12:20	MS151201-3	.02		.01884	mg/L	94	90	110			
WG396244ICB	ICB	12/22/15 12:22				U	mg/L		-0.0012	0.0012			
WG396244LFB	LFB	12/22/15 12:24	MS151217-2	.01001		.00994	mg/L	99	85	115			
L28018-03AS	AS	12/22/15 12:33	MS151217-2	.01001	U	.00952	mg/L	95	70	130			
L28018-03ASD	ASD	12/22/15 12:35	MS151217-2	.01001	U	.0101	mg/L	101	70	130	6	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396053													
WG396053ICV	ICV	12/17/15 17:08	MS151201-3	.05		.05092	mg/L	102	90	110			
WG396053ICB	ICB	12/17/15 17:10				U	mg/L		-0.0006	0.0006			
WG396053LFB	LFB	12/17/15 17:12	MS151217-2	.0501		.05577	mg/L	111	85	115			
L28125-02AS	AS	12/17/15 17:27	MS151217-2	.0501	.0036	.05485	mg/L	102	70	130			
L28125-02ASD	ASD	12/17/15 17:30	MS151217-2	.0501	.0036	.05477	mg/L	102	70	130	0	20	
L28126-03AS	AS	12/17/15 17:51	MS151217-2	.1002	.6065	.64972	mg/L	43	70	130			M3
L28126-03ASD	ASD	12/17/15 17:53	MS151217-2	.1002	.6065	.65917	mg/L	53	70	130	1	20	M3
WG396244													
WG396244ICV	ICV	12/22/15 12:20	MS151201-3	.05		.05227	mg/L	105	90	110			
WG396244ICB	ICB	12/22/15 12:22				U	mg/L		-0.0006	0.0006			
WG396244LFB	LFB	12/22/15 12:24	MS151217-2	.0501		.04894	mg/L	98	85	115			
L28018-03AS	AS	12/22/15 12:33	MS151217-2	.0501	.0035	.05779	mg/L	108	70	130			
L28018-03ASD	ASD	12/22/15 12:35	MS151217-2	.0501	.0035	.05546	mg/L	104	70	130	4	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		2	mg/L	100	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.009	0.009			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	.5		.4906	mg/L	98	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	.5	.027	.5187	mg/L	98	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	.5	.027	.5175	mg/L	98	85	115	0	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	.5	.031	.5121	mg/L	96	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	.5	.031	.5123	mg/L	96	85	115	0	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.9328	mg/L	97	95	105			
WG396099ICB	ICB	12/18/15 17:49				.0049	mg/L		-0.009	0.009			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	.5		.4732	mg/L	95	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	.5	.028	.4944	mg/L	93	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	.5	.028	.5033	mg/L	95	85	115	2	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396053													
WG396053ICV	ICV	12/17/15 17:08	MS151201-3	.05		.049414	mg/L	99	90	110			
WG396053ICB	ICB	12/17/15 17:10				U	mg/L		-0.00015	0.00015			
WG396053LFB	LFB	12/17/15 17:12	MS151217-2	.0501		.049793	mg/L	99	85	115			
L28125-02AS	AS	12/17/15 17:27	MS151217-2	.0501	U	.050007	mg/L	100	70	130			
L28125-02ASD	ASD	12/17/15 17:30	MS151217-2	.0501	U	.048712	mg/L	97	70	130	3	20	
WG396244													
WG396244ICV	ICV	12/22/15 12:20	MS151201-3	.05		.05058	mg/L	101	90	110			
WG396244ICB	ICB	12/22/15 12:22				.000066	mg/L		-0.00015	0.00015			
WG396244LFB	LFB	12/22/15 12:24	MS151217-2	.0501		.049858	mg/L	100	85	115			
L28018-03AS	AS	12/22/15 12:33	MS151217-2	.0501	U	.051835	mg/L	103	70	130			
L28018-03ASD	ASD	12/22/15 12:35	MS151217-2	.0501	U	.052179	mg/L	104	70	130	1	20	
L28152-01AS	AS	12/22/15 13:03	MS151217-2	.0501	U	.048838	mg/L	97	70	130			
L28152-01ASD	ASD	12/22/15 13:05	MS151217-2	.0501	U	.048577	mg/L	97	70	130	1	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		2.011	mg/L	101	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.12	0.12			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	1		.964	mg/L	96	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	1	U	1.019	mg/L	102	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	1	U	.993	mg/L	99	85	115	3	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	1	U	1.005	mg/L	101	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	1	U	1.009	mg/L	101	85	115	0	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.957	mg/L	98	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.12	0.12			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	1		.971	mg/L	97	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	1	U	.964	mg/L	96	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	1	U	.951	mg/L	95	85	115	1	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		1.918	mg/L	96	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.03	0.03			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	.5005		.478	mg/L	96	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	.5005	1.99	2.427	mg/L	87	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	.5005	1.99	2.374	mg/L	77	85	115	2	20	M3
L28134-02AS	AS	12/17/15 16:58	II151202-8	.5005	.2	.67	mg/L	94	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	.5005	.2	.671	mg/L	94	85	115	0	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.964	mg/L	98	95	105			
WG396099ICB	ICB	12/18/15 17:49				.017	mg/L		-0.03	0.03			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	.5005		.49	mg/L	98	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	.5005	2.01	2.392	mg/L	76	85	115			M3
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	.5005	2.01	2.4	mg/L	78	85	115	0	20	M3

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396053													
WG396053ICV	ICV	12/17/15 17:08	MS151201-3	.05		.04999	mg/L	100	90	110			
WG396053ICB	ICB	12/17/15 17:10				U	mg/L		-0.0003	0.0003			
WG396053LFB	LFB	12/17/15 17:12	MS151217-2	.05005		.04973	mg/L	99	85	115			
L28125-02AS	AS	12/17/15 17:27	MS151217-2	.05005	.0003	.04988	mg/L	99	70	130			
L28125-02ASD	ASD	12/17/15 17:30	MS151217-2	.05005	.0003	.04901	mg/L	97	70	130	2	20	
WG396244													
WG396244ICV	ICV	12/22/15 12:20	MS151201-3	.05		.05214	mg/L	104	90	110			
WG396244ICB	ICB	12/22/15 12:22				U	mg/L		-0.0003	0.0003			
WG396244LFB	LFB	12/22/15 12:24	MS151217-2	.05005		.04944	mg/L	99	85	115			
L28018-03AS	AS	12/22/15 12:33	MS151217-2	.05005	U	.05085	mg/L	102	70	130			
L28018-03ASD	ASD	12/22/15 12:35	MS151217-2	.05005	U	.05209	mg/L	104	70	130	2	20	
L28152-01AS	AS	12/22/15 13:03	MS151217-2	.05005	U	.05024	mg/L	100	70	130			
L28152-01ASD	ASD	12/22/15 13:05	MS151217-2	.05005	U	.0497	mg/L	99	70	130	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	100		99.45	mg/L	99	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.3	0.3			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	68.01261		67.97	mg/L	100	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	68.01261	52.6	119.6	mg/L	99	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	68.01261	52.6	119.2	mg/L	98	85	115	0	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	68.01261	97.3	162.4	mg/L	96	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	68.01261	97.3	163	mg/L	97	85	115	0	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	100		99.51	mg/L	100	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.3	0.3			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	68.01261		67.44	mg/L	99	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	68.01261	52.4	118.2	mg/L	97	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	68.01261	52.4	119.9	mg/L	99	85	115	1	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396250													
WG396250ICB	ICB	12/22/15 12:41				.56	mg/L		-1.5	1.5			
WG396250ICV	ICV	12/22/15 12:41	WI150701-4	55.055		57.85	mg/L	105	90	110			
WG396250LFB	LFB	12/22/15 14:03	WI150826-7	29.97		31.4	mg/L	105	90	110			
L28115-03AS	AS	12/22/15 14:04	WI150826-7	29.97	15	46.96	mg/L	107	90	110			
L28116-01DUP	DUP	12/22/15 14:04			5	5.03	mg/L				1	20	
L28134-01AS	AS	12/22/15 14:24	WI150826-7	29.97	6.8	39.29	mg/L	108	90	110			
L28134-02DUP	DUP	12/22/15 14:24			15.5	15.39	mg/L				1	20	

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		1.935	mg/L	97	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.03	0.03			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	.5005		.482	mg/L	96	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	.5005	U	.483	mg/L	97	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	.5005	U	.476	mg/L	95	85	115	1	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	.5005	U	.477	mg/L	95	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	.5005	U	.474	mg/L	95	85	115	1	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.964	mg/L	98	95	105			
WG396099ICB	ICB	12/18/15 17:49				.015	mg/L		-0.03	0.03			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	.5005		.489	mg/L	98	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	.5005	.01	.486	mg/L	95	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	.5005	.01	.499	mg/L	98	85	115	3	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2.002		1.92	mg/L	96	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.03	0.03			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	.5005		.489	mg/L	98	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	.5005	U	.49	mg/L	98	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	.5005	U	.484	mg/L	97	85	115	1	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	.5005	U	.484	mg/L	97	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	.5005	U	.481	mg/L	96	85	115	1	20	
WG396177													
WG396177ICV	ICV	12/21/15 15:38	II151210-1	2.002		1.934	mg/L	97	95	105			
WG396177ICB	ICB	12/21/15 15:44				U	mg/L		-0.03	0.03			
WG396177LFB	LFB	12/21/15 15:56	II151202-8	.5005		.501	mg/L	100	85	115			
L28202-02AS	AS	12/21/15 16:11	II151202-8	2.5025	1.41	3.844	mg/L	97	85	115			
L28202-02ASD	ASD	12/21/15 16:14	II151202-8	2.5025	1.41	3.924	mg/L	100	85	115	2	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395768													
WG395768LCSW2	LCSW	12/12/15 13:11	PCN48869	1408		1400	umhos/cm	99	90	110			
L28130-01DUP	DUP	12/12/15 14:34			83.1	82.9	umhos/cm				0	20	
WG395768LCSW5	LCSW	12/12/15 16:13	PCN48869	1408		1380	umhos/cm	98	90	110			
WG395768LCSW8	LCSW	12/12/15 19:52	PCN48869	1408		1370	umhos/cm	97	90	110			
WG395768LCSW11	LCSW	12/12/15 23:30	PCN48869	1408		1350	umhos/cm	96	90	110			
WG395768LCSW14	LCSW	12/13/15 1:56	PCN48869	1408		1340	umhos/cm	95	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		1.964	mg/L	98	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.03	0.03			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	.499		.491	mg/L	98	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	.499	U	.513	mg/L	103	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	.499	U	.506	mg/L	101	85	115	1	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	.499	U	.494	mg/L	99	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	.499	U	.494	mg/L	99	85	115	0	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.925	mg/L	96	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.03	0.03			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	.499		.482	mg/L	97	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	.499	.01	.495	mg/L	97	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	.499	.01	.499	mg/L	98	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395996													
WG395996ICV	ICV	12/16/15 20:47	WI151215-5	.3003		.2807	mg/L	93	90	110			
WG395996ICB	ICB	12/16/15 20:48				U	mg/L		-0.003	0.003			
WG395863LRB	LRB	12/16/15 20:49				U	mg/L		-0.003	0.003			
WG395863LFB	LFB	12/16/15 20:50	WI151212-2	.201		.2024	mg/L	101	90	110			
L28065-01DUP	DUP	12/16/15 20:52			U	U	mg/L				0	20	RA
L28065-02LFM	LFM	12/16/15 20:54	WI151212-2	.201	U	.1916	mg/L	95	90	110			

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395996													
WG395996ICV	ICV	12/16/15 20:47	WI151215-5	.3003		.2807	mg/L	93	90	110			
WG395996ICB	ICB	12/16/15 20:48				U	mg/L		-0.003	0.003			
L28065-01DUP	DUP	12/16/15 20:52			U	U	mg/L				0	20	RA
L28065-02LFM	LFM	12/16/15 20:54	WI151212-2	.201	U	.1916	mg/L	95	90	110			
WG395997													
WG395864LRB	LRB	12/16/15 22:01				U	mg/L		-0.003	0.003			
WG395864LFB	LFB	12/16/15 22:02	WI151212-5	.2002		.1873	mg/L	94	90	110			
L28065-01DUP	DUP	12/16/15 22:04			U	U	mg/L				0	20	RA
L28065-02LFM	LFM	12/16/15 22:05	WI151212-5	.2002	U	.1793	mg/L	90	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395785													
WG395785ICV	ICV	12/14/15 10:53	WC151207-7	2		1.914	mg/L	96	95	105			
WG395785ICB	ICB	12/14/15 11:01				U	mg/L		-0.15	0.15			
WG395785LFB1	LFB	12/14/15 11:11	WC151103-7	5		4.817	mg/L	96	90	110			
WG395785LFB2	LFB	12/14/15 14:27	WC151103-7	5		4.795	mg/L	96	90	110			
L28121-02AS	AS	12/14/15 16:09	WC151103-7	5	.09	4.885	mg/L	96	90	110			
L28121-02DUP	DUP	12/14/15 16:13			.09	.106	mg/L				16	20	RA
WG395836													
WG395836ICV	ICV	12/15/15 11:35	WC151207-7	2		2.045	mg/L	102	95	105			
WG395836ICB	ICB	12/15/15 11:43				.052	mg/L		-0.15	0.15			
WG395836LFB1	LFB	12/15/15 11:59	WC151103-7	5		4.909	mg/L	98	90	110			
L28044-01AS	AS	12/15/15 12:06	WC151103-7	5	2.82	7.471	mg/L	93	90	110			
L28044-01DUP	DUP	12/15/15 12:14			2.82	2.767	mg/L				2	20	
WG395836LFB2	LFB	12/15/15 15:27	WC151103-7	5		4.863	mg/L	97	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		2.06	mg/L	103	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.3	0.3			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	1		.96	mg/L	96	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	1	U	.99	mg/L	99	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	1	U	.98	mg/L	98	85	115	1	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	1	U	.96	mg/L	96	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	1	U	.94	mg/L	94	85	115	2	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		2.02	mg/L	101	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.3	0.3			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	1		.93	mg/L	93	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	1	U	.91	mg/L	91	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	1	U	.98	mg/L	98	85	115	7	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		2.001	mg/L	100	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.06	0.06			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	1.0001		.996	mg/L	100	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	1.0001	U	.995	mg/L	99	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	1.0001	U	1.001	mg/L	100	85	115	1	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	1.0001	.11	1.073	mg/L	97	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	1.0001	.11	1.079	mg/L	98	85	115	1	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.931	mg/L	97	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.06	0.06			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	1.0001		.962	mg/L	96	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	1.0001	.03	.956	mg/L	94	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	1.0001	.03	.976	mg/L	96	85	115	2	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396053													
WG396053ICV	ICV	12/17/15 17:08	MS151201-3	.05		.05131	mg/L	103	90	110			
WG396053ICB	ICB	12/17/15 17:10				U	mg/L		-0.0003	0.0003			
WG396053LFB	LFB	12/17/15 17:12	MS151217-2	.05005		.05034	mg/L	101	85	115			
L28125-02AS	AS	12/17/15 17:27	MS151217-2	.05005	U	.05007	mg/L	100	70	130			
L28125-02ASD	ASD	12/17/15 17:30	MS151217-2	.05005	U	.04887	mg/L	98	70	130	2	20	
WG396244													
WG396244ICV	ICV	12/22/15 12:20	MS151201-3	.05		.05414	mg/L	108	90	110			
WG396244ICB	ICB	12/22/15 12:22				U	mg/L		-0.0003	0.0003			
WG396244LFB	LFB	12/22/15 12:24	MS151217-2	.05005		.05033	mg/L	101	85	115			
L28018-03AS	AS	12/22/15 12:33	MS151217-2	.05005	.0002	.05173	mg/L	103	70	130			
L28018-03ASD	ASD	12/22/15 12:35	MS151217-2	.05005	.0002	.05249	mg/L	104	70	130	1	20	
L28152-01AS	AS	12/22/15 13:03	MS151217-2	.05005	.0003	.05284	mg/L	105	70	130			
L28152-01ASD	ASD	12/22/15 13:05	MS151217-2	.05005	.0003	.05242	mg/L	104	70	130	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		2.0192	mg/L	101	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.024	0.024			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	1.001		.9739	mg/L	97	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	1.001	.642	1.607	mg/L	96	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	1.001	.642	1.589	mg/L	95	85	115	1	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	1.001	.312	1.253	mg/L	94	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	1.001	.312	1.261	mg/L	95	85	115	1	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.9932	mg/L	100	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.024	0.024			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	1.001		.9475	mg/L	95	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	1.001	.632	1.536	mg/L	90	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	1.001	.632	1.551	mg/L	92	85	115	1	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	100		99.05	mg/L	99	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.6	0.6			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	50.00416		48.58	mg/L	97	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	50.00416	23.3	71.99	mg/L	97	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	50.00416	23.3	71.75	mg/L	97	85	115	0	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	50.00416	21	69.2	mg/L	96	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	50.00416	21	69.42	mg/L	97	85	115	0	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	100		99.18	mg/L	99	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.6	0.6			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	50.00416		48.34	mg/L	97	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	50.00416	23.1	71.07	mg/L	96	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	50.00416	23.1	72.19	mg/L	98	85	115	2	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		1.9885	mg/L	99	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.015	0.015			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	.499		.4933	mg/L	99	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	.499	.384	.8567	mg/L	95	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	.499	.384	.859	mg/L	95	85	115	0	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	.499	.887	1.33	mg/L	89	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	.499	.887	1.334	mg/L	90	85	115	0	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.9138	mg/L	96	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.015	0.015			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	.499		.4754	mg/L	95	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	.499	.374	.8272	mg/L	91	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	.499	.374	.8399	mg/L	93	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396116													
WG396116ICV	ICV	12/21/15 10:19	II151130-3	.005		.00525	mg/L	105	95	105			
WG396164													
WG396164LRB	LRB	12/21/15 16:52				U	mg/L		-0.00044	0.00044			
WG396164LFB	LFB	12/21/15 16:54	II151217-3	.002004		.002	mg/L	100	85	115			
L28125-05LFM	LFM	12/21/15 17:04	II151217-3	.002004	U	.002	mg/L	100	85	115			
L28125-05LFMD	LFMD	12/21/15 17:06	II151217-3	.002004	U	.00194	mg/L	97	85	115	3	20	
L28126-09LFM	LFM	12/21/15 17:34	II151217-3	.002004	U	.00205	mg/L	102	85	115			
L28126-09LFMD	LFMD	12/21/15 17:41	II151217-3	.002004	U	.00199	mg/L	99	85	115	3	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		2.035	mg/L	102	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.06	0.06			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	.4995		.501	mg/L	100	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	.4995	U	.517	mg/L	104	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	.4995	U	.512	mg/L	103	85	115	1	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	.4995	U	.512	mg/L	103	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	.4995	U	.508	mg/L	102	85	115	1	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.967	mg/L	98	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.06	0.06			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	.4995		.488	mg/L	98	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	.4995	U	.493	mg/L	99	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	.4995	U	.502	mg/L	101	85	115	2	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		1.9698	mg/L	98	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.024	0.024			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	.501		.4917	mg/L	98	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	.501	.038	.5293	mg/L	98	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	.501	.038	.5265	mg/L	98	85	115	1	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	.501	U	.4871	mg/L	97	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	.501	U	.4895	mg/L	98	85	115	0	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.9728	mg/L	99	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.024	0.024			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	.501		.4889	mg/L	98	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	.501	.038	.5188	mg/L	96	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	.501	.038	.5251	mg/L	97	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396143													
WG396143ICV	ICV	12/18/15 19:51	WI151024-1	2.416		2.427	mg/L	100	90	110			
WG396143ICB	ICB	12/18/15 19:52				U	mg/L		-0.02	0.02			
WG396148													
WG396148LFB	LFB	12/18/15 23:41	WI151215-9	2		2.019	mg/L	101	90	110			
L28123-02AS	AS	12/18/15 23:43	WI151215-9	2	.24	2.302	mg/L	103	90	110			
L28123-03DUP	DUP	12/18/15 23:46			.22	.217	mg/L				1	20	
L28126-07DUP	DUP	12/19/15 0:05			U	U	mg/L				0	20	RA
L28126-06AS	AS	12/19/15 1:07	WI151215-9	20	U	17.18	mg/L	86	90	110			M2

Nitrogen, ammonia M350.1

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396248													
WG396248ICV	ICV	12/22/15 12:02	WI151212-6	11.988		12.955	mg/L	108	90	110			
WG396248ICB	ICB	12/22/15 12:03				U	mg/L		-0.05	0.05			
WG396248LFB1	LFB	12/22/15 12:05	WI150204-10	10		10.342	mg/L	103	90	110			
L28124-01AS	AS	12/22/15 12:11	WI150204-10	10	U	10.986	mg/L	110	90	110			
WG396248ICV1	ICV	12/22/15 12:57	WI151212-6	11.988		12.625	mg/L	105	90	110			
WG396248ICB1	ICB	12/22/15 12:58				U	mg/L		-0.05	0.05			
L28126-08AS	AS	12/22/15 13:08	WI150204-10	10	U	10.04	mg/L	100	90	110			
WG396248LFB2	LFB	12/22/15 13:24	WI150204-10	10		10.001	mg/L	100	90	110			
L28023-04DUP	DUP	12/22/15 13:47			.18	.199	mg/L				10	20	RA
L28126-07DUP	DUP	12/22/15 13:54			.06	U	mg/L				200	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395768													
WG395768LCSW1	LCSW	12/12/15 13:09	PCN48559	6.01		6	units	100	5.9	6.1			
L28130-01DUP	DUP	12/12/15 14:34			7.8	7.8	units				0	20	
WG395768LCSW4	LCSW	12/12/15 16:11	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG395768LCSW7	LCSW	12/12/15 19:50	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG395768LCSW10	LCSW	12/12/15 23:28	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG395768LCSW13	LCSW	12/13/15 1:54	PCN48559	6.01		6.1	units	101	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396149													
WG396149ICV	ICV	12/19/15 0:29	WI151110-1	.65228		.681	mg/L	104	90	110			
WG396149ICB	ICB	12/19/15 0:32				U	mg/L		-0.02	0.02			
WG396039LRB	LRB	12/19/15 0:33				U	mg/L		-0.02	0.02			
WG396039LFB	LFB	12/19/15 0:34	WI151210-2	.5		.521	mg/L	104	90	110			
L28123-02DUP	DUP	12/19/15 0:36			U	U	mg/L				0	20	RA
L28123-03LFM	LFM	12/19/15 0:39	WI151210-2	.5	U	.413	mg/L	83	90	110			M2
L28126-04LFM	LFM	12/19/15 0:55	WI151210-2	.5	U	.474	mg/L	95	90	110			
L28126-03DUP	DUP	12/19/15 1:08			1.5	1.51	mg/L				1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	20		19.36	mg/L	97	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.6	0.6			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	100.0125		94.25	mg/L	94	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	100.0125	21.3	115.8	mg/L	94	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	100.0125	21.3	117.7	mg/L	96	85	115	2	20	
L28134-02AS	AS	12/18/15 19:00	II151202-8	100.0125	7.8	104	mg/L	96	85	115			
L28134-02ASD	ASD	12/18/15 19:03	II151202-8	100.0125	7.8	104.2	mg/L	96	85	115	0	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG395837													
WG395837PBW	PBW	12/15/15 11:00				U	mg/L		-20	20			
WG395837LCSW	LCSW	12/15/15 11:02	PCN49650	260		252	mg/L	97	80	120			
L28126-07DUP	DUP	12/15/15 11:31			42	38	mg/L				10	10	RA
WG395989													
WG395989PBW	PBW	12/16/15 16:45				U	mg/L		-20	20			
WG395989LCSW	LCSW	12/16/15 16:47	PCN49651	260		236	mg/L	91	80	120			
L28192-05DUP	DUP	12/16/15 17:16			1660	1670	mg/L				1	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		2.02	mg/L	101	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.3	0.3			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	1.0009		1.01	mg/L	101	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	1.0009	U	1.01	mg/L	101	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	1.0009	U	1.01	mg/L	101	85	115	0	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	1.0009	U	.99	mg/L	99	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	1.0009	U	.99	mg/L	99	85	115	0	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.96	mg/L	98	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.3	0.3			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	1.0009		.97	mg/L	97	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	1.0009	U	.97	mg/L	97	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	1.0009	U	.98	mg/L	98	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396053													
WG396053ICV	ICV	12/17/15 17:08	MS151201-3	.05		.05011	mg/L	100	90	110			
WG396053ICB	ICB	12/17/15 17:10				U	mg/L		-0.0003	0.0003			
WG396053LFB	LFB	12/17/15 17:12	MS151217-2	.0501		.04739	mg/L	95	85	115			
L28125-02AS	AS	12/17/15 17:27	MS151217-2	.0501	U	.05131	mg/L	102	70	130			
L28125-02ASD	ASD	12/17/15 17:30	MS151217-2	.0501	U	.05045	mg/L	101	70	130	2	20	
WG396244													
WG396244ICV	ICV	12/22/15 12:20	MS151201-3	.05		.04936	mg/L	99	90	110			
WG396244ICB	ICB	12/22/15 12:22				.0002	mg/L		-0.0003	0.0003			
WG396244LFB	LFB	12/22/15 12:24	MS151217-2	.0501		.04764	mg/L	95	85	115			
L28018-03AS	AS	12/22/15 12:33	MS151217-2	.0501	.0011	.04916	mg/L	96	70	130			
L28018-03ASD	ASD	12/22/15 12:35	MS151217-2	.0501	.0011	.04936	mg/L	96	70	130	0	20	
L28152-01AS	AS	12/22/15 13:03	MS151217-2	.0501	U	.05389	mg/L	108	70	130			
L28152-01ASD	ASD	12/22/15 13:05	MS151217-2	.0501	U	.05319	mg/L	106	70	130	1	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	1.001		.998	mg/L	100	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.03	0.03			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	.502		.512	mg/L	102	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	.502	U	.391	mg/L	78	85	115			M2 ZA
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	.502	U	.384	mg/L	76	85	115	2	20	M2 ZA
L28134-02AS	AS	12/17/15 16:58	II151202-8	.502	U	.353	mg/L	70	85	115			M2 ZA
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	.502	U	.365	mg/L	73	85	115	3	20	M2 ZA
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	1.001		.986	mg/L	99	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.03	0.03			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	.502		.503	mg/L	100	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	.502	U	.251	mg/L	50	85	115			M2 ZA
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	.502	U	.272	mg/L	54	85	115	8	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	100		95.75	mg/L	96	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.6	0.6			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	100.0581		93.66	mg/L	94	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	100.0581	264	352.2	mg/L	88	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	100.0581	264	346	mg/L	82	85	115	2	20	MA
L28134-02AS	AS	12/17/15 16:58	II151202-8	100.0581	182	274.2	mg/L	92	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	100.0581	182	275.1	mg/L	93	85	115	0	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	100		97.45	mg/L	97	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.6	0.6			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	100.0581		94.58	mg/L	95	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	100.0581	267	354.3	mg/L	87	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	100.0581	267	355.5	mg/L	88	85	115	0	20	

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Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		1.9952	mg/L	100	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.015	0.015			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	.5005		.4981	mg/L	100	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	.5005	1.75	2.19	mg/L	88	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	.5005	1.75	2.177	mg/L	85	85	115	1	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	.5005	2.74	3.15	mg/L	82	85	115			M3
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	.5005	2.74	3.164	mg/L	85	85	115	0	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.9465	mg/L	97	95	105			
WG396099ICB	ICB	12/18/15 17:49				.0057	mg/L		-0.015	0.015			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	.5005		.4838	mg/L	97	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	.5005	1.69	2.088	mg/L	80	85	115			M3
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	.5005	1.69	2.124	mg/L	87	85	115	2	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396200													
WG396200ICB	ICB	12/21/15 12:54				U	mg/L		-3	3			
WG396200ICV	ICV	12/21/15 12:54	WI151215-3	20		20	mg/L	100	90	110			
WG396200LFB	LFB	12/21/15 13:04	WI150904-1	10.01		9.4	mg/L	94	90	110			
L28089-03DUP	DUP	12/21/15 13:04			28.5	29.2	mg/L				2	20	
L28125-01AS	AS	12/21/15 13:40	WI150904-1	10.01	U	5.6	mg/L	56	90	110			M2
L28126-05DUP	DUP	12/21/15 13:43			51.9	49.9	mg/L				4	20	
L28126-06AS	AS	12/21/15 13:57	SO4TURB20X	100	3390	3570	mg/L	180	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396053													
WG396053ICV	ICV	12/17/15 17:08	MS151201-3	.05		.05234	mg/L	105	90	110			
WG396053ICB	ICB	12/17/15 17:10				U	mg/L		-0.0003	0.0003			
WG396053LFB	LFB	12/17/15 17:12	MS151217-2	.0501		.0514	mg/L	103	85	115			
L28125-02AS	AS	12/17/15 17:27	MS151217-2	.0501	U	.05158	mg/L	103	70	130			
L28125-02ASD	ASD	12/17/15 17:30	MS151217-2	.0501	U	.05019	mg/L	100	70	130	3	20	
WG396244													
WG396244ICV	ICV	12/22/15 12:20	MS151201-3	.05		.0543	mg/L	109	90	110			
WG396244ICB	ICB	12/22/15 12:22				U	mg/L		-0.0003	0.0003			
WG396244LFB	LFB	12/22/15 12:24	MS151217-2	.0501		.05031	mg/L	100	85	115			
L28018-03AS	AS	12/22/15 12:33	MS151217-2	.0501	U	.05181	mg/L	103	70	130			
L28018-03ASD	ASD	12/22/15 12:35	MS151217-2	.0501	U	.0521	mg/L	104	70	130	1	20	
L28152-01AS	AS	12/22/15 13:03	MS151217-2	.0501	U	.05274	mg/L	105	70	130			
L28152-01ASD	ASD	12/22/15 13:05	MS151217-2	.0501	U	.05253	mg/L	105	70	130	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		2.006	mg/L	100	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.12	0.12			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	1.001		.938	mg/L	94	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	1.001	U	.967	mg/L	97	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	1.001	U	.949	mg/L	95	85	115	2	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	1.001	U	.956	mg/L	96	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	1.001	U	.957	mg/L	96	85	115	0	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		2.045	mg/L	102	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.12	0.12			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	1.001		.976	mg/L	98	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	1.001	U	.976	mg/L	98	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	1.001	U	.987	mg/L	99	85	115	1	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		2.041	mg/L	102	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.015	0.015			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	1.003		.9944	mg/L	99	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	1.003	U	1.013	mg/L	101	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	1.003	U	1.006	mg/L	100	85	115	1	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	1.003	.007	.9978	mg/L	99	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	1.003	.007	1.005	mg/L	100	85	115	1	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.9648	mg/L	98	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.015	0.015			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	1.003		.9494	mg/L	95	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	1.003	.008	.9575	mg/L	95	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	1.003	.008	.9693	mg/L	96	85	115	1	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396053													
WG396053ICV	ICV	12/17/15 17:08	MS151201-3	.05		.05243	mg/L	105	90	110			
WG396053ICB	ICB	12/17/15 17:10				U	mg/L		-0.0003	0.0003			
WG396053LFB	LFB	12/17/15 17:12	MS151217-2	.05		.05129	mg/L	103	85	115			
L28125-02AS	AS	12/17/15 17:27	MS151217-2	.05	.0006	.05354	mg/L	106	70	130			
L28125-02ASD	ASD	12/17/15 17:30	MS151217-2	.05	.0006	.05221	mg/L	103	70	130	3	20	
WG396244													
WG396244ICV	ICV	12/22/15 12:20	MS151201-3	.05		.05388	mg/L	108	90	110			
WG396244ICB	ICB	12/22/15 12:22				U	mg/L		-0.0003	0.0003			
WG396244LFB	LFB	12/22/15 12:24	MS151217-2	.05		.05031	mg/L	101	85	115			
L28018-03AS	AS	12/22/15 12:33	MS151217-2	.05	.0131	.06516	mg/L	104	70	130			
L28018-03ASD	ASD	12/22/15 12:35	MS151217-2	.05	.0131	.06611	mg/L	106	70	130	1	20	
L28152-01AS	AS	12/22/15 13:03	MS151217-2	.05	.0001	.05425	mg/L	108	70	130			
L28152-01ASD	ASD	12/22/15 13:05	MS151217-2	.05	.0001	.05364	mg/L	107	70	130	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L28126***

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		2.0053	mg/L	100	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.015	0.015			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	.501		.4906	mg/L	98	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	.501	U	.5055	mg/L	101	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	.501	U	.4993	mg/L	100	85	115	1	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	.501	U	.4956	mg/L	99	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	.501	U	.5001	mg/L	100	85	115	1	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.9232	mg/L	96	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.015	0.015			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	.501		.471	mg/L	94	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	.501	U	.4723	mg/L	94	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	.501	U	.4826	mg/L	96	85	115	2	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396022													
WG396022ICV	ICV	12/17/15 15:39	II151215-2	2		1.948	mg/L	97	95	105			
WG396022ICB	ICB	12/17/15 15:45				U	mg/L		-0.03	0.03			
WG396022LFB	LFB	12/17/15 15:58	II151202-8	.4995		.48	mg/L	96	85	115			
L28044-02AS	AS	12/17/15 16:10	II151202-8	.4995	U	.499	mg/L	100	85	115			
L28044-02ASD	ASD	12/17/15 16:14	II151202-8	.4995	U	.5	mg/L	100	85	115	0	20	
L28134-02AS	AS	12/17/15 16:58	II151202-8	.4995	U	.487	mg/L	97	85	115			
L28134-02ASD	ASD	12/17/15 17:01	II151202-8	.4995	U	.484	mg/L	97	85	115	1	20	
WG396099													
WG396099ICV	ICV	12/18/15 17:43	II151210-1	2		1.938	mg/L	97	95	105			
WG396099ICB	ICB	12/18/15 17:49				U	mg/L		-0.03	0.03			
WG396099LFB	LFB	12/18/15 18:02	II151202-8	.4995		.48	mg/L	96	85	115			
L28044-02AS	AS	12/18/15 18:12	II151202-8	.4995	.02	.489	mg/L	96	85	115			
L28044-02ASD	ASD	12/18/15 18:15	II151202-8	.4995	.02	.498	mg/L	98	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28126-01	WG396022	Boron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG395768	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395785	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396248	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395768	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396149	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395837	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396200	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395768	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28126-02	WG396022	Boron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG395768	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395785	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396248	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395768	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396149	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395837	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396200	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395768	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28126-03	WG396099	Barium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Bismuth, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Boron, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
			M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Chromium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Gallium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Lithium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Molybdenum, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Potassium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Scandium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Silver, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
			M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
			M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Tin, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Titanium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Vanadium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
	WG395768	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395785	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396248	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395768	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395837	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396200	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395768	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28126-04	WG396053	Arsenic, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396022	Boron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG395768	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395785	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396248	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395768	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395837	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396200	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395768	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28126-05	WG396053	Arsenic, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396022	Boron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG395768	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395785	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396248	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395768	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395837	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396200	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395768	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28126-06	WG396099	Barium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Bismuth, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Boron, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
			M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Chromium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Gallium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Lithium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Molybdenum, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Scandium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Silver, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
			M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
			M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Tin, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Titanium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
		Vanadium, dissolved	M200.7 ICP	D1	Sample required dilution due to matrix.
	WG395768	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395785	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396148	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	DB	Sample required dilution due to low bias result.
			M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396248	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395768	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395989	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396200	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395768	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28126-07	WG396053	Arsenic, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396022	Boron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG395768	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395785	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396148	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396248	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395768	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395837	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396200	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395768	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28126-08	WG396053	Arsenic, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396022	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395768	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395785	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396148	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396248	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395768	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395837	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396200	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395768	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L28126***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28126-09	WG396053	Arsenic, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396022	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395768	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395996	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395997	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396148	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396248	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG395768	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG395837	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396200	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG395768	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
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ACZ Project ID: L28126
Date Received: 12/10/2015 09:45
Received By: ddp
Date Printed: 12/10/2015

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	X		

A change was made in the ID Line 3 and Remarks section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L28126-01 : A Green and Yellow container not received and a new container created from the White .

L28126-02 : A Green and Yellow container not received and a new container created from the White .

L28126-03 : A Green and Yellow container not received and a new container created from the White .

L28126-04 : A Green and Yellow container not received and a new container created from the White .

L28126-05 : A Green and Yellow container not received and a new container created from the White .

L28126-06 : A Green and Yellow container not received and a new container created from the White .

L28126-07 : A Green and Yellow container not received and a new container created from the White .

L28126-08 : A Green and Yellow container not received and a new container created from the White .

L28126-09 : A Purple, Green and Yellow container not received

McClelland Laboratories, Inc.
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ACZ Project ID: L28126
Date Received: 12/10/2015 09:45
Received By: ddp
Date Printed: 12/10/2015

and a new container created from the White .

16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA23083	2	<=6.0	14	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L28126

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:

Project/PO #: 3981

Reporting state for compliance testing:

Sampler's Name: Robert

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	12/9/15	WW	1	x							
CAL-004 (860-875)	↓	WW	1	x							
[redacted]		WW	1	x							
GMC-012 (832-851)		WW	1	x							
CAL-004 (295-315)		WW	1	x							
CAL-001 (750-762)		WW	1	x							
GMC-014 (176-184)		WW	1	x							
CAL-001 (380-400)		WW	1	x							
CAL-002 (177-187)		WW	1	x							
Calico Leach Res. after CN Destruct		WW	1	x	x	x					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1~~X~~0 WK: 2 HC-1, 2, 4-10

See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]		[signature]	12/10/15 0840

L28126 Chain of Custody

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

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Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

*****Gray out Analyses DOESN't get done on all Samples, just 1 of the Sample SEE COC*****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

January 04, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L28230

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 16, 2015. This project has been assigned to ACZ's project number, L28230. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L28230. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after February 03, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L28230-01***
Date Sampled: *12/14/15 00:00*
Date Received: *12/16/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				12/28/15 16:09	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	126			mg/L	0.03	0.2	12/18/15 21:31	gss
Antimony, dissolved	M200.8 ICP-MS	5	0.009	B		mg/L	0.002	0.01	12/28/15 19:58	mfm
Arsenic, dissolved	M200.8 ICP-MS	20	2.820		*	mg/L	0.004	0.02	12/30/15 18:44	mfm
Barium, dissolved	M200.7 ICP	1	0.034			mg/L	0.003	0.02	12/18/15 21:31	gss
Beryllium, dissolved	M200.8 ICP-MS	5	0.0309			mg/L	0.0003	0.001	12/28/15 19:58	mfm
Bismuth, dissolved	M200.7 ICP	1	0.07	B	*	mg/L	0.04	0.2	12/18/15 21:31	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/18/15 21:31	gss
Cadmium, dissolved	M200.8 ICP-MS	5	0.0344			mg/L	0.0005	0.003	12/28/15 19:58	mfm
Calcium, dissolved	M200.7 ICP	1	408		*	mg/L	0.1	0.5	12/17/15 20:11	aeb
Chromium, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	12/18/15 21:31	gss
Cobalt, dissolved	M200.7 ICP	1	3.54		*	mg/L	0.01	0.05	12/17/15 20:11	aeb
Copper, dissolved	M200.7 ICP	1	0.74		*	mg/L	0.01	0.05	12/17/15 20:11	aeb
Gallium, dissolved	M200.7 ICP	1	0.1	B	*	mg/L	0.1	0.5	12/17/15 20:11	aeb
Iron, dissolved	M200.7 ICP	5	865		*	mg/L	0.1	0.3	12/19/15 14:22	aeb
Lead, dissolved	M200.8 ICP-MS	5	0.1807			mg/L	0.0005	0.003	12/28/15 19:58	mfm
Lithium, dissolved	M200.7 ICP	1	0.131		*	mg/L	0.008	0.04	12/17/15 20:11	aeb
Magnesium, dissolved	M200.7 ICP	1	126		*	mg/L	0.2	1	12/17/15 20:11	aeb
Manganese, dissolved	M200.7 ICP	1	0.634			mg/L	0.005	0.03	12/18/15 21:31	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	12/31/15 10:09	scp
Molybdenum, dissolved	M200.7 ICP	1	0.12		*	mg/L	0.02	0.1	12/17/15 20:11	aeb
Nickel, dissolved	M200.7 ICP	1	3.240		*	mg/L	0.008	0.04	12/17/15 20:11	aeb
Potassium, dissolved	M200.7 ICP	1	55.7		*	mg/L	0.2	1	12/17/15 20:11	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/17/15 20:11	aeb
Selenium, dissolved	M200.8 ICP-MS	5	0.0378			mg/L	0.0005	0.001	12/28/15 19:58	mfm
Silver, dissolved	M200.7 ICP	1	0.03		*	mg/L	0.01	0.03	12/17/15 20:11	aeb
Sodium, dissolved	M200.7 ICP	1	56.3		*	mg/L	0.2	1	12/17/15 20:11	aeb
Strontium, dissolved	M200.7 ICP	1	5.590			mg/L	0.005	0.03	12/18/15 21:31	gss
Thallium, dissolved	M200.8 ICP-MS	5	0.0375			mg/L	0.0005	0.003	12/28/15 19:58	mfm
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/17/15 20:11	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/17/15 20:11	aeb
Uranium, dissolved	M200.8 ICP-MS	5	0.0305			mg/L	0.0005	0.003	12/28/15 19:58	mfm
Vanadium, dissolved	M200.7 ICP	1	0.091		*	mg/L	0.005	0.03	12/17/15 20:11	aeb
Zinc, dissolved	M200.7 ICP	1	3.93		*	mg/L	0.01	0.05	12/17/15 20:11	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L28230-01***
Date Sampled: *12/14/15 00:00*
Date Received: *12/16/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/19/15 0:00	enb
Carbonate as CaCO3		1		U		mg/L	2	20	12/19/15 0:00	enb
Hydroxide as CaCO3		1		U		mg/L	2	20	12/19/15 0:00	enb
Total Alkalinity		1		U	*	mg/L	2	20	12/19/15 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			6.1			%			01/04/16 0:00	calc
Sum of Anions			84			meq/L			01/04/16 0:00	calc
Sum of Cations			95			meq/L			01/04/16 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	12/29/15 9:51	krh/mss
Conductivity @25C	SM2510B	1	5080		*	umhos/cm	1	10	12/19/15 6:18	enb
Fluoride	SM4500F-C	40	10		*	mg/L	2	10	12/22/15 16:08	enb
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1540			mg/L			01/04/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.10		*	mg/L	0.02	0.1	12/23/15 21:57	pjb
Nitrogen, ammonia	M350.1	1	0.29		*	mg/L	0.05	0.2	12/29/15 14:49	mss2
pH (lab)	SM4500H+ B									
pH		1	2.7	H	*	units	0.1	0.1	12/19/15 0:00	enb
pH measured at		1	22.2			C	0.1	0.1	12/19/15 0:00	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	10	2.1			mg/L	0.2	0.5	12/29/15 22:28	pjb
Residue, Filterable (TDS) @180C	SM2540C	5	6730		*	mg/L	50	100	12/21/15 15:17	emk
Sulfate	D516-02/-07 - Turbidimetric	120	3970		*	mg/L	120	600	12/28/15 15:53	krh
TDS (calculated)	Calculation		5630			mg/L			01/04/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.20						01/04/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for Instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L28230***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396114													
WG396114PBW1	PBW	12/18/15 16:29				2.8	mg/L		-20	20			
WG396114LCSW3	LCSW	12/18/15 16:45	WC151211-9	820.0001		770	mg/L	94	90	110			
WG396114LCSW6	LCSW	12/18/15 20:57	WC151211-9	820.0001		783	mg/L	95	90	110			
WG396114PBW2	PBW	12/18/15 21:05				U	mg/L		-20	20			
WG396114LCSW9	LCSW	12/19/15 0:25	WC151211-9	820.0001		790	mg/L	96	90	110			
WG396114PBW3	PBW	12/19/15 0:33				U	mg/L		-20	20			
WG396114LCSW12	LCSW	12/19/15 3:51	WC151211-9	820.0001		795	mg/L	97	90	110			
WG396114PBW4	PBW	12/19/15 3:59				4	mg/L		-20	20			
L28235-02DUP	DUP	12/19/15 7:26			220	220	mg/L				0	20	
WG396114LCSW15	LCSW	12/19/15 7:43	WC151211-9	820.0001		802	mg/L	98	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396098													
WG396098ICV	ICV	12/18/15 19:42	II151210-1	2		2.034	mg/L	102	95	105			
WG396098ICB	ICB	12/18/15 19:49				U	mg/L		-0.09	0.09			
WG396098LFB	LFB	12/18/15 20:01	II151202-8	1.0013		1.021	mg/L	102	85	115			
L28217-01AS	AS	12/18/15 20:56	II151202-8	1.0013	U	1.033	mg/L	103	85	115			
L28217-01ASD	ASD	12/18/15 20:59	II151202-8	1.0013	U	1.042	mg/L	104	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396387													
WG396387ICV	ICV	12/28/15 18:27	MS151201-3	.02		.01995	mg/L	100	90	110			
WG396387ICB	ICB	12/28/15 18:30				U	mg/L		-0.0012	0.0012			
WG396387LFB	LFB	12/28/15 18:34	MS151223-2	.01001		.00989	mg/L	99	85	115			
L25102-26AS	AS	12/28/15 19:31	MS151223-2	.01001	U	.00952	mg/L	95	70	130			
L25102-26ASD	ASD	12/28/15 19:34	MS151223-2	.01001	U	.00946	mg/L	95	70	130	1	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396535													
WG396535ICV	ICV	12/30/15 17:35	MS151201-3	.05		.05137	mg/L	103	90	110			
WG396535ICB	ICB	12/30/15 17:37				U	mg/L		-0.0006	0.0006			
WG396535LFB	LFB	12/30/15 17:41	MS151223-2	.0501		.05219	mg/L	104	85	115			
L28282-01AS	AS	12/30/15 18:59	MS151223-2	.1002	U	.10776	mg/L	108	70	130			
L28282-01ASD	ASD	12/30/15 19:02	MS151223-2	.1002	U	.09932	mg/L	99	70	130	8	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396098													
WG396098ICV	ICV	12/18/15 19:42	II151210-1	2		1.9652	mg/L	98	95	105			
WG396098ICB	ICB	12/18/15 19:49				U	mg/L		-0.009	0.009			
WG396098LFB	LFB	12/18/15 20:01	II151202-8	.5		.488	mg/L	98	85	115			
L28217-01AS	AS	12/18/15 20:56	II151202-8	.5	.216	.6923	mg/L	95	85	115			
L28217-01ASD	ASD	12/18/15 20:59	II151202-8	.5	.216	.6937	mg/L	96	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28230***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396387													
WG396387ICV	ICV	12/28/15 18:27	MS151201-3	.05		.04602	mg/L	92	90	110			
WG396387ICB	ICB	12/28/15 18:30				U	mg/L		-0.00015	0.00015			
WG396387LFB	LFB	12/28/15 18:34	MS151223-2	.0501		.04646	mg/L	93	85	115			
L25102-26AS	AS	12/28/15 19:31	MS151223-2	.0501	.00005	.05164	mg/L	103	70	130			
L25102-26ASD	ASD	12/28/15 19:34	MS151223-2	.0501	.00005	.0479	mg/L	96	70	130	8	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396098													
WG396098ICV	ICV	12/18/15 19:42	II151210-1	2		1.987	mg/L	99	95	105			
WG396098ICB	ICB	12/18/15 19:49				U	mg/L		-0.12	0.12			
WG396098LFB	LFB	12/18/15 20:01	II151202-8	1		.991	mg/L	99	85	115			
L28217-01AS	AS	12/18/15 20:56	II151202-8	1	U	.991	mg/L	99	85	115			
L28217-01ASD	ASD	12/18/15 20:59	II151202-8	1	U	.989	mg/L	99	85	115	0	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396098													
WG396098ICV	ICV	12/18/15 19:42	II151210-1	2		1.986	mg/L	99	95	105			
WG396098ICB	ICB	12/18/15 19:49				U	mg/L		-0.03	0.03			
WG396098LFB	LFB	12/18/15 20:01	II151202-8	.5005		.494	mg/L	99	85	115			
L28217-01AS	AS	12/18/15 20:56	II151202-8	.5005	U	.503	mg/L	100	85	115			
L28217-01ASD	ASD	12/18/15 20:59	II151202-8	.5005	U	.501	mg/L	100	85	115	0	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396387													
WG396387ICV	ICV	12/28/15 18:27	MS151201-3	.05		.04873	mg/L	97	90	110			
WG396387ICB	ICB	12/28/15 18:30				U	mg/L		-0.0003	0.0003			
WG396387LFB	LFB	12/28/15 18:34	MS151223-2	.05005		.04963	mg/L	99	85	115			
L25102-26AS	AS	12/28/15 19:31	MS151223-2	.05005	.0045	.05805	mg/L	107	70	130			
L25102-26ASD	ASD	12/28/15 19:34	MS151223-2	.05005	.0045	.05312	mg/L	97	70	130	9	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	100		99.85	mg/L	100	95	105			
WG396036ICB	ICB	12/17/15 18:31				U	mg/L		-0.3	0.3			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	68.01261		69	mg/L	101	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	68.01261	78.8	145.6	mg/L	98	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	68.01261	78.8	144.7	mg/L	97	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28230***

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396413													
WG396413ICB	ICB	12/29/15 9:15				U	mg/L		-1.5	1.5			
WG396413ICV	ICV	12/29/15 9:16	WI150701-4	55.055		57.02	mg/L	104	90	110			
WG396413LFB1	LFB	12/29/15 9:29	WI150826-7	29.97		31.07	mg/L	104	90	110			
WG396413LFB2	LFB	12/29/15 9:52	WI150826-7	29.97		31.32	mg/L	105	90	110			
L28223-01AS	AS	12/29/15 10:40	120XCL	599.4	49000	55400	mg/L	1068	90	110			M3
L28223-02DUP	DUP	12/29/15 10:40			50000	49200	mg/L				2	20	

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396098													
WG396098ICV	ICV	12/18/15 19:42	II151210-1	2		1.995	mg/L	100	95	105			
WG396098ICB	ICB	12/18/15 19:49				U	mg/L		-0.03	0.03			
WG396098LFB	LFB	12/18/15 20:01	II151202-8	.5005		.488	mg/L	98	85	115			
L28217-01AS	AS	12/18/15 20:56	II151202-8	.5005	U	.483	mg/L	97	85	115			
L28217-01ASD	ASD	12/18/15 20:59	II151202-8	.5005	U	.486	mg/L	97	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	2.002		1.903	mg/L	95	95	105			
WG396036ICB	ICB	12/17/15 18:31				U	mg/L		-0.03	0.03			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	.5005		.477	mg/L	95	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	.5005	U	.474	mg/L	95	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	.5005	U	.466	mg/L	93	85	115	2	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396114													
WG396114LCSW2	LCSW	12/18/15 16:34	PCN48869	1408		1440	umhos/cm	102	90	110			
WG396114LCSW5	LCSW	12/18/15 20:46	PCN48869	1408		1410	umhos/cm	100	90	110			
WG396114LCSW8	LCSW	12/19/15 0:13	PCN48869	1408		1420	umhos/cm	101	90	110			
WG396114LCSW11	LCSW	12/19/15 3:39	PCN48869	1408		1500	umhos/cm	107	90	110			
L28235-02DUP	DUP	12/19/15 7:26			702	698	umhos/cm				1	20	
WG396114LCSW14	LCSW	12/19/15 7:31	PCN48869	1408		1430	umhos/cm	102	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	2		1.986	mg/L	99	95	105			
WG396036ICB	ICB	12/17/15 18:31				U	mg/L		-0.03	0.03			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	.499		.485	mg/L	97	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	.499	U	.486	mg/L	97	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	.499	U	.482	mg/L	97	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28230***

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396227													
WG396227ICV	ICV	12/22/15 14:42	WC151221-15	2		1.9	mg/L	95	95	105			
WG396227ICB	ICB	12/22/15 14:48				U	mg/L		-0.15	0.15			
WG396227LFB1	LFB	12/22/15 14:55	WC151103-7	5		4.714	mg/L	94	90	110			
L28207-01AS	AS	12/22/15 15:01	WC151103-7	5	.63	4.888	mg/L	85	90	110			M2
L28207-01DUP	DUP	12/22/15 15:09			.63	.586	mg/L				7	20	
WG396227LFB2	LFB	12/22/15 17:44	WC151103-7	5		4.693	mg/L	94	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	2		2.02	mg/L	101	95	105			
WG396036ICB	ICB	12/17/15 18:31				U	mg/L		-0.3	0.3			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	1		.96	mg/L	96	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	1	U	.98	mg/L	98	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	1	U	.98	mg/L	98	85	115	0	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396154													
WG396154ICV	ICV	12/19/15 13:38	II151210-1	2		1.926	mg/L	96	95	105			
WG396154ICB	ICB	12/19/15 13:44				U	mg/L		-0.06	0.06			
WG396154LFB	LFB	12/19/15 13:57	II151202-8	1.0001		.971	mg/L	97	85	115			
L28089-03AS	AS	12/19/15 14:03	II151202-8	1.0001	.15	1.106	mg/L	96	85	115			
L28089-03ASD	ASD	12/19/15 14:07	II151202-8	1.0001	.15	1.119	mg/L	97	85	115	1	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396387													
WG396387ICV	ICV	12/28/15 18:27	MS151201-3	.05		.05196	mg/L	104	90	110			
WG396387ICB	ICB	12/28/15 18:30				U	mg/L		-0.0003	0.0003			
WG396387LFB	LFB	12/28/15 18:34	MS151223-2	.05005		.05166	mg/L	103	85	115			
L25102-26AS	AS	12/28/15 19:31	MS151223-2	.05005	.0146	.06576	mg/L	102	70	130			
L25102-26ASD	ASD	12/28/15 19:34	MS151223-2	.05005	.0146	.06203	mg/L	95	70	130	6	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	2		2.019	mg/L	101	95	105			
WG396036ICB	ICB	12/17/15 18:31				U	mg/L		-0.024	0.024			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	1.001		.9841	mg/L	98	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	1.001	U	1.012	mg/L	101	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	1.001	U	1.004	mg/L	100	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28230***

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	100		99.27	mg/L	99	95	105			
WG396036ICB	ICB	12/17/15 18:31				.2	mg/L		-0.6	0.6			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	50.00416		48.28	mg/L	97	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	50.00416	6.7	55.14	mg/L	97	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	50.00416	6.7	55.03	mg/L	97	85	115	0	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396098													
WG396098ICV	ICV	12/18/15 19:42	II151210-1	2		1.943	mg/L	97	95	105			
WG396098ICB	ICB	12/18/15 19:49				U	mg/L		-0.015	0.015			
WG396098LFB	LFB	12/18/15 20:01	II151202-8	.499		.4816	mg/L	97	85	115			
L28217-01AS	AS	12/18/15 20:56	II151202-8	.499	.434	.8892	mg/L	91	85	115			
L28217-01ASD	ASD	12/18/15 20:59	II151202-8	.499	.434	.8867	mg/L	91	85	115	0	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396502													
WG396502ICV	ICV	12/31/15 9:19	II151130-3	.005		.0051	mg/L	102	90	110			
WG396502ICB	ICB	12/31/15 9:21				U	mg/L		-0.0006	0.0006			
WG396504													
WG396504LRB	LRB	12/31/15 9:42				U	mg/L		-0.00044	0.00044			
WG396504LFB	LFB	12/31/15 9:44	II151229-2	.002004		.00206	mg/L	103	85	115			
L28217-05LFM	LFM	12/31/15 9:55	II151229-2	.002004	U	.0019	mg/L	95	85	115			
L28217-05LFMD	LFMD	12/31/15 9:57	II151229-2	.002004	U	.0019	mg/L	95	85	115	0	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	2		2.029	mg/L	101	95	105			
WG396036ICB	ICB	12/17/15 18:31				U	mg/L		-0.06	0.06			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	.4995		.5	mg/L	100	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	.4995	U	.512	mg/L	103	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	.4995	U	.511	mg/L	102	85	115	0	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	2		1.9575	mg/L	98	95	105			
WG396036ICB	ICB	12/17/15 18:31				U	mg/L		-0.024	0.024			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	.501		.49	mg/L	98	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	.501	U	.489	mg/L	98	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	.501	U	.4823	mg/L	96	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28230***

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396341													
WG396341ICV	ICV	12/23/15 19:16	WI151024-1	2.416		2.43	mg/L	101	90	110			
WG396341ICB	ICB	12/23/15 19:17				U	mg/L		-0.02	0.02			
WG396344													
WG396344LFB	LFB	12/23/15 21:50	WI151215-9	2		1.991	mg/L	100	90	110			
L28223-01AS	AS	12/23/15 21:53	WI151215-9	2	U	2.071	mg/L	104	90	110			
L28223-02DUP	DUP	12/23/15 21:56			U	U	mg/L				0	20	RA

Nitrogen, ammonia M350.1

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396426													
WG396426ICV	ICV	12/29/15 13:02	WI151212-6	11.988		12.3	mg/L	103	90	110			
WG396426ICB	ICB	12/29/15 13:03				U	mg/L		-0.05	0.05			
WG396449													
WG396449LFB1	LFB	12/29/15 14:19	WI150204-10	10		9.774	mg/L	98	90	110			
L28217-05DUP	DUP	12/29/15 14:42			U	U	mg/L				0	20	RA
L28217-06AS	AS	12/29/15 14:45	WI150204-10	10	.05	10.461	mg/L	104	90	110			
WG396449LFB2	LFB	12/29/15 16:06	WI150204-10	10		10.428	mg/L	104	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396114													
WG396114LCSW1	LCSW	12/18/15 16:32	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG396114LCSW4	LCSW	12/18/15 20:45	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG396114LCSW7	LCSW	12/19/15 0:12	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG396114LCSW10	LCSW	12/19/15 3:37	PCN48559	6.01		6.1	units	101	5.9	6.1			
L28235-02DUP	DUP	12/19/15 7:26			8	8	units				0	20	
WG396114LCSW13	LCSW	12/19/15 7:29	PCN48559	6.01		6.1	units	101	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396473													
WG396473ICV	ICV	12/29/15 21:50	WI151110-1	.65228		.697	mg/L	107	90	110			
WG396473ICB	ICB	12/29/15 21:53				U	mg/L		-0.02	0.02			
WG396406LRB	LRB	12/29/15 21:54				U	mg/L		-0.02	0.02			
WG396406LFB	LFB	12/29/15 21:55	WI151228-11	.5		.471	mg/L	94	90	110			
L28231-01LFM	LFM	12/29/15 22:00	WI151228-11	.5	.06	.541	mg/L	96	90	110			
L28230-01DUP	DUP	12/29/15 22:29			2.1	2.19	mg/L				4	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	20		19.53	mg/L	98	95	105			
WG396036ICB	ICB	12/17/15 18:31				.22	mg/L		-0.6	0.6			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	100.0125		95.05	mg/L	95	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	100.0125	5.1	101.2	mg/L	96	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	100.0125	5.1	101.2	mg/L	96	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28230***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396216													
WG396216PBW	PBW	12/21/15 15:10				U	mg/L		-20	20			
WG396216LCSW	LCSW	12/21/15 15:13	PCN49651	260		268	mg/L	103	80	120			
L28286-03DUP	DUP	12/21/15 15:52			452	430	mg/L				5	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	2		2.04	mg/L	102	95	105			
WG396036ICB	ICB	12/17/15 18:31				U	mg/L		-0.3	0.3			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	1.0009		1	mg/L	100	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	1.0009	U	1.01	mg/L	101	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	1.0009	U	.99	mg/L	99	85	115	2	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396387													
WG396387ICV	ICV	12/28/15 18:27	MS151201-3	.05		.04842	mg/L	97	90	110			
WG396387ICB	ICB	12/28/15 18:30				U	mg/L		-0.0003	0.0003			
WG396387LFB	LFB	12/28/15 18:34	MS151223-2	.0501		.05023	mg/L	100	85	115			
L25102-26AS	AS	12/28/15 19:31	MS151223-2	.0501	.0004	.06381	mg/L	127	70	130			
L25102-26ASD	ASD	12/28/15 19:34	MS151223-2	.0501	.0004	.05888	mg/L	117	70	130	8	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	1.001		1.018	mg/L	102	95	105			
WG396036ICB	ICB	12/17/15 18:31				U	mg/L		-0.03	0.03			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	.502		.517	mg/L	103	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	.502	U	.378	mg/L	75	85	115			M2 ZA
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	.502	U	.418	mg/L	83	85	115	10	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	100		94.83	mg/L	95	95	105			
WG396036ICB	ICB	12/17/15 18:31				U	mg/L		-0.6	0.6			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	100.0581		94.79	mg/L	95	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	100.0581	19.8	114.9	mg/L	95	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	100.0581	19.8	115.8	mg/L	96	85	115	1	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396098													
WG396098ICV	ICV	12/18/15 19:42	II151210-1	2		1.9702	mg/L	99	95	105			
WG396098ICB	ICB	12/18/15 19:49				U	mg/L		-0.015	0.015			
WG396098LFB	LFB	12/18/15 20:01	II151202-8	.5005		.4975	mg/L	99	85	115			
L28217-01AS	AS	12/18/15 20:56	II151202-8	.5005	.554	1.025	mg/L	94	85	115			
L28217-01ASD	ASD	12/18/15 20:59	II151202-8	.5005	.554	1.027	mg/L	95	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28230***

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396381													
WG396381ICB	ICB	12/28/15 11:26				U	mg/L		-3	3			
WG396381ICV	ICV	12/28/15 11:26	WI151215-3	20		20.3	mg/L	102	90	110			
WG396381LFB	LFB	12/28/15 15:05	WI150904-1	10.01		10.1	mg/L	101	90	110			
L28191-01DUP	DUP	12/28/15 15:52			1010	984	mg/L				3	20	
L28191-02AS	AS	12/28/15 15:52	SO4TURB	10	1040	1100	mg/L	600	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396387													
WG396387ICV	ICV	12/28/15 18:27	MS151201-3	.05		.05152	mg/L	103	90	110			
WG396387ICB	ICB	12/28/15 18:30				U	mg/L		-0.0003	0.0003			
WG396387LFB	LFB	12/28/15 18:34	MS151223-2	.0501		.05141	mg/L	103	85	115			
L25102-26AS	AS	12/28/15 19:31	MS151223-2	.0501	U	.0516	mg/L	103	70	130			
L25102-26ASD	ASD	12/28/15 19:34	MS151223-2	.0501	U	.0476	mg/L	95	70	130	8	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	2		1.983	mg/L	99	95	105			
WG396036ICB	ICB	12/17/15 18:31				U	mg/L		-0.12	0.12			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	1.001		.969	mg/L	97	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	1.001	U	.922	mg/L	92	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	1.001	U	1.031	mg/L	103	85	115	11	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	2		2.0395	mg/L	102	95	105			
WG396036ICB	ICB	12/17/15 18:31				U	mg/L		-0.015	0.015			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	1.003		1.013	mg/L	101	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	1.003	U	1.024	mg/L	102	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	1.003	U	1.013	mg/L	101	85	115	1	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396387													
WG396387ICV	ICV	12/28/15 18:27	MS151201-3	.05		.0517	mg/L	103	90	110			
WG396387ICB	ICB	12/28/15 18:30				U	mg/L		-0.0003	0.0003			
WG396387LFB	LFB	12/28/15 18:34	MS151223-2	.05		.05192	mg/L	104	85	115			
L25102-26AS	AS	12/28/15 19:31	MS151223-2	.05	.0086	.05833	mg/L	99	70	130			
L25102-26ASD	ASD	12/28/15 19:34	MS151223-2	.05	.0086	.05446	mg/L	92	70	130	7	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L28230***

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	2		2.0013	mg/L	100	95	105			
WG396036ICB	ICB	12/17/15 18:31				U	mg/L		-0.015	0.015			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	.501		.501	mg/L	100	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	.501	U	.507	mg/L	101	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	.501	U	.5064	mg/L	101	85	115	0	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396036													
WG396036ICV	ICV	12/17/15 18:25	II151210-1	2		1.992	mg/L	100	95	105			
WG396036ICB	ICB	12/17/15 18:31				U	mg/L		-0.03	0.03			
WG396036LFB	LFB	12/17/15 18:44	II151202-8	.4995		.484	mg/L	97	85	115			
L28217-01AS	AS	12/17/15 19:37	II151202-8	.4995	U	.508	mg/L	102	85	115			
L28217-01ASD	ASD	12/17/15 19:40	II151202-8	.4995	U	.503	mg/L	101	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28230***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28230-01	WG396406	Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG396535	Arsenic, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG396036	Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Copper, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG396154	Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG396036	Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG396504	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG396036	Molybdenum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Vanadium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG396413	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396114	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396227	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396344	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396449	Nitrogen, ammonia	M350.1	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396114	pH	SM4500H+ B	QA	Sample container with preservation type specified by the

McClelland Laboratories, Inc. ACZ Project ID: ***L28230***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					method was not available for analysis. Alternate sample container was used.
	WG396216	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396381	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396114	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.	
Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP
The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.	
Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L28230
Date Received: 12/16/2015 12:55
Received By: ddp
Date Printed: 12/16/2015

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	X		

A change was made in the Sample ID, Date/Time, Matrix, Analyses Requested section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L28230-01 : A Grenn, Yellow container not received and a new container created from the White .

16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA23132	2.5	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L28230
Date Received:	12/16/2015 12:55
Received By:	ddp
Date Printed:	12/16/2015

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L28230

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
[redacted]	12/14/15	[redacted]	[redacted]								
[redacted]	↓	[redacted]	[redacted]	[redacted]							
CAL-003 (675-685)	↓	WW	1	X							
[redacted]	↓	[redacted]	[redacted]	[redacted]							
[redacted]	↓	[redacted]	[redacted]	[redacted]							
[redacted]	↓	[redacted]	[redacted]	[redacted]							
[redacted]	↓	[redacted]	[redacted]	[redacted]							
[redacted]	↓	[redacted]	[redacted]	X							
[redacted]	↓	[redacted]	[redacted]	[redacted]							
[redacted]	↓	[redacted]	[redacted]	[redacted]	[redacted]						

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 3 WK: 2
See Attachment to C.O.C.

DILUTE AS NECESSARY FOR ANALYSIS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	12/14/15 9AM	BCB	12-16-15 1250

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L28230 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

January 11, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L28324

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 23, 2015. This project has been assigned to ACZ's project number, L28324. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L28324. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after February 10, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L28324-01***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/05/16 12:01	mss2/en

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.22			mg/L	0.03	0.2	12/31/15 12:05	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0093			mg/L	0.0004	0.002	01/05/16 20:26	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0078			mg/L	0.0002	0.001	01/05/16 20:26	msh
Barium, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.003	0.02	12/31/15 12:05	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00122			mg/L	0.00005	0.0003	01/07/16 14:33	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/31/15 12:05	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/04/16 13:27	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	01/05/16 20:26	msh
Calcium, dissolved	M200.7 ICP	1	21.8			mg/L	0.1	0.5	12/31/15 12:05	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/31/15 12:05	aeb
Cobalt, dissolved	M200.7 ICP	1	0.20			mg/L	0.01	0.05	12/31/15 12:05	aeb
Copper, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	12/31/15 12:05	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:05	aeb
Iron, dissolved	M200.7 ICP	1	4.84		*	mg/L	0.02	0.05	12/31/15 12:05	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	01/05/16 20:26	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/31/15 12:05	aeb
Magnesium, dissolved	M200.7 ICP	1	2.8			mg/L	0.2	1	12/31/15 12:05	aeb
Manganese, dissolved	M200.7 ICP	1	0.509			mg/L	0.005	0.03	12/31/15 12:05	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/06/16 16:28	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/31/15 12:05	aeb
Nickel, dissolved	M200.7 ICP	1	1.180			mg/L	0.008	0.04	12/31/15 12:05	aeb
Potassium, dissolved	M200.7 ICP	1	4.8			mg/L	0.2	1	01/04/16 13:27	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:05	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0071			mg/L	0.0001	0.0003	01/05/16 20:26	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/31/15 12:05	aeb
Sodium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	12/31/15 12:05	aeb
Strontium, dissolved	M200.7 ICP	1	0.129			mg/L	0.005	0.03	12/31/15 12:05	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0106			mg/L	0.0001	0.0005	01/05/16 20:26	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/31/15 12:05	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/31/15 12:05	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	01/05/16 20:26	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/31/15 12:05	aeb
Zinc, dissolved	M200.7 ICP	1	0.31			mg/L	0.01	0.05	12/31/15 12:05	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L28324-01***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Carbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Hydroxide as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Total Alkalinity		1		U	*	mg/L	2	20	12/29/15 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			2.7			%			01/11/16 13:34	calc
Sum of Anions			1.8			meq/L			01/11/16 13:34	calc
Sum of Cations			1.9			meq/L			01/11/16 13:34	calc
Chloride	SM4500Cl-E	1	0.7	B	*	mg/L	0.5	2	01/05/16 9:54	krh
Conductivity @25C	SM2510B	1	216		*	umhos/cm	1	10	12/29/15 20:03	enb
Fluoride	SM4500F-C	1	0.48		*	mg/L	0.05	0.3	01/04/16 12:14	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		66			mg/L			01/11/16 13:34	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B		mg/L	0.02	0.1	01/02/16 12:21	pjb
Nitrogen, ammonia	M350.1	1		U		mg/L	0.05	0.2	01/07/16 12:11	krh
pH (lab)	SM4500H+ B									
pH		1	4.6	H	*	units	0.1	0.1	12/29/15 0:00	enb
pH measured at		1	21.7			C	0.1	0.1	12/29/15 0:00	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/05/16 21:43	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	154		*	mg/L	10	20	12/28/15 10:42	emk
Sulfate	D516-02/-07 - Turbidimetric	5	83.2		*	mg/L	5	25	12/31/15 8:48	krh
TDS (calculated)	Calculation		122			mg/L			01/11/16 13:34	calc
TDS (ratio - measured/calculated)	Calculation		1.26						01/11/16 13:34	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L28324-02***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/05/16 12:22	mss2/en

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.25			mg/L	0.03	0.2	12/31/15 12:14	aeb
Antimony, dissolved	M200.8 ICP-MS	5	0.043			mg/L	0.002	0.01	01/07/16 14:36	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0899			mg/L	0.0002	0.001	01/05/16 20:28	msh
Barium, dissolved	M200.7 ICP	1	0.316			mg/L	0.003	0.02	12/31/15 12:14	aeb
Beryllium, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0003	0.001	01/07/16 14:36	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/31/15 12:14	aeb
Boron, dissolved	M200.7 ICP	1	0.14			mg/L	0.01	0.05	01/04/16 13:30	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	01/05/16 20:28	msh
Calcium, dissolved	M200.7 ICP	1	2			mg/L	0.1	0.5	12/31/15 12:14	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/31/15 12:14	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/31/15 12:14	aeb
Copper, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	12/31/15 12:14	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:14	aeb
Iron, dissolved	M200.7 ICP	1	1.31		*	mg/L	0.02	0.05	12/31/15 12:14	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0035			mg/L	0.0001	0.0005	01/05/16 20:28	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/31/15 12:14	aeb
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	12/31/15 12:14	aeb
Manganese, dissolved	M200.7 ICP	1	0.054			mg/L	0.005	0.03	12/31/15 12:14	aeb
Mercury, dissolved	M245.1 CVAA	1	0.0020			mg/L	0.0002	0.001	01/06/16 16:31	scp
Molybdenum, dissolved	M200.7 ICP	1	0.09	B		mg/L	0.02	0.1	12/31/15 12:14	aeb
Nickel, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.008	0.04	12/31/15 12:14	aeb
Potassium, dissolved	M200.7 ICP	1	1.6			mg/L	0.2	1	01/04/16 13:30	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:14	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0079			mg/L	0.0001	0.0003	01/05/16 20:28	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/31/15 12:14	aeb
Sodium, dissolved	M200.7 ICP	1	21.5			mg/L	0.2	1	12/31/15 12:14	aeb
Strontium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.005	0.03	12/31/15 12:14	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	01/05/16 20:28	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/31/15 12:14	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/31/15 12:14	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	01/05/16 20:28	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/31/15 12:14	aeb
Zinc, dissolved	M200.7 ICP	1	0.17			mg/L	0.01	0.05	12/31/15 12:14	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L28324-02***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	22.9			mg/L	2	20	12/29/15 0:00	enb
Carbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Hydroxide as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Total Alkalinity		1	22.9		*	mg/L	2	20	12/29/15 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			4.3			%			01/11/16 13:34	calc
Sum of Anions			1.1			meq/L			01/11/16 13:34	calc
Sum of Cations			1.2			meq/L			01/11/16 13:34	calc
Chloride	SM4500Cl-E	1	1	B	*	mg/L	0.5	2	01/05/16 9:54	krh
Conductivity @25C	SM2510B	1	110		*	umhos/cm	1	10	12/29/15 20:11	enb
Fluoride	SM4500F-C	1	1.16		*	mg/L	0.05	0.3	01/04/16 12:30	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		6.23			mg/L			01/11/16 13:34	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.21			mg/L	0.02	0.1	01/02/16 12:22	pjb
Nitrogen, ammonia	M350.1	1	0.16	B	*	mg/L	0.05	0.2	01/07/16 12:12	krh
pH (lab)	SM4500H+ B									
pH		1	7.5	H	*	units	0.1	0.1	12/29/15 0:00	enb
pH measured at		1	21.5			C	0.1	0.1	12/29/15 0:00	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.09		*	mg/L	0.02	0.05	01/05/16 21:46	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	138		*	mg/L	10	20	12/28/15 10:44	emk
Sulfate	D516-02/-07 - Turbidimetric	1	26.8		*	mg/L	1	5	12/31/15 9:55	krh
TDS (calculated)	Calculation		70.3			mg/L			01/11/16 13:34	calc
TDS (ratio - measured/calculated)	Calculation		1.96						01/11/16 13:34	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L28324-03***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/05/16 12:44	mss2/en

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	3.64			mg/L	0.03	0.2	12/31/15 12:17	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0014	B		mg/L	0.0004	0.002	01/05/16 20:30	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0760			mg/L	0.0002	0.001	01/05/16 20:30	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	12/31/15 12:17	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00164			mg/L	0.00005	0.0003	01/07/16 14:38	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/31/15 12:17	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/04/16 13:39	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	01/05/16 20:30	msh
Calcium, dissolved	M200.7 ICP	1	56.2			mg/L	0.1	0.5	12/31/15 12:17	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/31/15 12:17	aeb
Cobalt, dissolved	M200.7 ICP	1	0.18			mg/L	0.01	0.05	12/31/15 12:17	aeb
Copper, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	12/31/15 12:17	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:17	aeb
Iron, dissolved	M200.7 ICP	1	41.50		*	mg/L	0.02	0.05	12/31/15 12:17	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0081			mg/L	0.0001	0.0005	01/05/16 20:30	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/31/15 12:17	aeb
Magnesium, dissolved	M200.7 ICP	1	6.4			mg/L	0.2	1	12/31/15 12:17	aeb
Manganese, dissolved	M200.7 ICP	1	0.034			mg/L	0.005	0.03	12/31/15 12:17	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/06/16 16:32	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/31/15 12:17	aeb
Nickel, dissolved	M200.7 ICP	1	0.164			mg/L	0.008	0.04	12/31/15 12:17	aeb
Potassium, dissolved	M200.7 ICP	1	6.3			mg/L	0.2	1	01/04/16 13:39	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:17	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0003	01/05/16 20:30	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/31/15 12:17	aeb
Sodium, dissolved	M200.7 ICP	1	2.9			mg/L	0.2	1	12/31/15 12:17	aeb
Strontium, dissolved	M200.7 ICP	1	0.480			mg/L	0.005	0.03	12/31/15 12:17	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0040			mg/L	0.0001	0.0005	01/05/16 20:30	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/31/15 12:17	aeb
Titanium, dissolved	M200.7 ICP	1	0.005	B	*	mg/L	0.005	0.03	12/31/15 12:17	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	01/05/16 20:30	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/31/15 12:17	aeb
Zinc, dissolved	M200.7 ICP	1	0.27			mg/L	0.01	0.05	12/31/15 12:17	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L28324-03***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Carbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Hydroxide as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Total Alkalinity		1		U	*	mg/L	2	20	12/29/15 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			3.3			%			01/11/16 13:34	calc
Sum of Anions			5.9			meq/L			01/11/16 13:34	calc
Sum of Cations			6.3			meq/L			01/11/16 13:34	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/05/16 9:54	krh
Conductivity @25C	SM2510B	1	697		*	umhos/cm	1	10	12/29/15 20:16	enb
Fluoride	SM4500F-C	1	0.52		*	mg/L	0.05	0.3	01/04/16 12:36	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		167			mg/L			01/11/16 13:34	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.18			mg/L	0.02	0.1	01/02/16 12:23	pjb
Nitrogen, ammonia	M350.1	1	0.14	B	*	mg/L	0.05	0.2	01/07/16 12:55	krh
pH (lab)	SM4500H+ B									
pH		1	3.2	H	*	units	0.1	0.1	12/29/15 0:00	enb
pH measured at		1	21.5			C	0.1	0.1	12/29/15 0:00	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.04	B	*	mg/L	0.02	0.05	01/05/16 21:48	pjb
Residue, Filterable (TDS) @180C	SM2540C	2	444		*	mg/L	20	40	12/28/15 10:47	emk
Sulfate	D516-02/-07 - Turbidimetric	10	278		*	mg/L	10	50	12/31/15 10:17	krh
TDS (calculated)	Calculation		396			mg/L			01/11/16 13:34	calc
TDS (ratio - measured/calculated)	Calculation		1.12						01/11/16 13:34	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L28324-04***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/05/16 12:55	mss2/en

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	29.60			mg/L	0.03	0.2	12/31/15 12:20	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0004	0.002	01/05/16 20:36	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.1386			mg/L	0.0002	0.001	01/05/16 20:36	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	12/31/15 12:20	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00260			mg/L	0.00005	0.0003	01/07/16 14:41	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/31/15 12:20	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/04/16 13:42	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0035			mg/L	0.0001	0.0005	01/05/16 20:36	msh
Calcium, dissolved	M200.7 ICP	1	93.8			mg/L	0.1	0.5	12/31/15 12:20	aeb
Chromium, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	12/31/15 12:20	aeb
Cobalt, dissolved	M200.7 ICP	1	0.29			mg/L	0.01	0.05	12/31/15 12:20	aeb
Copper, dissolved	M200.7 ICP	1	1.06			mg/L	0.01	0.05	12/31/15 12:20	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:20	aeb
Iron, dissolved	M200.7 ICP	1	75.50		*	mg/L	0.02	0.05	12/31/15 12:20	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	01/05/16 20:36	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/31/15 12:20	aeb
Magnesium, dissolved	M200.7 ICP	1	7.5			mg/L	0.2	1	12/31/15 12:20	aeb
Manganese, dissolved	M200.7 ICP	1	0.374			mg/L	0.005	0.03	12/31/15 12:20	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/06/16 16:38	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/31/15 12:20	aeb
Nickel, dissolved	M200.7 ICP	1	0.387			mg/L	0.008	0.04	12/31/15 12:20	aeb
Potassium, dissolved	M200.7 ICP	1	2.5			mg/L	0.2	1	01/04/16 13:42	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:20	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0062			mg/L	0.0001	0.0003	01/05/16 20:36	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/31/15 12:20	aeb
Sodium, dissolved	M200.7 ICP	1	1.7			mg/L	0.2	1	12/31/15 12:20	aeb
Strontium, dissolved	M200.7 ICP	1	0.049			mg/L	0.005	0.03	12/31/15 12:20	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0005	01/05/16 20:36	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/31/15 12:20	aeb
Titanium, dissolved	M200.7 ICP	1	0.007	B	*	mg/L	0.005	0.03	12/31/15 12:20	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0654			mg/L	0.0001	0.0005	01/05/16 20:36	msh
Vanadium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.005	0.03	12/31/15 12:20	aeb
Zinc, dissolved	M200.7 ICP	1	0.92			mg/L	0.01	0.05	12/31/15 12:20	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L28324-04***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Carbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Hydroxide as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Total Alkalinity		1		U	*	mg/L	2	20	12/29/15 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.7			%			01/11/16 13:35	calc
Sum of Anions			14			meq/L			01/11/16 13:35	calc
Sum of Cations			13			meq/L			01/11/16 13:35	calc
Chloride	SM4500Cl-E	1	1.4	B	*	mg/L	0.5	2	01/05/16 9:54	krh
Conductivity @25C	SM2510B	1	1610		*	umhos/cm	1	10	12/29/15 20:20	enb
Fluoride	SM4500F-C	1	0.43		*	mg/L	0.05	0.3	01/04/16 12:44	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		265			mg/L			01/11/16 13:35	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.11			mg/L	0.02	0.1	01/02/16 13:00	pjb
Nitrogen, ammonia	M350.1	1	0.08	B	*	mg/L	0.05	0.2	01/07/16 12:18	krh
pH (lab)	SM4500H+ B									
pH		1	2.7	H	*	units	0.1	0.1	12/29/15 0:00	enb
pH measured at		1	21.3			C	0.1	0.1	12/29/15 0:00	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.18		*	mg/L	0.02	0.05	01/05/16 21:49	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	980		*	mg/L	10	20	12/28/15 10:50	emk
Sulfate	D516-02/-07 - Turbidimetric	20	648		*	mg/L	20	100	12/31/15 10:17	krh
TDS (calculated)	Calculation		863			mg/L			01/11/16 13:35	calc
TDS (ratio - measured/calculated)	Calculation		1.14						01/11/16 13:35	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L28324-05***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/05/16 13:06	mss2/en

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.95			mg/L	0.03	0.2	12/31/15 12:24	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0004	0.002	01/05/16 20:38	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0060			mg/L	0.0002	0.001	01/05/16 20:38	msh
Barium, dissolved	M200.7 ICP	1	0.038			mg/L	0.003	0.02	12/31/15 12:24	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00178			mg/L	0.00005	0.0003	01/07/16 14:43	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/31/15 12:24	aeb
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	01/04/16 13:46	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	01/05/16 20:38	msh
Calcium, dissolved	M200.7 ICP	1	39.3			mg/L	0.1	0.5	12/31/15 12:24	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/31/15 12:24	aeb
Cobalt, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	12/31/15 12:24	aeb
Copper, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	12/31/15 12:24	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:24	aeb
Iron, dissolved	M200.7 ICP	1	1.05		*	mg/L	0.02	0.05	12/31/15 12:24	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	01/05/16 20:38	msh
Lithium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.008	0.04	12/31/15 12:24	aeb
Magnesium, dissolved	M200.7 ICP	1	8.1			mg/L	0.2	1	12/31/15 12:24	aeb
Manganese, dissolved	M200.7 ICP	1	0.452			mg/L	0.005	0.03	12/31/15 12:24	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/06/16 16:44	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/31/15 12:24	aeb
Nickel, dissolved	M200.7 ICP	1	0.050			mg/L	0.008	0.04	12/31/15 12:24	aeb
Potassium, dissolved	M200.7 ICP	1	19.7			mg/L	0.2	1	01/04/16 13:46	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:24	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0161			mg/L	0.0001	0.0003	01/05/16 20:38	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/31/15 12:24	aeb
Sodium, dissolved	M200.7 ICP	1	2.9			mg/L	0.2	1	12/31/15 12:24	aeb
Strontium, dissolved	M200.7 ICP	1	0.112			mg/L	0.005	0.03	12/31/15 12:24	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	01/05/16 20:38	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/31/15 12:24	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/31/15 12:24	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	01/05/16 20:38	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/31/15 12:24	aeb
Zinc, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	12/31/15 12:24	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L28324-05***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Carbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Hydroxide as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Total Alkalinity		1		U	*	mg/L	2	20	12/29/15 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			01/11/16 13:35	calc
Sum of Anions			3.5			meq/L			01/11/16 13:35	calc
Sum of Cations			3.5			meq/L			01/11/16 13:35	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/05/16 10:20	krh
Conductivity @25C	SM2510B	1	369		*	umhos/cm	1	10	12/29/15 20:25	enb
Fluoride	SM4500F-C	1	0.65		*	mg/L	0.05	0.3	01/04/16 12:52	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		131			mg/L			01/11/16 13:35	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B		mg/L	0.02	0.1	01/02/16 13:01	pjb
Nitrogen, ammonia	M350.1	1	0.12	B	*	mg/L	0.05	0.2	01/07/16 13:01	krh
pH (lab)	SM4500H+ B									
pH		1	4.3	H	*	units	0.1	0.1	12/29/15 0:00	enb
pH measured at		1	21.4			C	0.1	0.1	12/29/15 0:00	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/05/16 21:53	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	288		*	mg/L	10	20	12/28/15 10:52	emk
Sulfate	D516-02/-07 - Turbidimetric	5	166		*	mg/L	5	25	12/31/15 10:02	krh
TDS (calculated)	Calculation		239			mg/L			01/11/16 13:35	calc
TDS (ratio - measured/calculated)	Calculation		1.21						01/11/16 13:35	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L28324-06***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/05/16 13:16	mss2/en

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/31/15 12:33	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0004	0.002	01/05/16 20:40	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0002	0.001	01/05/16 20:40	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	12/31/15 12:33	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	01/07/16 14:51	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/31/15 12:33	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/04/16 13:55	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/05/16 20:40	msh
Calcium, dissolved	M200.7 ICP	1	3.5			mg/L	0.1	0.5	12/31/15 12:33	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/31/15 12:33	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/31/15 12:33	aeb
Copper, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	12/31/15 12:33	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:33	aeb
Iron, dissolved	M200.7 ICP	1	0.02	B	*	mg/L	0.02	0.05	12/31/15 12:33	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	01/05/16 20:40	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/31/15 12:33	aeb
Magnesium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	12/31/15 12:33	aeb
Manganese, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	12/31/15 12:33	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/06/16 16:46	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/31/15 12:33	aeb
Nickel, dissolved	M200.7 ICP	1	0.018	B		mg/L	0.008	0.04	12/31/15 12:33	aeb
Potassium, dissolved	M200.7 ICP	1	6.1			mg/L	0.2	1	01/04/16 13:55	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:33	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0296			mg/L	0.0001	0.0003	01/05/16 20:40	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/31/15 12:33	aeb
Sodium, dissolved	M200.7 ICP	1	1.9			mg/L	0.2	1	12/31/15 12:33	aeb
Strontium, dissolved	M200.7 ICP	1	0.037			mg/L	0.005	0.03	12/31/15 12:33	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	01/05/16 20:40	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/31/15 12:33	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/31/15 12:33	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/05/16 20:40	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/31/15 12:33	aeb
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/31/15 12:33	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L28324-06***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Carbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Hydroxide as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Total Alkalinity		1		U	*	mg/L	2	20	12/29/15 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-8.9			%			01/11/16 13:35	calc
Sum of Anions			0.598			meq/L			01/11/16 13:35	calc
Sum of Cations			0.5			meq/L			01/11/16 13:35	calc
Chloride	SM4500Cl-E	1	0.9	B	*	mg/L	0.5	2	01/05/16 10:20	krh
Conductivity @25C	SM2510B	1	70.7		*	umhos/cm	1	10	12/29/15 20:30	enb
Fluoride	SM4500F-C	1	0.11	B	*	mg/L	0.05	0.3	01/04/16 13:06	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		11.6			mg/L			01/11/16 13:35	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B		mg/L	0.02	0.1	01/02/16 13:02	pjb
Nitrogen, ammonia	M350.1	1	0.42		*	mg/L	0.05	0.2	01/07/16 13:02	krh
pH (lab)	SM4500H+ B									
pH		1	5.1	H	*	units	0.1	0.1	12/29/15 0:00	enb
pH measured at		1	21.6			C	0.1	0.1	12/29/15 0:00	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/05/16 21:54	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	50		*	mg/L	10	20	12/28/15 10:55	emk
Sulfate	D516-02/-07 - Turbidimetric	1	27.0		*	mg/L	1	5	12/31/15 9:55	krh
TDS (calculated)	Calculation		40.8			mg/L			01/11/16 13:35	calc
TDS (ratio - measured/calculated)	Calculation		1.23						01/11/16 13:35	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L28324-07***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/05/16 13:27	mss2/en

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	2	127			mg/L	0.06	0.3	12/31/15 12:36	aeb
Antimony, dissolved	M200.8 ICP-MS	2	0.0027	B		mg/L	0.0008	0.004	01/05/16 20:47	msh
Arsenic, dissolved	M200.8 ICP-MS	20	3.340			mg/L	0.004	0.02	01/07/16 14:58	mfm
Barium, dissolved	M200.7 ICP	2		U		mg/L	0.006	0.03	12/31/15 12:36	aeb
Beryllium, dissolved	M200.8 ICP-MS	20	0.033			mg/L	0.001	0.005	01/07/16 14:58	mfm
Bismuth, dissolved	M200.7 ICP	2		U	*	mg/L	0.08	0.4	12/31/15 12:36	aeb
Boron, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	01/04/16 13:58	gss
Cadmium, dissolved	M200.8 ICP-MS	2	0.0130			mg/L	0.0002	0.001	01/05/16 20:47	msh
Calcium, dissolved	M200.7 ICP	2	115			mg/L	0.2	1	12/31/15 12:36	aeb
Chromium, dissolved	M200.7 ICP	2	0.02	B		mg/L	0.02	0.1	12/31/15 12:36	aeb
Cobalt, dissolved	M200.7 ICP	2	1.10			mg/L	0.02	0.1	12/31/15 12:36	aeb
Copper, dissolved	M200.7 ICP	2	1.61			mg/L	0.02	0.1	12/31/15 12:36	aeb
Gallium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	12/31/15 12:36	aeb
Iron, dissolved	M200.7 ICP	2	250		*	mg/L	0.04	0.1	12/31/15 12:36	aeb
Lead, dissolved	M200.8 ICP-MS	2	0.0019			mg/L	0.0002	0.001	01/05/16 20:47	msh
Lithium, dissolved	M200.7 ICP	2	0.04	B		mg/L	0.02	0.08	12/31/15 12:36	aeb
Magnesium, dissolved	M200.7 ICP	2	23.2			mg/L	0.4	2	12/31/15 12:36	aeb
Manganese, dissolved	M200.7 ICP	2	2.01			mg/L	0.01	0.05	12/31/15 12:36	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/06/16 16:48	scp
Molybdenum, dissolved	M200.7 ICP	2		U		mg/L	0.04	0.2	12/31/15 12:36	aeb
Nickel, dissolved	M200.7 ICP	2	1.14			mg/L	0.02	0.08	12/31/15 12:36	aeb
Potassium, dissolved	M200.7 ICP	2	12			mg/L	0.4	2	01/04/16 13:58	gss
Scandium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	12/31/15 12:36	aeb
Selenium, dissolved	M200.8 ICP-MS	2	0.0060			mg/L	0.0002	0.0005	01/05/16 20:47	msh
Silver, dissolved	M200.7 ICP	2		U	*	mg/L	0.02	0.05	12/31/15 12:36	aeb
Sodium, dissolved	M200.7 ICP	2	3.9			mg/L	0.4	2	12/31/15 12:36	aeb
Strontium, dissolved	M200.7 ICP	2	0.01	B		mg/L	0.01	0.05	12/31/15 12:36	aeb
Thallium, dissolved	M200.8 ICP-MS	2	0.0061			mg/L	0.0002	0.001	01/05/16 20:47	msh
Tin, dissolved	M200.7 ICP	2		U		mg/L	0.08	0.4	12/31/15 12:36	aeb
Titanium, dissolved	M200.7 ICP	2	0.01	B	*	mg/L	0.01	0.05	12/31/15 12:36	aeb
Uranium, dissolved	M200.8 ICP-MS	2	0.0129			mg/L	0.0002	0.001	01/05/16 20:47	msh
Vanadium, dissolved	M200.7 ICP	2	0.03	B		mg/L	0.01	0.05	12/31/15 12:36	aeb
Zinc, dissolved	M200.7 ICP	2	4.62			mg/L	0.02	0.1	12/31/15 12:36	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L28324-07***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Carbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Hydroxide as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Total Alkalinity		1		U	*	mg/L	2	20	12/29/15 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			01/11/16 13:35	calc
Sum of Anions			36			meq/L			01/11/16 13:35	calc
Sum of Cations			36			meq/L			01/11/16 13:35	calc
Chloride	SM4500Cl-E	1	0.8	B	*	mg/L	0.5	2	01/05/16 10:20	krh
Conductivity @25C	SM2510B	1	2770		*	umhos/cm	1	10	12/29/15 20:34	enb
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	01/04/16 13:14	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		383			mg/L			01/11/16 13:35	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B		mg/L	0.02	0.1	01/02/16 13:03	pjb
Nitrogen, ammonia	M350.1	1	0.26		*	mg/L	0.05	0.2	01/07/16 12:25	krh
pH (lab)	SM4500H+ B									
pH		1	2.5	H	*	units	0.1	0.1	12/29/15 0:00	enb
pH measured at		1	22.0			C	0.1	0.1	12/29/15 0:00	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	5	1.2		*	mg/L	0.1	0.3	01/05/16 23:02	pjb
Residue, Filterable (TDS) @180C	SM2540C	2	2570		*	mg/L	20	40	12/28/15 10:57	emk
Sulfate	D516-02/-07 - Turbidimetric	50	1700		*	mg/L	50	250	12/31/15 10:17	krh
TDS (calculated)	Calculation		2240			mg/L			01/11/16 13:35	calc
TDS (ratio - measured/calculated)	Calculation		1.15						01/11/16 13:35	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L28324-08***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/05/16 13:38	mss2/en

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/31/15 12:39	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0030			mg/L	0.0004	0.002	01/05/16 20:49	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0356			mg/L	0.0002	0.001	01/05/16 20:49	msh
Barium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.003	0.02	12/31/15 12:39	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	01/07/16 15:01	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/31/15 12:39	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/04/16 14:01	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/05/16 20:49	msh
Calcium, dissolved	M200.7 ICP	1	5.7			mg/L	0.1	0.5	12/31/15 12:39	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/31/15 12:39	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/31/15 12:39	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/31/15 12:39	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:39	aeb
Iron, dissolved	M200.7 ICP	1	0.06		*	mg/L	0.02	0.05	12/31/15 12:39	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	01/05/16 20:49	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/31/15 12:39	aeb
Magnesium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	12/31/15 12:39	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/31/15 12:39	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/06/16 16:50	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/31/15 12:39	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/31/15 12:39	aeb
Potassium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	01/04/16 14:01	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:39	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0003	01/05/16 20:49	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/31/15 12:39	aeb
Sodium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	12/31/15 12:39	aeb
Strontium, dissolved	M200.7 ICP	1	0.038			mg/L	0.005	0.03	12/31/15 12:39	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/05/16 20:49	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/31/15 12:39	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/31/15 12:39	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/05/16 20:49	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/31/15 12:39	aeb
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/31/15 12:39	aeb

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L28324-08***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	11.8	B		mg/L	2	20	12/29/15 0:00	enb
Carbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Hydroxide as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Total Alkalinity		1	11.8	B	*	mg/L	2	20	12/29/15 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-19.5			%			01/11/16 13:36	calc
Sum of Anions			0.563			meq/L			01/11/16 13:36	calc
Sum of Cations			0.379	B		meq/L			01/11/16 13:36	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/05/16 10:20	krh
Conductivity @25C	SM2510B	1	34.8		*	umhos/cm	1	10	12/29/15 21:11	enb
Fluoride	SM4500F-C	1	0.07	B	*	mg/L	0.05	0.3	01/04/16 13:21	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		16.3			mg/L			01/11/16 13:36	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B		mg/L	0.02	0.1	01/02/16 13:04	pjb
Nitrogen, ammonia	M350.1	1	0.42		*	mg/L	0.05	0.2	01/07/16 12:26	krh
pH (lab)	SM4500H+ B									
pH		1	7.6	H	*	units	0.1	0.1	12/29/15 0:00	enb
pH measured at		1	21.7			C	0.1	0.1	12/29/15 0:00	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/05/16 21:56	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	32		*	mg/L	10	20	12/28/15 11:00	emk
Sulfate	D516-02/-07 - Turbidimetric	1	15.4		*	mg/L	1	5	12/31/15 9:55	krh
TDS (calculated)	Calculation		29.9			mg/L			01/11/16 13:36	calc
TDS (ratio - measured/calculated)	Calculation		1.07						01/11/16 13:36	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L28324-09***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/05/16 13:49	mss2/en

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/31/15 12:43	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0017	B		mg/L	0.0004	0.002	01/05/16 20:51	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0002	0.001	01/05/16 20:51	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	12/31/15 12:43	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	01/07/16 15:03	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/31/15 12:43	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/04/16 14:04	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/05/16 20:51	msh
Calcium, dissolved	M200.7 ICP	1	2.8			mg/L	0.1	0.5	12/31/15 12:43	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/31/15 12:43	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/31/15 12:43	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/31/15 12:43	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:43	aeb
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.05	12/31/15 12:43	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	01/05/16 20:51	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/31/15 12:43	aeb
Magnesium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	12/31/15 12:43	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/31/15 12:43	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/06/16 16:52	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/31/15 12:43	aeb
Nickel, dissolved	M200.7 ICP	1	0.068			mg/L	0.008	0.04	12/31/15 12:43	aeb
Potassium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	01/04/16 14:04	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:43	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0045			mg/L	0.0001	0.0003	01/05/16 20:51	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/31/15 12:43	aeb
Sodium, dissolved	M200.7 ICP	1	1.3			mg/L	0.2	1	12/31/15 12:43	aeb
Strontium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.005	0.03	12/31/15 12:43	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	01/05/16 20:51	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/31/15 12:43	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/31/15 12:43	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/05/16 20:51	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/31/15 12:43	aeb
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/31/15 12:43	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L28324-09***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Carbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Hydroxide as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Total Alkalinity		1		U	*	mg/L	2	20	12/29/15 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-9.3			%			01/11/16 13:36	calc
Sum of Anions			0.323	B		meq/L			01/11/16 13:36	calc
Sum of Cations			0.268	B		meq/L			01/11/16 13:36	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	01/05/16 10:20	krh
Conductivity @25C	SM2510B	1	33.7		*	umhos/cm	1	10	12/29/15 21:18	enb
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	01/04/16 13:26	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		9.46			mg/L			01/11/16 13:36	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	01/02/16 13:06	pjb
Nitrogen, ammonia	M350.1	1		U	*	mg/L	0.05	0.2	01/07/16 12:28	krh
pH (lab)	SM4500H+ B									
pH		1	6.4	H	*	units	0.1	0.1	12/29/15 0:00	enb
pH measured at		1	21.8			C	0.1	0.1	12/29/15 0:00	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/05/16 21:57	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	32		*	mg/L	10	20	12/28/15 11:03	emk
Sulfate	D516-02/-07 - Turbidimetric	1	14.7		*	mg/L	1	5	12/31/15 9:56	krh
TDS (calculated)	Calculation		20.7			mg/L			01/11/16 13:36	calc
TDS (ratio - measured/calculated)	Calculation		1.55						01/11/16 13:36	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L28324-10***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/31/15 12:00	bsu
Cyanide, WAD	SM4500-CN I- distillation				*				12/31/15 10:55	bsu
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/05/16 14:00	mss2/en

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.25			mg/L	0.03	0.2	12/31/15 12:46	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	01/05/16 20:53	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0030			mg/L	0.0002	0.001	01/05/16 20:53	msh
Barium, dissolved	M200.7 ICP	1	0.025			mg/L	0.003	0.02	12/31/15 12:46	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00057			mg/L	0.00005	0.0003	01/07/16 15:06	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/31/15 12:46	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/04/16 14:07	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	01/05/16 20:53	msh
Calcium, dissolved	M200.7 ICP	1	14.2			mg/L	0.1	0.5	12/31/15 12:46	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/31/15 12:46	aeb
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/31/15 12:46	aeb
Copper, dissolved	M200.7 ICP	1	2.21			mg/L	0.01	0.05	12/31/15 12:46	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:46	aeb
Iron, dissolved	M200.7 ICP	1	0.08		*	mg/L	0.02	0.05	12/31/15 12:46	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	01/05/16 20:53	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/31/15 12:46	aeb
Magnesium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	12/31/15 12:46	aeb
Manganese, dissolved	M200.7 ICP	1	0.243			mg/L	0.005	0.03	12/31/15 12:46	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/06/16 16:54	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/31/15 12:46	aeb
Nickel, dissolved	M200.7 ICP	1	0.041			mg/L	0.008	0.04	12/31/15 12:46	aeb
Potassium, dissolved	M200.7 ICP	1	3			mg/L	0.2	1	01/04/16 14:07	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/31/15 12:46	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0029			mg/L	0.0001	0.0003	01/05/16 20:53	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/31/15 12:46	aeb
Sodium, dissolved	M200.7 ICP	1	1.6			mg/L	0.2	1	12/31/15 12:46	aeb
Strontium, dissolved	M200.7 ICP	1	0.058			mg/L	0.005	0.03	12/31/15 12:46	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	01/05/16 20:53	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/31/15 12:46	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/31/15 12:46	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	01/05/16 20:53	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/31/15 12:46	aeb
Zinc, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	12/31/15 12:46	aeb

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L28324-10***
Date Sampled: *12/22/15 00:00*
Date Received: *12/23/15*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Carbonate as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Hydroxide as CaCO3		1		U		mg/L	2	20	12/29/15 0:00	enb
Total Alkalinity		1		U	*	mg/L	2	20	12/29/15 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			4.8			%			01/11/16 13:36	calc
Sum of Anions			0.999			meq/L			01/11/16 13:36	calc
Sum of Cations			1.1			meq/L			01/11/16 13:36	calc
Chloride	SM4500Cl-E	1	0.9	B	*	mg/L	0.5	2	01/05/16 10:20	krh
Conductivity @25C	SM2510B	1	129		*	umhos/cm	1	10	12/29/15 21:23	enb
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U		mg/L	0.003	0.01	12/31/15 21:28	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/31/15 22:23	pjb
Fluoride	SM4500F-C	1	0.19	B	*	mg/L	0.05	0.3	01/04/16 13:32	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		37.1			mg/L			01/11/16 13:36	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.07	B	*	mg/L	0.02	0.1	01/02/16 13:08	pjb
Nitrogen, ammonia	M350.1	1	0.44		*	mg/L	0.05	0.2	01/07/16 12:29	krh
pH (lab)	SM4500H+ B									
pH		1	4.9	H	*	units	0.1	0.1	12/29/15 0:00	enb
pH measured at		1	21.8			C	0.1	0.1	12/29/15 0:00	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/05/16 21:58	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	110		*	mg/L	10	20	12/28/15 11:05	emk
Sulfate	D516-02/-07 - Turbidimetric	2	45.9		*	mg/L	2	10	12/31/15 10:37	krh
TDS (calculated)	Calculation		69.6			mg/L			01/11/16 13:36	calc
TDS (ratio - measured/calculated)	Calculation		1.58						01/11/16 13:36	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of Interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L28324***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396448													
WG396448PBW1	PBW	12/29/15 14:38				U	mg/L		-20	20			
WG396448LCSW3	LCSW	12/29/15 14:53	WC151211-9	820.0001		756	mg/L	92	90	110			
WG396448LCSW6	LCSW	12/29/15 18:02	WC151211-9	820.0001		787	mg/L	96	90	110			
WG396448PBW2	PBW	12/29/15 18:10				U	mg/L		-20	20			
L28324-07DUP	DUP	12/29/15 20:38			U	U	mg/L				0	20	RA
WG396448LCSW9	LCSW	12/29/15 20:55	WC151211-9	820.0001		790	mg/L	96	90	110			
WG396448PBW3	PBW	12/29/15 21:03				U	mg/L		-20	20			
L28329-03DUP	DUP	12/29/15 22:12			25.7	25.9	mg/L				1	20	
WG396448LCSW12	LCSW	12/29/15 23:08	WC151211-9	820.0001		797	mg/L	97	90	110			
WG396448PBW4	PBW	12/29/15 23:15				U	mg/L		-20	20			
WG396448LCSW15	LCSW	12/30/15 1:01	WC151211-9	820.0001		797	mg/L	97	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		2.047	mg/L	102	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.09	0.09			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	1.0013		1.026	mg/L	102	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	1.0013	1.22	2.284	mg/L	106	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	1.0013	1.22	2.291	mg/L	107	85	115	0	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396684													
WG396684ICV	ICV	01/05/16 20:17	MS151201-3	.02		.02025	mg/L	101	90	110			
WG396684ICB	ICB	01/05/16 20:19				U	mg/L		-0.0012	0.0012			
WG396684LFB	LFB	01/05/16 20:22	MS151223-2	.01001		.0098	mg/L	98	85	115			
L28324-03AS	AS	01/05/16 20:32	MS151223-2	.01001	.0014	.01044	mg/L	90	70	130			
L28324-03ASD	ASD	01/05/16 20:34	MS151223-2	.01001	.0014	.01061	mg/L	92	70	130	2	20	
L28325-01AS	AS	01/05/16 20:57	MS151223-2	.02002	U	.01965	mg/L	98	70	130			
L28325-01ASD	ASD	01/05/16 20:59	MS151223-2	.02002	U	.02003	mg/L	100	70	130	2	20	
WG396794													
WG396794ICV	ICV	01/07/16 14:23	MS151201-3	.02		.02048	mg/L	102	90	110			
WG396794ICB	ICB	01/07/16 14:26				U	mg/L		-0.0012	0.0012			
WG396794LFB	LFB	01/07/16 14:28	MS151223-2	.01001		.00986	mg/L	99	85	115			
L28324-05AS	AS	01/07/16 14:46	MS151223-2	.01001	.0025	.01202	mg/L	95	70	130			
L28324-05ASD	ASD	01/07/16 14:48	MS151223-2	.01001	.0025	.01218	mg/L	97	70	130	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28324***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396684													
WG396684ICV	ICV	01/05/16 20:17	MS151201-3	.05		.05185	mg/L	104	90	110			
WG396684ICB	ICB	01/05/16 20:19				U	mg/L		-0.0006	0.0006			
WG396684LFB	LFB	01/05/16 20:22	MS151223-2	.0501		.04454	mg/L	89	85	115			
L28324-03AS	AS	01/05/16 20:32	MS151223-2	.0501	.076	.11739	mg/L	83	70	130			
L28324-03ASD	ASD	01/05/16 20:34	MS151223-2	.0501	.076	.12029	mg/L	88	70	130	2	20	
L28325-01AS	AS	01/05/16 20:57	MS151223-2	.1002	.0047	.09861	mg/L	94	70	130			
L28325-01ASD	ASD	01/05/16 20:59	MS151223-2	.1002	.0047	.10334	mg/L	98	70	130	5	20	
WG396794													
WG396794ICV	ICV	01/07/16 14:23	MS151201-3	.05		.05251	mg/L	105	90	110			
WG396794ICB	ICB	01/07/16 14:26				U	mg/L		-0.0006	0.0006			
WG396794LFB	LFB	01/07/16 14:28	MS151223-2	.0501		.05144	mg/L	103	85	115			
L28324-05AS	AS	01/07/16 14:46	MS151223-2	.0501	.007	.0663	mg/L	118	70	130			
L28324-05ASD	ASD	01/07/16 14:48	MS151223-2	.0501	.007	.06088	mg/L	108	70	130	9	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		1.9898	mg/L	99	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.009	0.009			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	.5		.4922	mg/L	98	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	.5	.01	.5132	mg/L	101	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	.5	.01	.5085	mg/L	100	85	115	1	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396794													
WG396794ICV	ICV	01/07/16 14:23	MS151201-3	.05		.05029	mg/L	101	90	110			
WG396794ICB	ICB	01/07/16 14:26				U	mg/L		-0.00015	0.00015			
WG396794LFB	LFB	01/07/16 14:28	MS151223-2	.0501		.04659	mg/L	93	85	115			
L28324-05AS	AS	01/07/16 14:46	MS151223-2	.0501	.00178	.05276	mg/L	102	70	130			
L28324-05ASD	ASD	01/07/16 14:48	MS151223-2	.0501	.00178	.05283	mg/L	102	70	130	0	20	
L28350-04AS	AS	01/07/16 15:18	MS151223-2	.0501	U	.05052	mg/L	101	70	130			
L28350-04ASD	ASD	01/07/16 15:21	MS151223-2	.0501	U	.04955	mg/L	99	70	130	2	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		1.999	mg/L	100	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.12	0.12			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	1		.992	mg/L	99	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	1	U	1.035	mg/L	104	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	1	U	1.031	mg/L	103	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28324***

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396611													
WG396611ICV	ICV	01/04/16 12:22	II151210-1	2		1.986	mg/L	99	95	105			
WG396611ICB	ICB	01/04/16 12:28				U	mg/L		-0.03	0.03			
WG396611LFB	LFB	01/04/16 12:41	II151221-2	.5005		.465	mg/L	93	85	115			
L28324-02AS	AS	01/04/16 13:33	II151221-2	.5005	.14	.605	mg/L	93	85	115			
L28324-02ASD	ASD	01/04/16 13:36	II151221-2	.5005	.14	.598	mg/L	92	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396684													
WG396684ICV	ICV	01/05/16 20:17	MS151201-3	.05		.05077	mg/L	102	90	110			
WG396684ICB	ICB	01/05/16 20:19				U	mg/L		-0.0003	0.0003			
WG396684LFB	LFB	01/05/16 20:22	MS151223-2	.05005		.04659	mg/L	93	85	115			
L28324-03AS	AS	01/05/16 20:32	MS151223-2	.05005	.0015	.04741	mg/L	92	70	130			
L28324-03ASD	ASD	01/05/16 20:34	MS151223-2	.05005	.0015	.05018	mg/L	97	70	130	6	20	
L28325-01AS	AS	01/05/16 20:57	MS151223-2	.1001	U	.09319	mg/L	93	70	130			
L28325-01ASD	ASD	01/05/16 20:59	MS151223-2	.1001	U	.09547	mg/L	95	70	130	2	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	100		99.79	mg/L	100	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.3	0.3			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	68.01261		70.56	mg/L	104	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	68.01261	21.8	94.84	mg/L	107	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	68.01261	21.8	96.1	mg/L	109	85	115	1	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396635													
WG396635ICB	ICB	01/05/16 9:32				U	mg/L		-1.5	1.5			
WG396635ICV	ICV	01/05/16 9:33	WI150701-4	55.055		56.96	mg/L	103	90	110			
WG396635LFB	LFB	01/05/16 9:53	WI150826-7	29.97		30.43	mg/L	102	90	110			
L28268-01DUP	DUP	01/05/16 9:53			13.2	13.09	mg/L				1	20	
L28275-01AS	AS	01/05/16 10:01	10XCL	30	310	333.4	mg/L	78	90	110			M3
L28324-05AS	AS	01/05/16 10:20	WI150826-7	29.97	U	31.16	mg/L	104	90	110			
L28324-06DUP	DUP	01/05/16 10:20			.9	.91	mg/L				1	20	RA

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		1.943	mg/L	97	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.03	0.03			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	.5005		.476	mg/L	95	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	.5005	U	.485	mg/L	97	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	.5005	U	.488	mg/L	98	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28324***

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2.002		1.933	mg/L	97	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.03	0.03			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	.5005		.504	mg/L	101	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	.5005	.2	.699	mg/L	100	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	.5005	.2	.701	mg/L	100	85	115	0	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396448													
WG396448LCSW2	LCSW	12/29/15 14:42	PCN48869	1408		1390	umhos/cm	99	90	110			
WG396448LCSW5	LCSW	12/29/15 17:50	PCN48869	1408		1370	umhos/cm	97	90	110			
L28324-07DUP	DUP	12/29/15 20:38			2770	2780	umhos/cm				0	20	
WG396448LCSW8	LCSW	12/29/15 20:43	PCN48869	1408		1360	umhos/cm	97	90	110			
L28329-03DUP	DUP	12/29/15 22:12			190	189	umhos/cm				1	20	
WG396448LCSW11	LCSW	12/29/15 22:56	PCN48869	1408		1330	umhos/cm	94	90	110			
WG396448LCSW14	LCSW	12/30/15 0:49	PCN48869	1408		1320	umhos/cm	94	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		1.969	mg/L	98	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.03	0.03			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	.499		.501	mg/L	100	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	.499	.05	.562	mg/L	103	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	.499	.05	.549	mg/L	100	85	115	2	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396579													
WG396579ICV	ICV	12/31/15 21:21	WI151228-9	.3003		.2826	mg/L	94	90	110			
WG396579ICB	ICB	12/31/15 21:22				U	mg/L		-0.003	0.003			
WG396570LRB	LRB	12/31/15 21:23				U	mg/L		-0.003	0.003			
WG396570LFB	LFB	12/31/15 21:24	WI151228-5	.2		.1932	mg/L	97	90	110			
L28305-03LFM	LFM	12/31/15 21:27	WI151228-5	.2	U	.1853	mg/L	93	90	110			
L28202-07DUP	DUP	12/31/15 21:36			3.8	3.93	mg/L				3	20	

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396579													
WG396579ICV	ICV	12/31/15 21:21	WI151228-9	.3003		.2826	mg/L	94	90	110			
WG396579ICB	ICB	12/31/15 21:22				U	mg/L		-0.003	0.003			
WG396580													
WG396571LRB	LRB	12/31/15 22:09				U	mg/L		-0.003	0.003			
WG396571LFB	LFB	12/31/15 22:10	WI151228-8	.2002		.1998	mg/L	100	90	110			
L28332-01LFM	LFM	12/31/15 22:13	WI151228-8	.2002	U	.201	mg/L	100	90	110			
L28324-10DUP	DUP	12/31/15 22:24			U	U	mg/L				0	20	RA

McClelland Laboratories, Inc. ACZ Project ID: ***L28324***

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396598													
WG396598ICV	ICV	01/04/16 10:53	WC160104-7	2		1.906	mg/L	95	95	105			
WG396598ICB	ICB	01/04/16 10:58				U	mg/L		-0.15	0.15			
WG396598LFB1	LFB	01/04/16 11:06	WC151103-7	5		4.752	mg/L	95	90	110			
L28324-01AS	AS	01/04/16 12:21	WC151103-7	5	.48	4.557	mg/L	82	90	110			M2
L28324-01DUP	DUP	01/04/16 12:26			.48	.55	mg/L				14	20	RA
WG396598LFB2	LFB	01/04/16 14:03	WC151103-7	5		4.578	mg/L	92	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		2.02	mg/L	101	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.3	0.3			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	1		.97	mg/L	97	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	1	U	.98	mg/L	98	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	1	U	.99	mg/L	99	85	115	1	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		1.989	mg/L	99	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.06	0.06			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	1.0001		1.017	mg/L	102	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	1.0001	4.89	5.719	mg/L	88	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	1.0001	4.89	5.623	mg/L	78	85	115	2	20	M3

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396684													
WG396684ICV	ICV	01/05/16 20:17	MS151201-3	.05		.052	mg/L	104	90	110			
WG396684ICB	ICB	01/05/16 20:19				U	mg/L		-0.0003	0.0003			
WG396684LFB	LFB	01/05/16 20:22	MS151223-2	.05005		.04682	mg/L	94	85	115			
L28324-03AS	AS	01/05/16 20:32	MS151223-2	.05005	.0081	.05407	mg/L	92	70	130			
L28324-03ASD	ASD	01/05/16 20:34	MS151223-2	.05005	.0081	.05706	mg/L	98	70	130	5	20	
L28325-01AS	AS	01/05/16 20:57	MS151223-2	.1001	.0003	.09588	mg/L	95	70	130			
L28325-01ASD	ASD	01/05/16 20:59	MS151223-2	.1001	.0003	.09941	mg/L	99	70	130	4	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		2	mg/L	100	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.024	0.024			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	1.001		.9731	mg/L	97	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	1.001	U	1.003	mg/L	100	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	1.001	U	.9922	mg/L	99	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28324***

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	100		99.39	mg/L	99	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.6	0.6			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	50.00416		50.52	mg/L	101	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	50.00416	2.8	55.73	mg/L	106	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	50.00416	2.8	56.72	mg/L	108	85	115	2	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		1.9938	mg/L	100	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.015	0.015			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	.499		.5017	mg/L	101	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	.499	.509	1.006	mg/L	100	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	.499	.509	.9966	mg/L	98	85	115	1	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396647													
WG396647ICV2	ICV	01/06/16 11:58	II151130-3	.005		.0048	mg/L	96	95	105			
WG396647ICB	ICB	01/06/16 12:00				U	mg/L		-0.0002	0.0002			
WG396649													
WG396649LRB	LRB	01/06/16 15:56				U	mg/L		-0.00044	0.00044			
WG396649LFB	LFB	01/06/16 15:58	II151229-2	.002004		.00186	mg/L	93	85	115			
L28324-03LFM	LFM	01/06/16 16:34	II151229-2	.002004	U	.00192	mg/L	96	85	115			
L28324-03LFMD	LFMD	01/06/16 16:36	II151229-2	.002004	U	.00178	mg/L	89	85	115	8	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		2.047	mg/L	102	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.06	0.06			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	.4995		.51	mg/L	102	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	.4995	U	.533	mg/L	107	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	.4995	U	.549	mg/L	110	85	115	3	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		1.9747	mg/L	99	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.024	0.024			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	.501		.5052	mg/L	101	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	.501	1.18	1.615	mg/L	87	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	.501	1.18	1.614	mg/L	87	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28324***

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396582													
WG396582ICV	ICV	01/02/16 12:10	WI151024-1	2.416		2.424	mg/L	100	90	110			
WG396582ICB	ICB	01/02/16 12:11				U	mg/L		-0.02	0.02			
WG396582LFB	LFB	01/02/16 12:15	WI151215-9	2		1.985	mg/L	99	90	110			
L28305-03AS	AS	01/02/16 12:17	WI151215-9	100	81	182.1	mg/L	101	90	110			
L28306-01DUP	DUP	01/02/16 12:20			.22	.222	mg/L				1	20	
L28324-09AS	AS	01/02/16 13:07	WI151215-9	2	.02	2.054	mg/L	102	90	110			
L28324-10DUP	DUP	01/02/16 13:10			.07	.064	mg/L				9	20	RA

Nitrogen, ammonia M350.1

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396767													
WG396767ICV1	ICV	01/07/16 11:48	WI151212-6	11.988		12.56	mg/L	105	90	110			
WG396767ICB1	ICB	01/07/16 11:49				U	mg/L		-0.05	0.05			
WG396767LFB1	LFB	01/07/16 11:51	WI150204-10	10		10.101	mg/L	101	90	110			
L28249-01AS	AS	01/07/16 11:54	WI150204-10	10	.19	10.386	mg/L	102	90	110			
L28311-01DUP	DUP	01/07/16 11:56			1.02	1.002	mg/L				2	20	
L28324-02AS	AS	01/07/16 12:14	WI150204-10	10	.16	10.711	mg/L	106	90	110			
WG396767LFB2	LFB	01/07/16 12:32	WI150204-10	10		10.467	mg/L	105	90	110			
L28324-03DUP	DUP	01/07/16 12:59			.14	.108	mg/L				26	20	RA
WG396767ICV2	ICV	01/08/16 8:57	WI151212-6	11.988		12.201	mg/L	102	90	110			
WG396767ICB2	ICB	01/08/16 8:59				U	mg/L		-0.05	0.05			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396448													
WG396448LCSW1	LCSW	12/29/15 14:41	PCN48559	6.01		6	units	100	5.9	6.1			
WG396448LCSW4	LCSW	12/29/15 17:48	PCN48559	6.01		6.1	units	101	5.9	6.1			
L28324-07DUP	DUP	12/29/15 20:38			2.5	2.5	units				0	20	
WG396448LCSW7	LCSW	12/29/15 20:41	PCN48559	6.01		6	units	100	5.9	6.1			
L28329-03DUP	DUP	12/29/15 22:12			7.8	7.8	units				0	20	
WG396448LCSW10	LCSW	12/29/15 22:54	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG396448LCSW13	LCSW	12/30/15 0:48	PCN48559	6.01		6.1	units	101	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396697													
WG396697ICV	ICV	01/05/16 21:22	WI151110-1	.65228		.691	mg/L	106	90	110			
WG396697ICB	ICB	01/05/16 21:24				U	mg/L		-0.02	0.02			
WG396641LRB	LRB	01/05/16 21:25				U	mg/L		-0.02	0.02			
WG396641LFB	LFB	01/05/16 21:26	WI151228-11	.5		.478	mg/L	96	90	110			
L28324-01DUP	DUP	01/05/16 21:45			U	U	mg/L				0	20	RA
L28324-02LFM	LFM	01/05/16 21:47	WI151228-11	.5	.09	.582	mg/L	98	90	110			

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Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396611													
WG396611ICV	ICV	01/04/16 12:22	II151210-1	20		19.52	mg/L	98	95	105			
WG396611ICB	ICB	01/04/16 12:28				U	mg/L		-0.6	0.6			
WG396611LFB	LFB	01/04/16 12:41	II151221-2	100.0125		93.94	mg/L	94	85	115			
L28324-02AS	AS	01/04/16 13:33	II151221-2	100.0125	1.6	96.83	mg/L	95	85	115			
L28324-02ASD	ASD	01/04/16 13:36	II151221-2	100.0125	1.6	96.78	mg/L	95	85	115	0	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396369													
WG396369PBW	PBW	12/28/15 10:37				U	mg/L		-20	20			
WG396369LCSW	LCSW	12/28/15 10:39	PCN49652	260		254	mg/L	98	80	120			
L28324-10DUP	DUP	12/28/15 11:08			110	114	mg/L				4	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		2.01	mg/L	101	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.3	0.3			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	1.0009		1.02	mg/L	102	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	1.0009	U	1.04	mg/L	104	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	1.0009	U	1.03	mg/L	103	85	115	1	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396684													
WG396684ICV	ICV	01/05/16 20:17	MS151201-3	.05		.0529	mg/L	106	90	110			
WG396684ICB	ICB	01/05/16 20:19				U	mg/L		-0.0003	0.0003			
WG396684LFB	LFB	01/05/16 20:22	MS151223-2	.0501		.04515	mg/L	90	85	115			
L28324-03AS	AS	01/05/16 20:32	MS151223-2	.0501	.0014	.0491	mg/L	95	70	130			
L28324-03ASD	ASD	01/05/16 20:34	MS151223-2	.0501	.0014	.05152	mg/L	100	70	130	5	20	
L28325-01AS	AS	01/05/16 20:57	MS151223-2	.1002	.035	.12745	mg/L	92	70	130			
L28325-01ASD	ASD	01/05/16 20:59	MS151223-2	.1002	.035	.12971	mg/L	95	70	130	2	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	1.001		1.005	mg/L	100	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.03	0.03			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	.5015		.497	mg/L	99	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	.5015	U	.432	mg/L	86	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	.5015	U	.41	mg/L	82	85	115	5	20	MA ZA

McClelland Laboratories, Inc. ACZ Project ID: ***L28324***

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	100		95.96	mg/L	96	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.6	0.6			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	100.0581		95.52	mg/L	95	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	100.0581	.8	100.8	mg/L	100	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	100.0581	.8	102.4	mg/L	102	85	115	2	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		1.997	mg/L	100	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.015	0.015			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	.5005		.5048	mg/L	101	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	.5005	.129	.6539	mg/L	105	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	.5005	.129	.6606	mg/L	106	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396555													
WG396555ICB	ICB	12/31/15 8:18				U	mg/L		-3	3			
WG396555ICV	ICV	12/31/15 8:18	WI151230-1	20		19.5	mg/L	98	90	110			
WG396555LFB	LFB	12/31/15 8:40	WI150904-1	10.01		9.6	mg/L	96	90	110			
L28324-02DUP	DUP	12/31/15 9:55			26.8	26.4	mg/L				2	20	
L28324-03AS	AS	12/31/15 10:18	SO4TURB10X	10	278	284	mg/L	60	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396684													
WG396684ICV	ICV	01/05/16 20:17	MS151201-3	.05		.05269	mg/L	105	90	110			
WG396684ICB	ICB	01/05/16 20:19				U	mg/L		-0.0003	0.0003			
WG396684LFB	LFB	01/05/16 20:22	MS151223-2	.0501		.04773	mg/L	95	85	115			
L28324-03AS	AS	01/05/16 20:32	MS151223-2	.0501	.004	.05103	mg/L	94	70	130			
L28324-03ASD	ASD	01/05/16 20:34	MS151223-2	.0501	.004	.05447	mg/L	101	70	130	7	20	
L28325-01AS	AS	01/05/16 20:57	MS151223-2	.1002	U	.0981	mg/L	98	70	130			
L28325-01ASD	ASD	01/05/16 20:59	MS151223-2	.1002	U	.10145	mg/L	101	70	130	3	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		2.008	mg/L	100	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.12	0.12			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	1.001		.981	mg/L	98	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	1.001	U	.989	mg/L	99	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	1.001	U	1.028	mg/L	103	85	115	4	20	

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ACZ Project ID: ***L28324***

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		2.048	mg/L	102	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.015	0.015			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	1.003		1.015	mg/L	101	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	1.003	U	1.043	mg/L	104	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	1.003	U	1.033	mg/L	103	85	115	1	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396684													
WG396684ICV	ICV	01/05/16 20:17	MS151201-3	.05		.05287	mg/L	106	90	110			
WG396684ICB	ICB	01/05/16 20:19				U	mg/L		-0.0003	0.0003			
WG396684LFB	LFB	01/05/16 20:22	MS151223-2	.05		.04795	mg/L	96	85	115			
L28324-03AS	AS	01/05/16 20:32	MS151223-2	.05	.0013	.04865	mg/L	95	70	130			
L28324-03ASD	ASD	01/05/16 20:34	MS151223-2	.05	.0013	.05179	mg/L	101	70	130	6	20	
L28325-01AS	AS	01/05/16 20:57	MS151223-2	.1	.0649	.16715	mg/L	102	70	130			
L28325-01ASD	ASD	01/05/16 20:59	MS151223-2	.1	.0649	.16849	mg/L	104	70	130	1	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		2.0008	mg/L	100	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.015	0.015			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	.501		.5063	mg/L	101	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	.501	U	.5292	mg/L	106	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	.501	U	.5303	mg/L	106	85	115	0	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG396567													
WG396567ICV	ICV	12/31/15 10:58	II151210-1	2		1.975	mg/L	99	95	105			
WG396567ICB	ICB	12/31/15 11:04				U	mg/L		-0.03	0.03			
WG396567LFB	LFB	12/31/15 11:17	II151221-2	.4995		.505	mg/L	101	85	115			
L28324-01AS	AS	12/31/15 12:08	II151221-2	.4995	.31	.827	mg/L	104	85	115			
L28324-01ASD	ASD	12/31/15 12:11	II151221-2	.4995	.31	.83	mg/L	104	85	115	0	20	

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L28324***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28324-01	WG396567	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG396635	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396448	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396598	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396697	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396369	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396555	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396448	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28324***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28324-02	WG396567	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG396635	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396448	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396598	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396767	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396697	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396369	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396555	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396448	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28324***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28324-03	WG396567	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG396635	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396448	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396598	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396767	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396697	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396369	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396555	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396448	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28324***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28324-04	WG396567	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG396635	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396598	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396767	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396697	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396369	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396555	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396448	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28324***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28324-05	WG396567	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG396635	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396598	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396767	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396697	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396369	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396555	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396448	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28324***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28324-06	WG396567	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG396635	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396598	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396767	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396697	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396369	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396555	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396448	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc.

ACZ Project ID: ***L28324***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28324-07	WG396567	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG396635	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396598	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396767	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396697	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396369	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396555	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396448	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28324***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28324-08	WG396567	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG396635	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396598	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396767	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396697	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396369	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396555	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396448	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L28324***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28324-09	WG396567	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG396635	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396598	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396582	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396767	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396697	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396369	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396555	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396448	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L28324***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28324-10	WG396567	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG396635	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396580	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396598	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396582	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396767	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396448	pH	SM4500H+B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396697	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG396369	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG396555	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG396448	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
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ACZ Project ID: L28324
Date Received: 12/23/2015 12:12
Received By: ddp
Date Printed: 12/23/2015

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	X		

A change was made in the Date:Time Line 1 section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L28324-01 : A Green and Yellow container not received and a new container created from the White .

L28324-02 : A Green and Yellow container not received and a new container created from the White .

L28324-03 : A Green and Yellow container not received and a new container created from the White .

L28324-04 : A Green and Yellow container not received and a new container created from the White .

L28324-05 : A Green and Yellow container not received and a new container created from the White .

L28324-06 : A Green and Yellow container not received and a new container created from the White .

L28324-07 : A Green and Yellow container not received and a new container created from the White .

L28324-08 : A Green and Yellow container not received and a new container created from the White .

L28324-09 : A Green and Yellow container not received and a new

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L28324
Date Received:	12/23/2015 12:12
Received By:	ddp
Date Printed:	12/23/2015

container created from the White .

L28324-10 : A Purple, Green and Yellow container not received and a new container created from the White .

16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA23166	1	<=6.0	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc.

L28324

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	12/2[illegible]/15	WW	1	X							
CAL-004 (860-875)	↓	WW	1	X							
CAL-003 (675-685)		WW	1	X							
GMC-012 (832-851)		WW	1	X							
CAL-004 (295-315)		WW	1	X							
CAL-001 (750-762)		WW	1	X							
GMC-014 (176-184)		WW	1	X							
CAL-001 (380-400)		WW	1	X							
CAL-002 (177-187)		WW	1	X							
Calico Leach Res. after CN Destruct		WW	1	X	X	X					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 4
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	12/22/15 9am	[signature]	12/23/15 1230

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L28324 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 25108	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

*****Gray out Analyses DOESN'T get done on all Samples' just 1 of the Sample SEE COC*****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

February 08, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L28657

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 21, 2016. This project has been assigned to ACZ's project number, L28657. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L28657. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 09, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L28657-01***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 13:23	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	3.11			mg/L	0.03	0.2	01/26/16 22:20	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0130			mg/L	0.0004	0.002	02/01/16 16:35	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0173			mg/L	0.0002	0.001	02/01/16 16:35	mfm
Barium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.003	0.02	01/26/16 22:20	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00163			mg/L	0.00005	0.0003	02/01/16 16:35	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:20	gss
Boron, dissolved	M200.7 ICP	1	0.18			mg/L	0.01	0.05	01/26/16 22:20	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	02/01/16 16:35	mfm
Calcium, dissolved	M200.7 ICP	1	9.7			mg/L	0.1	0.5	01/26/16 22:20	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:20	gss
Cobalt, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	01/26/16 22:20	gss
Copper, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	01/26/16 22:20	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:20	gss
Iron, dissolved	M200.7 ICP	1	16.90		*	mg/L	0.02	0.05	01/26/16 22:20	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	02/01/16 16:35	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:20	gss
Magnesium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	01/26/16 22:20	gss
Manganese, dissolved	M200.7 ICP	1	0.166			mg/L	0.005	0.03	01/26/16 22:20	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:20	pta
Mercury, total	M1631, Atomic Fluorescence	5	57		*	ng/L	1	3	02/05/16 10:48	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:20	gss
Nickel, dissolved	M200.7 ICP	1	0.604			mg/L	0.008	0.04	01/26/16 22:20	gss
Potassium, dissolved	M200.7 ICP	1	2.1			mg/L	0.2	1	01/26/16 22:20	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:20	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0030			mg/L	0.0001	0.0003	02/01/16 16:35	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:20	gss
Sodium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	01/26/16 22:20	gss
Strontium, dissolved	M200.7 ICP	1	0.063			mg/L	0.005	0.03	01/26/16 22:20	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0102			mg/L	0.0001	0.0005	02/01/16 16:35	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:20	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/26/16 22:20	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0054			mg/L	0.0001	0.0005	02/01/16 16:35	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/26/16 22:20	gss
Zinc, dissolved	M200.7 ICP	1	0.43			mg/L	0.01	0.05	01/26/16 22:20	gss

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L28657-01***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			8.6			%			02/05/16 0:00	calc
Sum of Anions			1.6			meq/L			02/05/16 0:00	calc
Sum of Cations			1.9			meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/27/16 9:35	krh
Conductivity @25C	SM2510B	1	253		*	umhos/cm	1	10	01/26/16 20:00	sck
Fluoride	SM4500F-C	1	0.36			mg/L	0.05	0.3	01/27/16 17:21	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		27			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B		mg/L	0.02	0.1	01/29/16 22:31	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/28/16 10:36	krh
pH (lab)	SM4500H+ B									
pH		1	3.8	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	21.7			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.02	0.05	01/26/16 20:52	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	212		*	mg/L	10	20	01/23/16 11:36	sck
Sulfate	D516-02/-07 - Turbidimetric	5	73.5		*	mg/L	5	25	01/28/16 11:50	krh
TDS (calculated)	Calculation		107			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.98						02/05/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L28657-02***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 13:40	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	4.12			mg/L	0.03	0.2	01/26/16 22:24	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0013	B		mg/L	0.0004	0.002	02/01/16 16:38	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.1063			mg/L	0.0002	0.001	02/01/16 16:38	mfm
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	01/26/16 22:24	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00226			mg/L	0.00005	0.0003	02/01/16 16:38	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:24	gss
Boron, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	01/26/16 22:24	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	02/01/16 16:38	mfm
Calcium, dissolved	M200.7 ICP	1	46.3			mg/L	0.1	0.5	01/26/16 22:24	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:24	gss
Cobalt, dissolved	M200.7 ICP	1	0.17			mg/L	0.01	0.05	01/26/16 22:24	gss
Copper, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	01/26/16 22:24	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:24	gss
Iron, dissolved	M200.7 ICP	1	46.40		*	mg/L	0.02	0.05	01/26/16 22:24	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0033			mg/L	0.0001	0.0005	02/01/16 16:38	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:24	gss
Magnesium, dissolved	M200.7 ICP	1	5.7			mg/L	0.2	1	01/26/16 22:24	gss
Manganese, dissolved	M200.7 ICP	1	0.039			mg/L	0.005	0.03	01/26/16 22:24	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:23	pta
Mercury, total	M1631, Atomic Fluorescence	2	36.4		*	ng/L	0.4	1	02/05/16 10:53	mfm
Molybdenum, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.02	0.1	01/26/16 22:24	gss
Nickel, dissolved	M200.7 ICP	1	0.159			mg/L	0.008	0.04	01/26/16 22:24	gss
Potassium, dissolved	M200.7 ICP	1	5.3			mg/L	0.2	1	01/26/16 22:24	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:24	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0003	02/01/16 16:38	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:24	gss
Sodium, dissolved	M200.7 ICP	1	2.4			mg/L	0.2	1	01/26/16 22:24	gss
Strontium, dissolved	M200.7 ICP	1	0.471			mg/L	0.005	0.03	01/26/16 22:24	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0036			mg/L	0.0001	0.0005	02/01/16 16:38	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:24	gss
Titanium, dissolved	M200.7 ICP	1	0.007	B	*	mg/L	0.005	0.03	01/26/16 22:24	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0019			mg/L	0.0001	0.0005	02/01/16 16:38	mfm
Vanadium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	01/26/16 22:24	gss
Zinc, dissolved	M200.7 ICP	1	0.27			mg/L	0.01	0.05	01/26/16 22:24	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L28657-02***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			2.6			%			02/05/16 0:00	calc
Sum of Anions			5.7			meq/L			02/05/16 0:00	calc
Sum of Cations			6			meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	852		*	umhos/cm	1	10	01/26/16 20:04	sck
Fluoride	SM4500F-C	1	0.46			mg/L	0.05	0.3	01/27/16 17:25	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		139			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B		mg/L	0.02	0.1	01/29/16 22:33	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.07	B	*	mg/L	0.05	0.2	01/28/16 10:38	krh
pH (lab)	SM4500H+ B									
pH		1	3.0	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	21.5			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.07		*	mg/L	0.02	0.05	01/26/16 20:54	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	504		*	mg/L	10	20	01/23/16 11:39	sck
Sulfate	D516-02/-07 - Turbidimetric	10	271		*	mg/L	10	50	01/28/16 11:56	krh
TDS (calculated)	Calculation		383			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.32						02/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L28657-03***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 13:56	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	10.20			mg/L	0.03	0.2	01/26/16 22:33	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0004	0.002	02/01/16 16:41	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.1278			mg/L	0.0002	0.001	02/01/16 16:41	mfm
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	01/26/16 22:33	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00095			mg/L	0.00005	0.0003	02/01/16 16:41	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:33	gss
Boron, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	01/26/16 22:33	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	02/01/16 16:41	mfm
Calcium, dissolved	M200.7 ICP	1	61.2			mg/L	0.1	0.5	01/26/16 22:33	gss
Chromium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/26/16 22:33	gss
Cobalt, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	01/26/16 22:33	gss
Copper, dissolved	M200.7 ICP	1	0.42			mg/L	0.01	0.05	01/26/16 22:33	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:33	gss
Iron, dissolved	M200.7 ICP	1	44.20		*	mg/L	0.02	0.05	01/26/16 22:33	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0005	02/01/16 16:41	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:33	gss
Magnesium, dissolved	M200.7 ICP	1	2.2			mg/L	0.2	1	01/26/16 22:33	gss
Manganese, dissolved	M200.7 ICP	1	0.159			mg/L	0.005	0.03	01/26/16 22:33	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:24	pta
Mercury, total	M1631, Atomic Fluorescence	2	19.8			ng/L	0.4	1	02/01/16 15:09	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:33	gss
Nickel, dissolved	M200.7 ICP	1	0.135			mg/L	0.008	0.04	01/26/16 22:33	gss
Potassium, dissolved	M200.7 ICP	1	2.5			mg/L	0.2	1	01/26/16 22:33	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:33	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0040			mg/L	0.0001	0.0003	02/01/16 16:41	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:33	gss
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	01/26/16 22:33	gss
Strontium, dissolved	M200.7 ICP	1	0.040			mg/L	0.005	0.03	01/26/16 22:33	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	02/01/16 16:41	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:33	gss
Titanium, dissolved	M200.7 ICP	1	0.009	B	*	mg/L	0.005	0.03	01/26/16 22:33	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0300			mg/L	0.0001	0.0005	02/01/16 16:41	mfm
Vanadium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	01/26/16 22:33	gss
Zinc, dissolved	M200.7 ICP	1	0.33			mg/L	0.01	0.05	01/26/16 22:33	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L28657-03***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-6.2			%			02/05/16 0:00	calc
Sum of Anions			7.7			meq/L			02/05/16 0:00	calc
Sum of Cations			6.8			meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1	5.6		*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	1390		*	umhos/cm	1	10	01/26/16 20:09	sck
Fluoride	SM4500F-C	10		U	*	mg/L	0.5	3	01/27/16 17:33	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		162			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.11			mg/L	0.02	0.1	01/29/16 22:34	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/28/16 10:41	krh
pH (lab)	SM4500H+ B									
pH		1	2.7	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	21.5			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.10		*	mg/L	0.02	0.05	01/26/16 20:56	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	602		*	mg/L	10	20	01/23/16 11:41	sck
Sulfate	D516-02/-07 - Turbidimetric	10	360		*	mg/L	10	50	01/28/16 11:56	krh
TDS (calculated)	Calculation		487			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.24						02/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L28657-04***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 14:04	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.81			mg/L	0.03	0.2	01/26/16 22:36	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0019	B		mg/L	0.0004	0.002	02/01/16 16:43	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0070			mg/L	0.0002	0.001	02/01/16 16:43	mfm
Barium, dissolved	M200.7 ICP	1	0.027			mg/L	0.003	0.02	01/26/16 22:36	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00181			mg/L	0.00005	0.0003	02/01/16 16:43	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:36	gss
Boron, dissolved	M200.7 ICP	1	0.20			mg/L	0.01	0.05	01/26/16 22:36	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	02/01/16 16:43	mfm
Calcium, dissolved	M200.7 ICP	1	27.6			mg/L	0.1	0.5	01/26/16 22:36	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:36	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/26/16 22:36	gss
Copper, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	01/26/16 22:36	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:36	gss
Iron, dissolved	M200.7 ICP	1	1.70		*	mg/L	0.02	0.05	01/26/16 22:36	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	02/01/16 16:43	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:36	gss
Magnesium, dissolved	M200.7 ICP	1	5.6			mg/L	0.2	1	01/26/16 22:36	gss
Manganese, dissolved	M200.7 ICP	1	0.347			mg/L	0.005	0.03	01/26/16 22:36	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:26	pta
Mercury, total	M1631, Atomic Fluorescence	1	2.5			ng/L	0.2	0.5	02/01/16 15:14	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:36	gss
Nickel, dissolved	M200.7 ICP	1	0.042			mg/L	0.008	0.04	01/26/16 22:36	gss
Potassium, dissolved	M200.7 ICP	1	9.5			mg/L	0.2	1	01/26/16 22:36	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:36	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0062			mg/L	0.0001	0.0003	02/01/16 16:43	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:36	gss
Sodium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	01/26/16 22:36	gss
Strontium, dissolved	M200.7 ICP	1	0.084			mg/L	0.005	0.03	01/26/16 22:36	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	02/01/16 16:43	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:36	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/26/16 22:36	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	02/01/16 16:43	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/26/16 22:36	gss
Zinc, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	01/26/16 22:36	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L28657-04***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.2			%			02/05/16 0:00	calc
Sum of Anions			2.5			meq/L			02/05/16 0:00	calc
Sum of Cations			2.3			meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	294		*	umhos/cm	1	10	01/26/16 20:13	sck
Fluoride	SM4500F-C	1	0.56			mg/L	0.05	0.3	01/27/16 17:39	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		92			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	01/29/16 22:35	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/25/16 16:31	spl
pH (lab)	SM4500H+ B									
pH		1	4.1	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	21.5			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.02	0.05	01/26/16 20:57	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	250		*	mg/L	10	20	01/23/16 11:44	sck
Sulfate	D516-02/-07 - Turbidimetric	5	119		*	mg/L	5	25	01/28/16 11:50	krh
TDS (calculated)	Calculation		166			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.51						02/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L28657-05***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 14:12	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.07	B		mg/L	0.03	0.2	01/26/16 22:45	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0004	0.002	02/01/16 16:46	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0035			mg/L	0.0002	0.001	02/01/16 16:46	mfm
Barium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.003	0.02	01/26/16 22:45	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	02/01/16 16:46	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:45	gss
Boron, dissolved	M200.7 ICP	1	0.16			mg/L	0.01	0.05	01/26/16 22:45	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/01/16 16:46	mfm
Calcium, dissolved	M200.7 ICP	1	2.8			mg/L	0.1	0.5	01/26/16 22:45	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:45	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:45	gss
Copper, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	01/26/16 22:45	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:45	gss
Iron, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.02	0.05	01/26/16 22:45	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	02/01/16 16:46	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:45	gss
Magnesium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	01/26/16 22:45	gss
Manganese, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.005	0.03	01/26/16 22:45	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:29	pta
Mercury, total	M1631, Atomic Fluorescence	10	177		*	ng/L	2	5	02/05/16 10:58	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:45	gss
Nickel, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.008	0.04	01/26/16 22:45	gss
Potassium, dissolved	M200.7 ICP	1	4.7			mg/L	0.2	1	01/26/16 22:45	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:45	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0154			mg/L	0.0001	0.0003	02/01/16 16:46	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:45	gss
Sodium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	01/26/16 22:45	gss
Strontium, dissolved	M200.7 ICP	1	0.035			mg/L	0.005	0.03	01/26/16 22:45	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	02/01/16 16:46	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:45	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/26/16 22:45	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/01/16 16:46	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/26/16 22:45	gss
Zinc, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	01/26/16 22:45	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L28657-05***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.3			%			02/05/16 0:00	calc
Sum of Anions			0.4	B		meq/L			02/05/16 0:00	calc
Sum of Cations			0.367	B		meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	59.1		*	umhos/cm	1	10	01/26/16 20:18	sck
Fluoride	SM4500F-C	1	0.08	B		mg/L	0.05	0.3	01/27/16 17:46	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		9.1			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B		mg/L	0.02	0.1	01/29/16 22:40	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.26		*	mg/L	0.05	0.2	01/25/16 16:34	spl
pH (lab)	SM4500H+ B									
pH		1	5.0	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	21.6			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.02	0.05	01/26/16 21:01	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	106		*	mg/L	10	20	01/23/16 11:47	sck
Sulfate	D516-02/-07 - Turbidimetric	1	19.6		*	mg/L	1	5	01/28/16 11:43	krh
TDS (calculated)	Calculation		29.4			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		3.61						02/05/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L28657-06***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 14:20	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	21.20			mg/L	0.03	0.2	01/26/16 22:49	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0004	0.002	02/01/16 16:49	mfm
Arsenic, dissolved	M200.8 ICP-MS	10	0.961			mg/L	0.002	0.01	02/03/16 23:16	mfm
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	01/26/16 22:49	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00870			mg/L	0.00005	0.0003	02/01/16 16:49	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:49	gss
Boron, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	01/26/16 22:49	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0037			mg/L	0.0001	0.0005	02/01/16 16:49	mfm
Calcium, dissolved	M200.7 ICP	1	32.1			mg/L	0.1	0.5	01/26/16 22:49	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:49	gss
Cobalt, dissolved	M200.7 ICP	1	0.26			mg/L	0.01	0.05	01/26/16 22:49	gss
Copper, dissolved	M200.7 ICP	1	0.45			mg/L	0.01	0.05	01/26/16 22:49	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:49	gss
Iron, dissolved	M200.7 ICP	1	79.20		*	mg/L	0.02	0.05	01/26/16 22:49	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	02/01/16 16:49	mfm
Lithium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.008	0.04	01/26/16 22:49	gss
Magnesium, dissolved	M200.7 ICP	1	5.6			mg/L	0.2	1	01/26/16 22:49	gss
Manganese, dissolved	M200.7 ICP	1	0.468			mg/L	0.005	0.03	01/26/16 22:49	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:31	pta
Mercury, total	M1631, Atomic Fluorescence	1	10.2			ng/L	0.2	0.5	02/01/16 15:24	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:49	gss
Nickel, dissolved	M200.7 ICP	1	0.270			mg/L	0.008	0.04	01/26/16 22:49	gss
Potassium, dissolved	M200.7 ICP	1	6.9			mg/L	0.2	1	01/26/16 22:49	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:49	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0003	02/01/16 16:49	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:49	gss
Sodium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	01/26/16 22:49	gss
Strontium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.005	0.03	01/26/16 22:49	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0035			mg/L	0.0001	0.0005	02/01/16 16:49	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:49	gss
Titanium, dissolved	M200.7 ICP	1	0.006	B	*	mg/L	0.005	0.03	01/26/16 22:49	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0053			mg/L	0.0001	0.0005	02/01/16 16:49	mfm
Vanadium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.005	0.03	01/26/16 22:49	gss
Zinc, dissolved	M200.7 ICP	1	1.31			mg/L	0.01	0.05	01/26/16 22:49	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L28657-06***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			2.3			%			02/05/16 0:00	calc
Sum of Anions			8.5			meq/L			02/05/16 0:00	calc
Sum of Cations			8.9			meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1	1.2	B	*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	1350		*	umhos/cm	1	10	01/26/16 20:28	sck
Fluoride	SM4500F-C	10	0.7	B	*	mg/L	0.5	3	01/27/16 17:56	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		103			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B		mg/L	0.02	0.1	01/29/16 22:42	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.14	B	*	mg/L	0.05	0.2	01/25/16 16:37	spl
pH (lab)	SM4500H+ B									
pH		1	2.7	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	22.2			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.27		*	mg/L	0.02	0.05	01/26/16 21:02	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	718		*	mg/L	10	20	01/23/16 11:49	sck
Sulfate	D516-02/-07 - Turbidimetric	20	403		*	mg/L	20	100	01/28/16 11:53	krh
TDS (calculated)	Calculation		553			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.30						02/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L28657-07***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 14:28	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.03	0.2	01/26/16 22:52	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0013	B		mg/L	0.0004	0.002	02/01/16 16:52	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0317			mg/L	0.0002	0.001	02/01/16 16:52	mfm
Barium, dissolved	M200.7 ICP	1	0.018	B		mg/L	0.003	0.02	01/26/16 22:52	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	02/01/16 16:52	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:52	gss
Boron, dissolved	M200.7 ICP	1	0.16			mg/L	0.01	0.05	01/26/16 22:52	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/01/16 16:52	mfm
Calcium, dissolved	M200.7 ICP	1	5.2			mg/L	0.1	0.5	01/26/16 22:52	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:52	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:52	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:52	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:52	gss
Iron, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.02	0.05	01/26/16 22:52	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	02/01/16 16:52	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:52	gss
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	01/26/16 22:52	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/26/16 22:52	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:33	pta
Mercury, total	M1631, Atomic Fluorescence	5	79		*	ng/L	1	3	02/05/16 11:13	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:52	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:52	gss
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/26/16 22:52	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:52	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0003	02/01/16 16:52	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:52	gss
Sodium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	01/26/16 22:52	gss
Strontium, dissolved	M200.7 ICP	1	0.037			mg/L	0.005	0.03	01/26/16 22:52	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/01/16 16:52	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:52	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/26/16 22:52	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/01/16 16:52	mfm
Vanadium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.005	0.03	01/26/16 22:52	gss
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/26/16 22:52	gss

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L28657-07***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	11.4	B		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1	11.4	B	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-11.7			%			02/05/16 0:00	calc
Sum of Anions			0.381	B		meq/L			02/05/16 0:00	calc
Sum of Cations			0.301	B		meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	35.0		*	umhos/cm	1	10	01/26/16 20:36	sck
Fluoride	SM4500F-C	1	0.08	B	*	mg/L	0.05	0.3	01/27/16 18:23	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		14			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B		mg/L	0.02	0.1	01/29/16 22:43	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/25/16 16:38	spl
pH (lab)	SM4500H+ B									
pH		1	7.5	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	22.5			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.02	0.05	01/26/16 21:03	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	84		*	mg/L	10	20	01/23/16 11:52	sck
Sulfate	D516-02/-07 - Turbidimetric	1	7.1		*	mg/L	1	5	01/28/16 11:43	krh
TDS (calculated)	Calculation		20			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		4.20						02/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L28657-08***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 14:37	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.03	0.2	01/26/16 22:55	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0016	B		mg/L	0.0004	0.002	02/01/16 17:07	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0033			mg/L	0.0002	0.001	02/01/16 17:07	mfm
Barium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.003	0.02	01/26/16 22:55	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	02/01/16 17:07	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:55	gss
Boron, dissolved	M200.7 ICP	1	0.16			mg/L	0.01	0.05	01/26/16 22:55	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/01/16 17:07	mfm
Calcium, dissolved	M200.7 ICP	1	1.7			mg/L	0.1	0.5	01/26/16 22:55	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:55	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:55	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:55	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:55	gss
Iron, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.02	0.05	01/26/16 22:55	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	02/01/16 17:07	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:55	gss
Magnesium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	01/26/16 22:55	gss
Manganese, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.005	0.03	01/26/16 22:55	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:35	pta
Mercury, total	M1631, Atomic Fluorescence	1	16.8			ng/L	0.2	0.5	02/01/16 15:34	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:55	gss
Nickel, dissolved	M200.7 ICP	1	0.072			mg/L	0.008	0.04	01/26/16 22:55	gss
Potassium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	01/26/16 22:55	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:55	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0036			mg/L	0.0001	0.0003	02/01/16 17:07	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:55	gss
Sodium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	01/26/16 22:55	gss
Strontium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.005	0.03	01/26/16 22:55	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	02/01/16 17:07	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:55	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/26/16 22:55	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/01/16 17:07	mfm
Vanadium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	01/26/16 22:55	gss
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	01/26/16 22:55	gss

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L28657-08***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			02/05/16 0:00	calc
Sum of Anions			0.132	B		meq/L			02/05/16 0:00	calc
Sum of Cations			0.168	B		meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	24.3		*	umhos/cm	1	10	01/26/16 20:44	sck
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	01/27/16 18:31	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		5.9			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	01/29/16 22:44	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/25/16 16:40	spl
pH (lab)	SM4500H+ B									
pH		1	6.0	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	22.2			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.02	0.05	01/26/16 21:04	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	86		*	mg/L	10	20	01/23/16 11:54	sck
Sulfate	D516-02/-07 - Turbidimetric	1	6.3		*	mg/L	1	5	01/28/16 11:44	krh
TDS (calculated)	Calculation		9.74			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		8.83						02/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L28657-09***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								01/28/16 14:28	enb
Cyanide, WAD	SM4500-CN I- distillation				*				01/28/16 12:45	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 14:45	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.44			mg/L	0.03	0.2	01/26/16 22:58	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	02/01/16 17:10	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0035			mg/L	0.0002	0.001	02/01/16 17:10	mfm
Barium, dissolved	M200.7 ICP	1	0.046			mg/L	0.003	0.02	01/26/16 22:58	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00104			mg/L	0.00005	0.0003	02/01/16 17:10	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:58	gss
Boron, dissolved	M200.7 ICP	1	0.26			mg/L	0.01	0.05	01/26/16 22:58	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	02/01/16 17:10	mfm
Calcium, dissolved	M200.7 ICP	1	15.8			mg/L	0.1	0.5	01/26/16 22:58	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:58	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/26/16 22:58	gss
Copper, dissolved	M200.7 ICP	1	3.27			mg/L	0.01	0.05	01/26/16 22:58	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:58	gss
Iron, dissolved	M200.7 ICP	1	0.22		*	mg/L	0.02	0.05	01/26/16 22:58	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	02/01/16 17:10	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:58	gss
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	01/26/16 22:58	gss
Manganese, dissolved	M200.7 ICP	1	0.227			mg/L	0.005	0.03	01/26/16 22:58	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:37	pta
Mercury, total	M1631, Atomic Fluorescence	1	6			ng/L	0.2	0.5	02/01/16 15:50	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:58	gss
Nickel, dissolved	M200.7 ICP	1	0.037	B		mg/L	0.008	0.04	01/26/16 22:58	gss
Potassium, dissolved	M200.7 ICP	1	2.8			mg/L	0.2	1	01/26/16 22:58	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:58	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0038			mg/L	0.0001	0.0003	02/01/16 17:10	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:58	gss
Sodium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	01/26/16 22:58	gss
Strontium, dissolved	M200.7 ICP	1	0.085			mg/L	0.005	0.03	01/26/16 22:58	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	02/01/16 17:10	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:58	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/26/16 22:58	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	02/01/16 17:10	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/26/16 22:58	gss
Zinc, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	01/26/16 22:58	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L28657-09***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			4.8			%			02/05/16 0:00	calc
Sum of Anions			1			meq/L			02/05/16 0:00	calc
Sum of Cations			1.1			meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	155		*	umhos/cm	1	10	01/26/16 20:48	sck
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.005	B	*	mg/L	0.003	0.01	01/28/16 21:01	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	01/28/16 20:21	pjb
Fluoride	SM4500F-C	1	0.27	B	*	mg/L	0.05	0.3	01/27/16 18:39	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		41			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	01/29/16 22:47	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.28		*	mg/L	0.05	0.2	01/25/16 17:09	spl
pH (lab)	SM4500H+ B									
pH		1	4.4	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	21.9			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.02	0.05	01/26/16 21:05	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	148		*	mg/L	10	20	01/23/16 11:57	sck
Sulfate	D516-02/-07 - Turbidimetric	5	47.1		*	mg/L	5	25	01/28/16 11:51	krh
TDS (calculated)	Calculation		71.6			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.07						02/05/16 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L28657***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397706													
WG397706PBW1	PBW	01/26/16 15:44				U	mg/L		-20	20			
WG397706LCSW3	LCSW	01/26/16 16:01	WC160113-1	820.0001		845	mg/L	103	90	110			
WG397706LCSW6	LCSW	01/26/16 19:07	WC160113-1	820.0001		852	mg/L	104	90	110			
WG397706PBW2	PBW	01/26/16 19:15				U	mg/L		-20	20			
L28657-05DUP	DUP	01/26/16 20:24			U	U	mg/L				0	20	RA
L28665-06DUP	DUP	01/26/16 21:39			15.5	15.7	mg/L				1	20	RA
WG397706LCSW9	LCSW	01/26/16 21:56	WC160113-1	820.0001		855	mg/L	104	90	110			
WG397706PBW3	PBW	01/26/16 22:04				U	mg/L		-20	20			
WG397706LCSW12	LCSW	01/27/16 1:01	WC160113-1	820.0001		834	mg/L	102	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		2.055	mg/L	103	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.09	0.09			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1.0013		1.054	mg/L	105	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1.0013	4.12	4.991	mg/L	87	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1.0013	4.12	5.002	mg/L	88	85	115	0	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.02		.01959	mg/L	98	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.0012	0.0012			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.01001		.01019	mg/L	102	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.01001	.0005	.01018	mg/L	97	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.01001	.0005	.01013	mg/L	96	70	130	0	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.01001	.0013	.01116	mg/L	99	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.01001	.0013	.01139	mg/L	101	70	130	2	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.05		.05324	mg/L	106	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.0006	0.0006			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.0501		.04908	mg/L	98	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.0501	.0031	.05012	mg/L	94	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.0501	.0031	.05427	mg/L	102	70	130	8	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.0501	.0317	.0811	mg/L	99	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.0501	.0317	.08463	mg/L	106	70	130	4	20	
WG398125													
WG398125ICV	ICV	02/03/16 21:59	MS151201-3	.05		.05276	mg/L	106	90	110			
WG398125ICB	ICB	02/03/16 22:02				U	mg/L		-0.0006	0.0006			
WG398125LFB	LFB	02/03/16 22:05	MS151223-2	.0501		.05224	mg/L	104	85	115			
L28589-01AS	AS	02/03/16 22:55	MS151223-2	.0501	.0002	.0591	mg/L	118	70	130			
L28589-01ASD	ASD	02/03/16 22:58	MS151223-2	.0501	.0002	.05906	mg/L	117	70	130	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L28657***

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.9632	mg/L	98	95	105			
WG397702ICB	ICB	01/26/16 21:17				.0036	mg/L		-0.009	0.009			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.5		.5021	mg/L	100	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.5	.005	.5018	mg/L	99	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.5	.005	.5059	mg/L	100	85	115	1	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.05		.04754	mg/L	95	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.00015	0.00015			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.0501		.04733	mg/L	94	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.0501	U	.04671	mg/L	93	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.0501	U	.04665	mg/L	93	70	130	0	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.0501	U	.05168	mg/L	103	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.0501	U	.05169	mg/L	103	70	130	0	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.976	mg/L	99	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.12	0.12			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1		.987	mg/L	99	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1	U	1.022	mg/L	102	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1	U	.99	mg/L	99	85	115	3	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		2.006	mg/L	100	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.03	0.03			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.5005		.524	mg/L	105	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.5005	.12	.621	mg/L	100	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.5005	.12	.626	mg/L	101	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.05		.05011	mg/L	100	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.0003	0.0003			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.05005		.04981	mg/L	100	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.05005	U	.04782	mg/L	96	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.05005	U	.04759	mg/L	95	70	130	0	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.05005	U	.05207	mg/L	104	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.05005	U	.05195	mg/L	104	70	130	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L28657***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	100		100.17	mg/L	100	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.3	0.3			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	68.01261		70.96	mg/L	104	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	68.01261	46.3	113	mg/L	98	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	68.01261	46.3	113.8	mg/L	99	85	115	1	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397727													
WG397727ICB	ICB	01/27/16 8:47				U	mg/L		-1.5	1.5			
WG397727ICV	ICV	01/27/16 8:47	WI150701-4	55.055		57.11	mg/L	104	90	110			
WG397727LFB1	LFB	01/27/16 9:21	WI150826-7	29.97		30.76	mg/L	103	90	110			
WG397727LFB2	LFB	01/27/16 9:35	WI150826-7	29.97		30.58	mg/L	102	90	110			
L28657-08AS	AS	01/27/16 9:56	WI150826-7	29.97	U	31.39	mg/L	105	90	110			
L28657-09DUP	DUP	01/27/16 9:56			U	U	mg/L				0	20	RA

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.987	mg/L	99	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.03	0.03			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.5005		.516	mg/L	103	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.5005	U	.503	mg/L	100	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.5005	U	.507	mg/L	101	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2.002		1.91	mg/L	95	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.03	0.03			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.5005		.503	mg/L	100	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.5005	.17	.65	mg/L	96	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.5005	.17	.645	mg/L	95	85	115	1	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397706													
WG397706LCSW2	LCSW	01/26/16 15:49	PCN48869	1408		1530	umhos/cm	109	90	110			
WG397706LCSW5	LCSW	01/26/16 18:55	PCN48869	1408		1490	umhos/cm	106	90	110			
L28657-05DUP	DUP	01/26/16 20:24			59.1	56.8	umhos/cm				4	20	
L28665-06DUP	DUP	01/26/16 21:39			2070	2080	umhos/cm				0	20	
WG397706LCSW8	LCSW	01/26/16 21:43	PCN48869	1408		1480	umhos/cm	105	90	110			
WG397706LCSW11	LCSW	01/27/16 0:49	PCN48869	1408		1440	umhos/cm	102	90	110			

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ACZ Project ID: ***L28657***

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.947	mg/L	97	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.03	0.03			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.499		.512	mg/L	103	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.499	.12	.619	mg/L	100	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.499	.12	.621	mg/L	100	85	115	0	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397885													
WG397885ICV	ICV	01/28/16 20:11	WI160127-14	.3003		.2899	mg/L	97	90	110			
WG397885ICB	ICB	01/28/16 20:12				U	mg/L		-0.003	0.003			
WG397887													
WG397864LRB	LRB	01/28/16 20:55				U	mg/L		-0.003	0.003			
WG397864LFB	LFB	01/28/16 20:56	WI160127-12	.2		.1948	mg/L	97	90	110			
L28588-01DUP	DUP	01/28/16 20:58			U	U	mg/L				0	20	RA
L28606-03LFM	LFM	01/28/16 21:00	WI160127-12	.2	U	.1813	mg/L	91	90	110			

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397885													
WG397885ICV	ICV	01/28/16 20:11	WI160127-14	.3003		.2899	mg/L	97	90	110			
WG397885ICB	ICB	01/28/16 20:12				U	mg/L		-0.003	0.003			
WG397846LRB	LRB	01/28/16 20:13				U	mg/L		-0.003	0.003			
WG397846LFB	LFB	01/28/16 20:14	WI160127-10	.2002		.1962	mg/L	98	90	110			
L28608-01DUP	DUP	01/28/16 20:15			U	U	mg/L				0	20	RA
L28608-02LFM	LFM	01/28/16 20:17	WI160127-10	.2002	U	.193	mg/L	96	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397782													
WG397782ICV	ICV	01/27/16 15:18	WC160121-9	2		1.921	mg/L	96	95	105			
WG397782ICB	ICB	01/27/16 15:22				U	mg/L		-0.15	0.15			
WG397782LFB1	LFB	01/27/16 15:29	WC151103-7	5		4.713	mg/L	94	90	110			
L28642-02AS	AS	01/27/16 16:41	WC151103-7	5	.55	5.276	mg/L	95	90	110			
L28642-02DUP	DUP	01/27/16 16:49			.55	.555	mg/L				1	20	
WG397782LFB2	LFB	01/27/16 17:50	WC151103-7	5		4.692	mg/L	94	90	110			
L28657-06AS	AS	01/27/16 18:02	WC151103-7	50	.7	42.86	mg/L	84	90	110			M2
L28657-06DUP	DUP	01/27/16 18:07			.7	1.07	mg/L				42	20	RA

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		2	mg/L	100	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.3	0.3			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1		.94	mg/L	94	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1	U	.96	mg/L	96	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1	U	.99	mg/L	99	85	115	3	20	

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ACZ Project ID: ***L28657***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.959	mg/L	98	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.06	0.06			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1.0001		1.025	mg/L	102	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1.0001	46.5	44.68	mg/L	-172	85	115			M3
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1.0001	46.5	44.77	mg/L	-163	85	115	0	20	M3

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.05		.04794	mg/L	96	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.0003	0.0003			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.05005		.047	mg/L	94	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.05005	U	.05002	mg/L	100	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.05005	U	.05	mg/L	100	70	130	0	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.05005	.0001	.0478	mg/L	95	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.05005	.0001	.04741	mg/L	95	70	130	1	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		2.0052	mg/L	100	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.024	0.024			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1.001		.9872	mg/L	99	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1.001	U	.9959	mg/L	99	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1.001	U	1.002	mg/L	100	85	115	1	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	100		99.8	mg/L	100	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.6	0.6			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	50.00416		50.91	mg/L	102	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	50.00416	5.7	54.57	mg/L	98	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	50.00416	5.7	55.14	mg/L	99	85	115	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.946	mg/L	97	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.015	0.015			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.499		.5069	mg/L	102	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.499	.039	.5318	mg/L	99	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.499	.039	.5341	mg/L	99	85	115	0	20	

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ACZ Project ID: ***L28657***

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397716													
WG397716ICV	ICV	01/29/16 10:51	II151130-3	.005		.00487	mg/L	97	95	105			
WG397716ICB	ICB	01/29/16 10:53				U	mg/L		-0.0002	0.0002			
WG397878													
WG397878LRB	LRB	01/29/16 15:46				U	mg/L		-0.00044	0.00044			
WG397878LFB	LFB	01/29/16 15:48	II160119-4	.002004		.00202	mg/L	101	85	115			
L28606-11LFM	LFM	01/29/16 15:57	II160119-4	.002004	U	.00201	mg/L	100	85	115			
L28606-11LFMD	LFMD	01/29/16 15:59	II160119-4	.002004	U	.00185	mg/L	92	85	115	8	20	
L28672-01LFM	LFM	01/29/16 16:45	II160119-4	.002004	U	.00193	mg/L	96	85	115			
L28672-01LFMD	LFMD	01/29/16 16:47	II160119-4	.002004	U	.00196	mg/L	98	85	115	2	20	

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386175													
WG386175ICV	ICV	07/01/15 13:07	HG150504-4	10		9.91	ng/L	99	79	121			
WG386175ICB	ICB	07/01/15 13:12				U	ng/L		-0.5	0.5			
WG397985													
WG397985CCV1	CCV	02/01/16 14:39	HG151119-4	10		9.37	ng/L	94	76.5	123.4			
WG397985CCB1	CCB	02/01/16 14:44				U	ng/L		-0.5	0.5			
WG397985PQV	PQV	02/01/16 14:49	HG151119-6	.5		.44	ng/L	88	70	130			
WG397985LFB	LFB	02/01/16 14:54	HG151119-5	2		1.85	ng/L	93	71	125			
WG397985CCV2	CCV	02/01/16 15:39	HG151119-4	10		9.38	ng/L	94	76.5	123.4			
WG397985CCB2	CCB	02/01/16 15:45				U	ng/L		-0.5	0.5			
L28700-01MS	MS	02/01/16 16:00	HG151119-5	2	.6	2.54	ng/L	97	71	125			
L28700-01MSD	MSD	02/01/16 16:05	HG151119-5	2	.6	2.45	ng/L	93	71	125	4	24	
WG397985CCV3	CCV	02/01/16 16:10	HG151119-4	10		9.24	ng/L	92	76.5	123.4			
WG397985CCB3	CCB	02/01/16 16:15				U	ng/L		-0.5	0.5			
WG398201													
WG398201CCV1	CCV	02/05/16 10:28	HG151119-4	10		9.74	ng/L	97	76.5	123.4			
WG398201CCB1	CCB	02/05/16 10:33				U	ng/L		-0.5	0.5			
WG398201PQV	PQV	02/05/16 10:38	HG151119-6	.5		.44	ng/L	88	70	130			
WG398201LFB	LFB	02/05/16 10:43	HG151119-5	2		1.92	ng/L	96	71	125			
L28657-05MS	MS	02/05/16 11:03	HG10XPREP	200	177	196	ng/L	95	71	125			
L28657-05MSD	MSD	02/05/16 11:08	HG10XPREP	200	177	197	ng/L	100	71	125	1	24	
WG398201CCV2	CCV	02/05/16 11:29	HG151119-4	10		9.77	ng/L	98	76.5	123.4			
WG398201CCB2	CCB	02/05/16 11:34				U	ng/L		-0.5	0.5			
WG398201CCV3	CCV	02/05/16 12:29	HG151119-4	10		9.79	ng/L	98	76.5	123.4			
WG398201CCB3	CCB	02/05/16 12:34				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.989	mg/L	99	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.06	0.06			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.4995		.512	mg/L	103	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.4995	.03	.518	mg/L	98	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.4995	.03	.52	mg/L	98	85	115	0	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.9898	mg/L	99	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.024	0.024			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.501		.5156	mg/L	103	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.501	.159	.6491	mg/L	98	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.501	.159	.647	mg/L	97	85	115	0	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397933													
WG397933ICV	ICV	01/29/16 19:27	WI160126-5	2.416		2.431	mg/L	101	90	110			
WG397933ICB	ICB	01/29/16 19:28				U	mg/L		-0.02	0.02			
WG397937													
WG397937LFB	LFB	01/29/16 22:24	WI151215-9	2		1.963	mg/L	98	90	110			
L28657-08AS	AS	01/29/16 22:45	WI151215-9	2	.02	2.058	mg/L	102	90	110			
L28657-09DUP	DUP	01/29/16 22:48			.03	.028	mg/L				7	20	RA
L28644-01AS	AS	01/29/16 22:59	WI151215-9	10	6.3	16	mg/L	97	90	110			
L28644-02DUP	DUP	01/29/16 23:01			20.8	20.8	mg/L				0	20	

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397646													
WG397646ICV	ICV	01/25/16 16:07	WI151212-6	11.988		12.31	mg/L	103	90	110			
WG397646ICB	ICB	01/25/16 16:08				U	mg/L		-0.05	0.05			
WG397646LFB	LFB	01/25/16 16:10	WI150204-10	10		10.928	mg/L	109	90	110			
L28657-04AS	AS	01/25/16 16:32	WI150204-10	10	U	10.751	mg/L	108	90	110			
L28657-05DUP	DUP	01/25/16 16:35			.26	.254	mg/L				2	20	RA
WG397817													
WG397817ICV	ICV	01/28/16 10:31	WI151212-6	11.988		12.041	mg/L	100	90	110			
WG397817ICB	ICB	01/28/16 10:33				U	mg/L		-0.05	0.05			
WG397817LFB	LFB	01/28/16 10:34	WI150204-10	10		10.016	mg/L	100	90	110			
L28657-01AS	AS	01/28/16 10:37	WI150204-10	10	U	9.913	mg/L	99	90	110			
L28657-02DUP	DUP	01/28/16 10:40			.07	U	mg/L				200	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397706													
WG397706LCSW1	LCSW	01/26/16 15:48	PCN48559	6.01		6	units	100	5.9	6.1			
WG397706LCSW4	LCSW	01/26/16 18:53	PCN48559	6.01		6.1	units	101	5.9	6.1			
L28657-05DUP	DUP	01/26/16 20:24			5	5.1	units				2	20	
L28665-06DUP	DUP	01/26/16 21:39			7.4	7.4	units				0	20	
WG397706LCSW7	LCSW	01/26/16 21:42	PCN48559	6.01		6	units	100	5.9	6.1			
WG397706LCSW10	LCSW	01/27/16 0:48	PCN48559	6.01		6	units	100	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397723													
WG397723ICV	ICV	01/26/16 20:30	WI160106-3	.65228		.672	mg/L	103	90	110			
WG397723ICB	ICB	01/26/16 20:32				U	mg/L		-0.02	0.02			
WG397693LRB	LRB	01/26/16 20:33				U	mg/L		-0.02	0.02			
WG397693LFB	LFB	01/26/16 20:35	WI160112-21	.5		.487	mg/L	97	90	110			
L28657-01LFM	LFM	01/26/16 20:53	WI160112-21	.5	.03	.506	mg/L	95	90	110			
L28657-02DUP	DUP	01/26/16 20:55			.07	.072	mg/L				3	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	20		19.56	mg/L	98	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.6	0.6			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	100.0125		97.84	mg/L	98	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	100.0125	5.3	101.1	mg/L	96	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	100.0125	5.3	102.8	mg/L	97	85	115	2	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397592													
WG397592PBW	PBW	01/23/16 11:00				U	mg/L		-20	20			
WG397592LCSW	LCSW	01/23/16 11:02	PCN49647	260		256	mg/L	98	80	120			
L28657-09DUP	DUP	01/23/16 12:00			148	154	mg/L				4	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.98	mg/L	99	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.3	0.3			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1.0009		1.03	mg/L	103	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1.0009	U	1.01	mg/L	101	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1.0009	U	1.01	mg/L	101	85	115	0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.05		.0496	mg/L	99	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.0003	0.0003			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.0501		.04769	mg/L	95	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.0501	U	.05295	mg/L	106	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.0501	U	.05135	mg/L	102	70	130	3	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.0501	.0006	.05393	mg/L	106	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.0501	.0006	.05366	mg/L	106	70	130	1	20	

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ACZ Project ID: ***L28657***

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	1.001		.976	mg/L	98	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.03	0.03			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.5015		.482	mg/L	96	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.5015	U	.269	mg/L	54	85	115			M2 ZA
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.5015	U	.284	mg/L	57	85	115	5	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	100		96.89	mg/L	97	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.6	0.6			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	100.0581		97.86	mg/L	98	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	100.0581	2.4	98.97	mg/L	97	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	100.0581	2.4	100.5	mg/L	98	85	115	2	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.9685	mg/L	98	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.015	0.015			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.5005		.5068	mg/L	101	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.5005	.471	.9456	mg/L	95	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.5005	.471	.9558	mg/L	97	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397819													
WG397819ICB	ICB	01/28/16 10:40				U	mg/L		-3	3			
WG397819ICV	ICV	01/28/16 10:40	WI160114-1	20		19.2	mg/L	96	90	110			
WG397819LFB	LFB	01/28/16 11:43	WI150904-1	10.01		9.6	mg/L	96	90	110			
L28657-01DUP	DUP	01/28/16 11:50			73.5	74.5	mg/L				1	20	
L28657-02AS	AS	01/28/16 11:56	SO4TURB10X	10	271	291	mg/L	200	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.05		.04851	mg/L	97	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.0003	0.0003			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.0501		.04661	mg/L	93	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.0501	.0001	.05005	mg/L	100	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.0501	.0001	.05043	mg/L	100	70	130	1	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.0501	U	.04743	mg/L	95	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.0501	U	.04646	mg/L	93	70	130	2	20	

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ACZ Project ID: ***L28657***

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		2.019	mg/L	101	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.12	0.12			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1.001		.997	mg/L	100	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1.001	U	.996	mg/L	100	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1.001	U	.996	mg/L	100	85	115	0	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.993	mg/L	100	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.015	0.015			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1.003		1.005	mg/L	100	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1.003	.007	1.007	mg/L	100	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1.003	.007	1.012	mg/L	100	85	115	0	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.05		.05282	mg/L	106	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.0003	0.0003			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.05		.05152	mg/L	103	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.05	.0159	.0755	mg/L	119	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.05	.0159	.07571	mg/L	120	70	130	0	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.05	U	.05236	mg/L	105	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.05	U	.05205	mg/L	104	70	130	1	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.9758	mg/L	99	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.015	0.015			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.501		.5074	mg/L	101	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.501	.008	.493	mg/L	97	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.501	.008	.4993	mg/L	98	85	115	1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.929	mg/L	96	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.03	0.03			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.4995		.496	mg/L	99	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.4995	.27	.726	mg/L	91	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.4995	.27	.727	mg/L	91	85	115	0	20	

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-01	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG398201	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG397702	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397817	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-02	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG398201	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG397702	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397817	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-03	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397782	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
	WG397817	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc.

ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-04	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397646	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-05	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG398201	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG397702	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397646	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-06	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397782	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397646	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc.

ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-07	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG398201	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG397702	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397782	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397646	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-08	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397782	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397937	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397646	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-09	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397887	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397885	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397782	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397937	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397646	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L28657
Date Received: 01/21/2016 09:39
Received By: ddp
Date Printed: 1/21/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	X		

A change was made in the Sample ID, Matrix, Anlyses Requested Line 2 section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L28657-01 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-02 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-03 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-04 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-05 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-06 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-07 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-08 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-09 : A Green, Yellow, HG, Purple container not received

McClelland Laboratories, Inc.
3981

ACZ Project ID: L28657
Date Received: 01/21/2016 09:39
Received By: ddp
Date Printed: 1/21/2016

and a new container created from the White .

16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA23263	3.2	<=6.0	12	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc.

L28657

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED (attach list or use quote number)

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500	Mercury by 1631E				
CAL-002 (86-95)	1/20/16	WW	1	x			x				
[redacted]		[redacted]									
CAL-003 (675-685)		WW	1	x			x				
GMC-012 (832-851)		WW	1	x			x				
CAL-004 (295-315)		WW	1	x			x				
CAL-001 (750-762)		WW	1	x			x				
GMC-014 (176-184)		WW	1	x			x				
CAL-001 (380-400)		WW	1	x			x				
CAL-002 (177-187)		WW	1	x			x				
Calico Leach Res. after CN Destruct		WW	1	x	x	x	x				

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 8
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	1/20/16 9Am	BLR	1-21-16 9:30

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L28657 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

**** Gray out Analyses DOESN'T get done on all Samples, just 1 of the Sample SEE COC ****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

February 08, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L28657

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 21, 2016. This project has been assigned to ACZ's project number, L28657. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L28657. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 09, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L28657-01***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 13:23	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	3.11			mg/L	0.03	0.2	01/26/16 22:20	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0130			mg/L	0.0004	0.002	02/01/16 16:35	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0173			mg/L	0.0002	0.001	02/01/16 16:35	mfm
Barium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.003	0.02	01/26/16 22:20	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00163			mg/L	0.00005	0.0003	02/01/16 16:35	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:20	gss
Boron, dissolved	M200.7 ICP	1	0.18			mg/L	0.01	0.05	01/26/16 22:20	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	02/01/16 16:35	mfm
Calcium, dissolved	M200.7 ICP	1	9.7			mg/L	0.1	0.5	01/26/16 22:20	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:20	gss
Cobalt, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	01/26/16 22:20	gss
Copper, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	01/26/16 22:20	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:20	gss
Iron, dissolved	M200.7 ICP	1	16.90		*	mg/L	0.02	0.05	01/26/16 22:20	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	02/01/16 16:35	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:20	gss
Magnesium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	01/26/16 22:20	gss
Manganese, dissolved	M200.7 ICP	1	0.166			mg/L	0.005	0.03	01/26/16 22:20	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:20	pta
Mercury, total	M1631, Atomic Fluorescence	5	57		*	ng/L	1	3	02/05/16 10:48	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:20	gss
Nickel, dissolved	M200.7 ICP	1	0.604			mg/L	0.008	0.04	01/26/16 22:20	gss
Potassium, dissolved	M200.7 ICP	1	2.1			mg/L	0.2	1	01/26/16 22:20	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:20	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0030			mg/L	0.0001	0.0003	02/01/16 16:35	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:20	gss
Sodium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	01/26/16 22:20	gss
Strontium, dissolved	M200.7 ICP	1	0.063			mg/L	0.005	0.03	01/26/16 22:20	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0102			mg/L	0.0001	0.0005	02/01/16 16:35	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:20	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/26/16 22:20	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0054			mg/L	0.0001	0.0005	02/01/16 16:35	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/26/16 22:20	gss
Zinc, dissolved	M200.7 ICP	1	0.43			mg/L	0.01	0.05	01/26/16 22:20	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L28657-01***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			8.6			%			02/05/16 0:00	calc
Sum of Anions			1.6			meq/L			02/05/16 0:00	calc
Sum of Cations			1.9			meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/27/16 9:35	krh
Conductivity @25C	SM2510B	1	253		*	umhos/cm	1	10	01/26/16 20:00	sck
Fluoride	SM4500F-C	1	0.36			mg/L	0.05	0.3	01/27/16 17:21	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		27			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B		mg/L	0.02	0.1	01/29/16 22:31	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/28/16 10:36	krh
pH (lab)	SM4500H+ B									
pH		1	3.8	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	21.7			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.02	0.05	01/26/16 20:52	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	212		*	mg/L	10	20	01/23/16 11:36	sck
Sulfate	D516-02/-07 - Turbidimetric	5	73.5		*	mg/L	5	25	01/28/16 11:50	krh
TDS (calculated)	Calculation		107			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.98						02/05/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L28657-02***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 13:40	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	4.12			mg/L	0.03	0.2	01/26/16 22:24	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0013	B		mg/L	0.0004	0.002	02/01/16 16:38	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.1063			mg/L	0.0002	0.001	02/01/16 16:38	mfm
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	01/26/16 22:24	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00226			mg/L	0.00005	0.0003	02/01/16 16:38	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:24	gss
Boron, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	01/26/16 22:24	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	02/01/16 16:38	mfm
Calcium, dissolved	M200.7 ICP	1	46.3			mg/L	0.1	0.5	01/26/16 22:24	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:24	gss
Cobalt, dissolved	M200.7 ICP	1	0.17			mg/L	0.01	0.05	01/26/16 22:24	gss
Copper, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	01/26/16 22:24	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:24	gss
Iron, dissolved	M200.7 ICP	1	46.40		*	mg/L	0.02	0.05	01/26/16 22:24	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0033			mg/L	0.0001	0.0005	02/01/16 16:38	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:24	gss
Magnesium, dissolved	M200.7 ICP	1	5.7			mg/L	0.2	1	01/26/16 22:24	gss
Manganese, dissolved	M200.7 ICP	1	0.039			mg/L	0.005	0.03	01/26/16 22:24	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:23	pta
Mercury, total	M1631, Atomic Fluorescence	2	36.4		*	ng/L	0.4	1	02/05/16 10:53	mfm
Molybdenum, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.02	0.1	01/26/16 22:24	gss
Nickel, dissolved	M200.7 ICP	1	0.159			mg/L	0.008	0.04	01/26/16 22:24	gss
Potassium, dissolved	M200.7 ICP	1	5.3			mg/L	0.2	1	01/26/16 22:24	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:24	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0003	02/01/16 16:38	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:24	gss
Sodium, dissolved	M200.7 ICP	1	2.4			mg/L	0.2	1	01/26/16 22:24	gss
Strontium, dissolved	M200.7 ICP	1	0.471			mg/L	0.005	0.03	01/26/16 22:24	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0036			mg/L	0.0001	0.0005	02/01/16 16:38	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:24	gss
Titanium, dissolved	M200.7 ICP	1	0.007	B	*	mg/L	0.005	0.03	01/26/16 22:24	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0019			mg/L	0.0001	0.0005	02/01/16 16:38	mfm
Vanadium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	01/26/16 22:24	gss
Zinc, dissolved	M200.7 ICP	1	0.27			mg/L	0.01	0.05	01/26/16 22:24	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L28657-02***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			2.6			%			02/05/16 0:00	calc
Sum of Anions			5.7			meq/L			02/05/16 0:00	calc
Sum of Cations			6			meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	852		*	umhos/cm	1	10	01/26/16 20:04	sck
Fluoride	SM4500F-C	1	0.46			mg/L	0.05	0.3	01/27/16 17:25	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		139			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B		mg/L	0.02	0.1	01/29/16 22:33	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.07	B	*	mg/L	0.05	0.2	01/28/16 10:38	krh
pH (lab)	SM4500H+ B									
pH		1	3.0	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	21.5			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.07		*	mg/L	0.02	0.05	01/26/16 20:54	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	504		*	mg/L	10	20	01/23/16 11:39	sck
Sulfate	D516-02/-07 - Turbidimetric	10	271		*	mg/L	10	50	01/28/16 11:56	krh
TDS (calculated)	Calculation		383			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.32						02/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L28657-03***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 13:56	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	10.20			mg/L	0.03	0.2	01/26/16 22:33	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0004	0.002	02/01/16 16:41	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.1278			mg/L	0.0002	0.001	02/01/16 16:41	mfm
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	01/26/16 22:33	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00095			mg/L	0.00005	0.0003	02/01/16 16:41	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:33	gss
Boron, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	01/26/16 22:33	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	02/01/16 16:41	mfm
Calcium, dissolved	M200.7 ICP	1	61.2			mg/L	0.1	0.5	01/26/16 22:33	gss
Chromium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/26/16 22:33	gss
Cobalt, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	01/26/16 22:33	gss
Copper, dissolved	M200.7 ICP	1	0.42			mg/L	0.01	0.05	01/26/16 22:33	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:33	gss
Iron, dissolved	M200.7 ICP	1	44.20		*	mg/L	0.02	0.05	01/26/16 22:33	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0005	02/01/16 16:41	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:33	gss
Magnesium, dissolved	M200.7 ICP	1	2.2			mg/L	0.2	1	01/26/16 22:33	gss
Manganese, dissolved	M200.7 ICP	1	0.159			mg/L	0.005	0.03	01/26/16 22:33	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:24	pta
Mercury, total	M1631, Atomic Fluorescence	2	19.8			ng/L	0.4	1	02/01/16 15:09	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:33	gss
Nickel, dissolved	M200.7 ICP	1	0.135			mg/L	0.008	0.04	01/26/16 22:33	gss
Potassium, dissolved	M200.7 ICP	1	2.5			mg/L	0.2	1	01/26/16 22:33	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:33	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0040			mg/L	0.0001	0.0003	02/01/16 16:41	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:33	gss
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	01/26/16 22:33	gss
Strontium, dissolved	M200.7 ICP	1	0.040			mg/L	0.005	0.03	01/26/16 22:33	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	02/01/16 16:41	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:33	gss
Titanium, dissolved	M200.7 ICP	1	0.009	B	*	mg/L	0.005	0.03	01/26/16 22:33	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0300			mg/L	0.0001	0.0005	02/01/16 16:41	mfm
Vanadium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	01/26/16 22:33	gss
Zinc, dissolved	M200.7 ICP	1	0.33			mg/L	0.01	0.05	01/26/16 22:33	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L28657-03***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-6.2			%			02/05/16 0:00	calc
Sum of Anions			7.7			meq/L			02/05/16 0:00	calc
Sum of Cations			6.8			meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1	5.6		*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	1390		*	umhos/cm	1	10	01/26/16 20:09	sck
Fluoride	SM4500F-C	10		U	*	mg/L	0.5	3	01/27/16 17:33	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		162			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.11			mg/L	0.02	0.1	01/29/16 22:34	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/28/16 10:41	krh
pH (lab)	SM4500H+ B									
pH		1	2.7	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	21.5			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.10		*	mg/L	0.02	0.05	01/26/16 20:56	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	602		*	mg/L	10	20	01/23/16 11:41	sck
Sulfate	D516-02/-07 - Turbidimetric	10	360		*	mg/L	10	50	01/28/16 11:56	krh
TDS (calculated)	Calculation		487			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.24						02/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L28657-04***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 14:04	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.81			mg/L	0.03	0.2	01/26/16 22:36	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0019	B		mg/L	0.0004	0.002	02/01/16 16:43	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0070			mg/L	0.0002	0.001	02/01/16 16:43	mfm
Barium, dissolved	M200.7 ICP	1	0.027			mg/L	0.003	0.02	01/26/16 22:36	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00181			mg/L	0.00005	0.0003	02/01/16 16:43	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:36	gss
Boron, dissolved	M200.7 ICP	1	0.20			mg/L	0.01	0.05	01/26/16 22:36	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	02/01/16 16:43	mfm
Calcium, dissolved	M200.7 ICP	1	27.6			mg/L	0.1	0.5	01/26/16 22:36	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:36	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/26/16 22:36	gss
Copper, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	01/26/16 22:36	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:36	gss
Iron, dissolved	M200.7 ICP	1	1.70		*	mg/L	0.02	0.05	01/26/16 22:36	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	02/01/16 16:43	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:36	gss
Magnesium, dissolved	M200.7 ICP	1	5.6			mg/L	0.2	1	01/26/16 22:36	gss
Manganese, dissolved	M200.7 ICP	1	0.347			mg/L	0.005	0.03	01/26/16 22:36	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:26	pta
Mercury, total	M1631, Atomic Fluorescence	1	2.5			ng/L	0.2	0.5	02/01/16 15:14	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:36	gss
Nickel, dissolved	M200.7 ICP	1	0.042			mg/L	0.008	0.04	01/26/16 22:36	gss
Potassium, dissolved	M200.7 ICP	1	9.5			mg/L	0.2	1	01/26/16 22:36	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:36	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0062			mg/L	0.0001	0.0003	02/01/16 16:43	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:36	gss
Sodium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	01/26/16 22:36	gss
Strontium, dissolved	M200.7 ICP	1	0.084			mg/L	0.005	0.03	01/26/16 22:36	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	02/01/16 16:43	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:36	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/26/16 22:36	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	02/01/16 16:43	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/26/16 22:36	gss
Zinc, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	01/26/16 22:36	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L28657-04***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.2			%			02/05/16 0:00	calc
Sum of Anions			2.5			meq/L			02/05/16 0:00	calc
Sum of Cations			2.3			meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	294		*	umhos/cm	1	10	01/26/16 20:13	sck
Fluoride	SM4500F-C	1	0.56			mg/L	0.05	0.3	01/27/16 17:39	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		92			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	01/29/16 22:35	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/25/16 16:31	spl
pH (lab)	SM4500H+ B									
pH		1	4.1	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	21.5			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.02	0.05	01/26/16 20:57	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	250		*	mg/L	10	20	01/23/16 11:44	sck
Sulfate	D516-02/-07 - Turbidimetric	5	119		*	mg/L	5	25	01/28/16 11:50	krh
TDS (calculated)	Calculation		166			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.51						02/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L28657-05***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 14:12	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.07	B		mg/L	0.03	0.2	01/26/16 22:45	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0004	0.002	02/01/16 16:46	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0035			mg/L	0.0002	0.001	02/01/16 16:46	mfm
Barium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.003	0.02	01/26/16 22:45	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	02/01/16 16:46	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:45	gss
Boron, dissolved	M200.7 ICP	1	0.16			mg/L	0.01	0.05	01/26/16 22:45	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/01/16 16:46	mfm
Calcium, dissolved	M200.7 ICP	1	2.8			mg/L	0.1	0.5	01/26/16 22:45	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:45	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:45	gss
Copper, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	01/26/16 22:45	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:45	gss
Iron, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.02	0.05	01/26/16 22:45	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	02/01/16 16:46	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:45	gss
Magnesium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	01/26/16 22:45	gss
Manganese, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.005	0.03	01/26/16 22:45	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:29	pta
Mercury, total	M1631, Atomic Fluorescence	10	177		*	ng/L	2	5	02/05/16 10:58	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:45	gss
Nickel, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.008	0.04	01/26/16 22:45	gss
Potassium, dissolved	M200.7 ICP	1	4.7			mg/L	0.2	1	01/26/16 22:45	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:45	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0154			mg/L	0.0001	0.0003	02/01/16 16:46	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:45	gss
Sodium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	01/26/16 22:45	gss
Strontium, dissolved	M200.7 ICP	1	0.035			mg/L	0.005	0.03	01/26/16 22:45	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	02/01/16 16:46	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:45	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/26/16 22:45	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/01/16 16:46	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/26/16 22:45	gss
Zinc, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	01/26/16 22:45	gss

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L28657-05***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.3			%			02/05/16 0:00	calc
Sum of Anions			0.4	B		meq/L			02/05/16 0:00	calc
Sum of Cations			0.367	B		meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	59.1		*	umhos/cm	1	10	01/26/16 20:18	sck
Fluoride	SM4500F-C	1	0.08	B		mg/L	0.05	0.3	01/27/16 17:46	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		9.1			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B		mg/L	0.02	0.1	01/29/16 22:40	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.26		*	mg/L	0.05	0.2	01/25/16 16:34	spl
pH (lab)	SM4500H+ B									
pH		1	5.0	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	21.6			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.02	0.05	01/26/16 21:01	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	106		*	mg/L	10	20	01/23/16 11:47	sck
Sulfate	D516-02/-07 - Turbidimetric	1	19.6		*	mg/L	1	5	01/28/16 11:43	krh
TDS (calculated)	Calculation		29.4			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		3.61						02/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L28657-06***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 14:20	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	21.20			mg/L	0.03	0.2	01/26/16 22:49	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0004	0.002	02/01/16 16:49	mfm
Arsenic, dissolved	M200.8 ICP-MS	10	0.961			mg/L	0.002	0.01	02/03/16 23:16	mfm
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	01/26/16 22:49	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00870			mg/L	0.00005	0.0003	02/01/16 16:49	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:49	gss
Boron, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	01/26/16 22:49	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0037			mg/L	0.0001	0.0005	02/01/16 16:49	mfm
Calcium, dissolved	M200.7 ICP	1	32.1			mg/L	0.1	0.5	01/26/16 22:49	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:49	gss
Cobalt, dissolved	M200.7 ICP	1	0.26			mg/L	0.01	0.05	01/26/16 22:49	gss
Copper, dissolved	M200.7 ICP	1	0.45			mg/L	0.01	0.05	01/26/16 22:49	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:49	gss
Iron, dissolved	M200.7 ICP	1	79.20		*	mg/L	0.02	0.05	01/26/16 22:49	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	02/01/16 16:49	mfm
Lithium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.008	0.04	01/26/16 22:49	gss
Magnesium, dissolved	M200.7 ICP	1	5.6			mg/L	0.2	1	01/26/16 22:49	gss
Manganese, dissolved	M200.7 ICP	1	0.468			mg/L	0.005	0.03	01/26/16 22:49	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:31	pta
Mercury, total	M1631, Atomic Fluorescence	1	10.2			ng/L	0.2	0.5	02/01/16 15:24	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:49	gss
Nickel, dissolved	M200.7 ICP	1	0.270			mg/L	0.008	0.04	01/26/16 22:49	gss
Potassium, dissolved	M200.7 ICP	1	6.9			mg/L	0.2	1	01/26/16 22:49	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:49	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0003	02/01/16 16:49	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:49	gss
Sodium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	01/26/16 22:49	gss
Strontium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.005	0.03	01/26/16 22:49	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0035			mg/L	0.0001	0.0005	02/01/16 16:49	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:49	gss
Titanium, dissolved	M200.7 ICP	1	0.006	B	*	mg/L	0.005	0.03	01/26/16 22:49	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0053			mg/L	0.0001	0.0005	02/01/16 16:49	mfm
Vanadium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.005	0.03	01/26/16 22:49	gss
Zinc, dissolved	M200.7 ICP	1	1.31			mg/L	0.01	0.05	01/26/16 22:49	gss

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L28657-06***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			2.3			%			02/05/16 0:00	calc
Sum of Anions			8.5			meq/L			02/05/16 0:00	calc
Sum of Cations			8.9			meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1	1.2	B	*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	1350		*	umhos/cm	1	10	01/26/16 20:28	sck
Fluoride	SM4500F-C	10	0.7	B	*	mg/L	0.5	3	01/27/16 17:56	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		103			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B		mg/L	0.02	0.1	01/29/16 22:42	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.14	B	*	mg/L	0.05	0.2	01/25/16 16:37	spl
pH (lab)	SM4500H+ B									
pH		1	2.7	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	22.2			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.27		*	mg/L	0.02	0.05	01/26/16 21:02	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	718		*	mg/L	10	20	01/23/16 11:49	sck
Sulfate	D516-02/-07 - Turbidimetric	20	403		*	mg/L	20	100	01/28/16 11:53	krh
TDS (calculated)	Calculation		553			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.30						02/05/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L28657-07***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 14:28	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.03	0.2	01/26/16 22:52	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0013	B		mg/L	0.0004	0.002	02/01/16 16:52	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0317			mg/L	0.0002	0.001	02/01/16 16:52	mfm
Barium, dissolved	M200.7 ICP	1	0.018	B		mg/L	0.003	0.02	01/26/16 22:52	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	02/01/16 16:52	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:52	gss
Boron, dissolved	M200.7 ICP	1	0.16			mg/L	0.01	0.05	01/26/16 22:52	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/01/16 16:52	mfm
Calcium, dissolved	M200.7 ICP	1	5.2			mg/L	0.1	0.5	01/26/16 22:52	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:52	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:52	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:52	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:52	gss
Iron, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.02	0.05	01/26/16 22:52	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	02/01/16 16:52	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:52	gss
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	01/26/16 22:52	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/26/16 22:52	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:33	pta
Mercury, total	M1631, Atomic Fluorescence	5	79		*	ng/L	1	3	02/05/16 11:13	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:52	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:52	gss
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/26/16 22:52	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:52	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0003	02/01/16 16:52	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:52	gss
Sodium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	01/26/16 22:52	gss
Strontium, dissolved	M200.7 ICP	1	0.037			mg/L	0.005	0.03	01/26/16 22:52	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/01/16 16:52	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:52	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/26/16 22:52	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/01/16 16:52	mfm
Vanadium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.005	0.03	01/26/16 22:52	gss
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/26/16 22:52	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L28657-07***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	11.4	B		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1	11.4	B	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-11.7			%			02/05/16 0:00	calc
Sum of Anions			0.381	B		meq/L			02/05/16 0:00	calc
Sum of Cations			0.301	B		meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	35.0		*	umhos/cm	1	10	01/26/16 20:36	sck
Fluoride	SM4500F-C	1	0.08	B	*	mg/L	0.05	0.3	01/27/16 18:23	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		14			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B		mg/L	0.02	0.1	01/29/16 22:43	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/25/16 16:38	spl
pH (lab)	SM4500H+ B									
pH		1	7.5	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	22.5			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.02	0.05	01/26/16 21:03	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	84		*	mg/L	10	20	01/23/16 11:52	sck
Sulfate	D516-02/-07 - Turbidimetric	1	7.1		*	mg/L	1	5	01/28/16 11:43	krh
TDS (calculated)	Calculation		20			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		4.20						02/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L28657-08***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 14:37	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.03	0.2	01/26/16 22:55	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0016	B		mg/L	0.0004	0.002	02/01/16 17:07	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0033			mg/L	0.0002	0.001	02/01/16 17:07	mfm
Barium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.003	0.02	01/26/16 22:55	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	02/01/16 17:07	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:55	gss
Boron, dissolved	M200.7 ICP	1	0.16			mg/L	0.01	0.05	01/26/16 22:55	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/01/16 17:07	mfm
Calcium, dissolved	M200.7 ICP	1	1.7			mg/L	0.1	0.5	01/26/16 22:55	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:55	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:55	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:55	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:55	gss
Iron, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.02	0.05	01/26/16 22:55	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	02/01/16 17:07	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:55	gss
Magnesium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	01/26/16 22:55	gss
Manganese, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.005	0.03	01/26/16 22:55	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:35	pta
Mercury, total	M1631, Atomic Fluorescence	1	16.8			ng/L	0.2	0.5	02/01/16 15:34	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:55	gss
Nickel, dissolved	M200.7 ICP	1	0.072			mg/L	0.008	0.04	01/26/16 22:55	gss
Potassium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	01/26/16 22:55	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:55	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0036			mg/L	0.0001	0.0003	02/01/16 17:07	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:55	gss
Sodium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	01/26/16 22:55	gss
Strontium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.005	0.03	01/26/16 22:55	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	02/01/16 17:07	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:55	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/26/16 22:55	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/01/16 17:07	mfm
Vanadium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	01/26/16 22:55	gss
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	01/26/16 22:55	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L28657-08***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			02/05/16 0:00	calc
Sum of Anions			0.132	B		meq/L			02/05/16 0:00	calc
Sum of Cations			0.168	B		meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	24.3		*	umhos/cm	1	10	01/26/16 20:44	sck
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	01/27/16 18:31	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		5.9			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	01/29/16 22:44	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/25/16 16:40	spl
pH (lab)	SM4500H+ B									
pH		1	6.0	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	22.2			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.02	0.05	01/26/16 21:04	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	86		*	mg/L	10	20	01/23/16 11:54	sck
Sulfate	D516-02/-07 - Turbidimetric	1	6.3		*	mg/L	1	5	01/28/16 11:44	krh
TDS (calculated)	Calculation		9.74			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		8.83						02/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L28657-09***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								01/28/16 14:28	enb
Cyanide, WAD	SM4500-CN I- distillation				*				01/28/16 12:45	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/26/16 14:45	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.44			mg/L	0.03	0.2	01/26/16 22:58	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	02/01/16 17:10	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0035			mg/L	0.0002	0.001	02/01/16 17:10	mfm
Barium, dissolved	M200.7 ICP	1	0.046			mg/L	0.003	0.02	01/26/16 22:58	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00104			mg/L	0.00005	0.0003	02/01/16 17:10	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/26/16 22:58	gss
Boron, dissolved	M200.7 ICP	1	0.26			mg/L	0.01	0.05	01/26/16 22:58	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	02/01/16 17:10	mfm
Calcium, dissolved	M200.7 ICP	1	15.8			mg/L	0.1	0.5	01/26/16 22:58	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/26/16 22:58	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/26/16 22:58	gss
Copper, dissolved	M200.7 ICP	1	3.27			mg/L	0.01	0.05	01/26/16 22:58	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:58	gss
Iron, dissolved	M200.7 ICP	1	0.22		*	mg/L	0.02	0.05	01/26/16 22:58	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	02/01/16 17:10	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/26/16 22:58	gss
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	01/26/16 22:58	gss
Manganese, dissolved	M200.7 ICP	1	0.227			mg/L	0.005	0.03	01/26/16 22:58	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/29/16 16:37	pta
Mercury, total	M1631, Atomic Fluorescence	1	6			ng/L	0.2	0.5	02/01/16 15:50	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/26/16 22:58	gss
Nickel, dissolved	M200.7 ICP	1	0.037	B		mg/L	0.008	0.04	01/26/16 22:58	gss
Potassium, dissolved	M200.7 ICP	1	2.8			mg/L	0.2	1	01/26/16 22:58	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/26/16 22:58	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0038			mg/L	0.0001	0.0003	02/01/16 17:10	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/26/16 22:58	gss
Sodium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	01/26/16 22:58	gss
Strontium, dissolved	M200.7 ICP	1	0.085			mg/L	0.005	0.03	01/26/16 22:58	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	02/01/16 17:10	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/26/16 22:58	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/26/16 22:58	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	02/01/16 17:10	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/26/16 22:58	gss
Zinc, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	01/26/16 22:58	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L28657-09***
Date Sampled: *01/20/16 00:00*
Date Received: *01/21/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/26/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/26/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			4.8			%			02/05/16 0:00	calc
Sum of Anions			1			meq/L			02/05/16 0:00	calc
Sum of Cations			1.1			meq/L			02/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/27/16 9:56	krh
Conductivity @25C	SM2510B	1	155		*	umhos/cm	1	10	01/26/16 20:48	sck
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.005	B	*	mg/L	0.003	0.01	01/28/16 21:01	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	01/28/16 20:21	pjb
Fluoride	SM4500F-C	1	0.27	B	*	mg/L	0.05	0.3	01/27/16 18:39	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		41			mg/L	0.2	5	02/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	01/29/16 22:47	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.28		*	mg/L	0.05	0.2	01/25/16 17:09	spl
pH (lab)	SM4500H+ B									
pH		1	4.4	H	*	units	0.1	0.1	01/26/16 0:00	sck
pH measured at		1	21.9			C	0.1	0.1	01/26/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.02	0.05	01/26/16 21:05	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	148		*	mg/L	10	20	01/23/16 11:57	sck
Sulfate	D516-02/-07 - Turbidimetric	5	47.1		*	mg/L	5	25	01/28/16 11:51	krh
TDS (calculated)	Calculation		71.6			mg/L			02/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.07						02/05/16 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of Interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L28657***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397706													
WG397706PBW1	PBW	01/26/16 15:44				U	mg/L		-20	20			
WG397706LCSW3	LCSW	01/26/16 16:01	WC160113-1	820.0001		845	mg/L	103	90	110			
WG397706LCSW6	LCSW	01/26/16 19:07	WC160113-1	820.0001		852	mg/L	104	90	110			
WG397706PBW2	PBW	01/26/16 19:15				U	mg/L		-20	20			
L28657-05DUP	DUP	01/26/16 20:24			U	U	mg/L				0	20	RA
L28665-06DUP	DUP	01/26/16 21:39			15.5	15.7	mg/L				1	20	RA
WG397706LCSW9	LCSW	01/26/16 21:56	WC160113-1	820.0001		855	mg/L	104	90	110			
WG397706PBW3	PBW	01/26/16 22:04				U	mg/L		-20	20			
WG397706LCSW12	LCSW	01/27/16 1:01	WC160113-1	820.0001		834	mg/L	102	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		2.055	mg/L	103	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.09	0.09			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1.0013		1.054	mg/L	105	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1.0013	4.12	4.991	mg/L	87	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1.0013	4.12	5.002	mg/L	88	85	115	0	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.02		.01959	mg/L	98	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.0012	0.0012			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.01001		.01019	mg/L	102	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.01001	.0005	.01018	mg/L	97	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.01001	.0005	.01013	mg/L	96	70	130	0	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.01001	.0013	.01116	mg/L	99	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.01001	.0013	.01139	mg/L	101	70	130	2	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.05		.05324	mg/L	106	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.0006	0.0006			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.0501		.04908	mg/L	98	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.0501	.0031	.05012	mg/L	94	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.0501	.0031	.05427	mg/L	102	70	130	8	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.0501	.0317	.0811	mg/L	99	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.0501	.0317	.08463	mg/L	106	70	130	4	20	
WG398125													
WG398125ICV	ICV	02/03/16 21:59	MS151201-3	.05		.05276	mg/L	106	90	110			
WG398125ICB	ICB	02/03/16 22:02				U	mg/L		-0.0006	0.0006			
WG398125LFB	LFB	02/03/16 22:05	MS151223-2	.0501		.05224	mg/L	104	85	115			
L28589-01AS	AS	02/03/16 22:55	MS151223-2	.0501	.0002	.0591	mg/L	118	70	130			
L28589-01ASD	ASD	02/03/16 22:58	MS151223-2	.0501	.0002	.05906	mg/L	117	70	130	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28657***

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.9632	mg/L	98	95	105			
WG397702ICB	ICB	01/26/16 21:17				.0036	mg/L		-0.009	0.009			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.5		.5021	mg/L	100	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.5	.005	.5018	mg/L	99	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.5	.005	.5059	mg/L	100	85	115	1	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.05		.04754	mg/L	95	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.00015	0.00015			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.0501		.04733	mg/L	94	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.0501	U	.04671	mg/L	93	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.0501	U	.04665	mg/L	93	70	130	0	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.0501	U	.05168	mg/L	103	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.0501	U	.05169	mg/L	103	70	130	0	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.976	mg/L	99	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.12	0.12			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1		.987	mg/L	99	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1	U	1.022	mg/L	102	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1	U	.99	mg/L	99	85	115	3	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		2.006	mg/L	100	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.03	0.03			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.5005		.524	mg/L	105	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.5005	.12	.621	mg/L	100	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.5005	.12	.626	mg/L	101	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.05		.05011	mg/L	100	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.0003	0.0003			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.05005		.04981	mg/L	100	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.05005	U	.04782	mg/L	96	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.05005	U	.04759	mg/L	95	70	130	0	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.05005	U	.05207	mg/L	104	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.05005	U	.05195	mg/L	104	70	130	0	20	

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ACZ Project ID: ***L28657***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	100		100.17	mg/L	100	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.3	0.3			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	68.01261		70.96	mg/L	104	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	68.01261	46.3	113	mg/L	98	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	68.01261	46.3	113.8	mg/L	99	85	115	1	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397727													
WG397727ICB	ICB	01/27/16 8:47				U	mg/L		-1.5	1.5			
WG397727ICV	ICV	01/27/16 8:47	WI150701-4	55.055		57.11	mg/L	104	90	110			
WG397727LFB1	LFB	01/27/16 9:21	WI150826-7	29.97		30.76	mg/L	103	90	110			
WG397727LFB2	LFB	01/27/16 9:35	WI150826-7	29.97		30.58	mg/L	102	90	110			
L28657-08AS	AS	01/27/16 9:56	WI150826-7	29.97	U	31.39	mg/L	105	90	110			
L28657-09DUP	DUP	01/27/16 9:56			U	U	mg/L				0	20	RA

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.987	mg/L	99	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.03	0.03			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.5005		.516	mg/L	103	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.5005	U	.503	mg/L	100	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.5005	U	.507	mg/L	101	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2.002		1.91	mg/L	95	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.03	0.03			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.5005		.503	mg/L	100	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.5005	.17	.65	mg/L	96	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.5005	.17	.645	mg/L	95	85	115	1	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397706													
WG397706LCSW2	LCSW	01/26/16 15:49	PCN48869	1408		1530	umhos/cm	109	90	110			
WG397706LCSW5	LCSW	01/26/16 18:55	PCN48869	1408		1490	umhos/cm	106	90	110			
L28657-05DUP	DUP	01/26/16 20:24			59.1	56.8	umhos/cm				4	20	
L28665-06DUP	DUP	01/26/16 21:39			2070	2080	umhos/cm				0	20	
WG397706LCSW8	LCSW	01/26/16 21:43	PCN48869	1408		1480	umhos/cm	105	90	110			
WG397706LCSW11	LCSW	01/27/16 0:49	PCN48869	1408		1440	umhos/cm	102	90	110			

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Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.947	mg/L	97	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.03	0.03			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.499		.512	mg/L	103	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.499	.12	.619	mg/L	100	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.499	.12	.621	mg/L	100	85	115	0	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397885													
WG397885ICV	ICV	01/28/16 20:11	WI160127-14	.3003		.2899	mg/L	97	90	110			
WG397885ICB	ICB	01/28/16 20:12				U	mg/L		-0.003	0.003			
WG397887													
WG397864LRB	LRB	01/28/16 20:55				U	mg/L		-0.003	0.003			
WG397864LFB	LFB	01/28/16 20:56	WI160127-12	.2		.1948	mg/L	97	90	110			
L28588-01DUP	DUP	01/28/16 20:58			U	U	mg/L				0	20	RA
L28606-03LFM	LFM	01/28/16 21:00	WI160127-12	.2	U	.1813	mg/L	91	90	110			

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397885													
WG397885ICV	ICV	01/28/16 20:11	WI160127-14	.3003		.2899	mg/L	97	90	110			
WG397885ICB	ICB	01/28/16 20:12				U	mg/L		-0.003	0.003			
WG397846LRB	LRB	01/28/16 20:13				U	mg/L		-0.003	0.003			
WG397846LFB	LFB	01/28/16 20:14	WI160127-10	.2002		.1962	mg/L	98	90	110			
L28608-01DUP	DUP	01/28/16 20:15			U	U	mg/L				0	20	RA
L28608-02LFM	LFM	01/28/16 20:17	WI160127-10	.2002	U	.193	mg/L	96	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397782													
WG397782ICV	ICV	01/27/16 15:18	WC160121-9	2		1.921	mg/L	96	95	105			
WG397782ICB	ICB	01/27/16 15:22				U	mg/L		-0.15	0.15			
WG397782LFB1	LFB	01/27/16 15:29	WC151103-7	5		4.713	mg/L	94	90	110			
L28642-02AS	AS	01/27/16 16:41	WC151103-7	5	.55	5.276	mg/L	95	90	110			
L28642-02DUP	DUP	01/27/16 16:49			.55	.555	mg/L				1	20	
WG397782LFB2	LFB	01/27/16 17:50	WC151103-7	5		4.692	mg/L	94	90	110			
L28657-06AS	AS	01/27/16 18:02	WC151103-7	50	.7	42.86	mg/L	84	90	110			M2
L28657-06DUP	DUP	01/27/16 18:07			.7	1.07	mg/L				42	20	RA

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		2	mg/L	100	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.3	0.3			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1		.94	mg/L	94	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1	U	.96	mg/L	96	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1	U	.99	mg/L	99	85	115	3	20	

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Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.959	mg/L	98	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.06	0.06			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1.0001		1.025	mg/L	102	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1.0001	46.5	44.68	mg/L	-172	85	115			M3
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1.0001	46.5	44.77	mg/L	-163	85	115	0	20	M3

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.05		.04794	mg/L	96	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.0003	0.0003			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.05005		.047	mg/L	94	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.05005	U	.05002	mg/L	100	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.05005	U	.05	mg/L	100	70	130	0	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.05005	.0001	.0478	mg/L	95	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.05005	.0001	.04741	mg/L	95	70	130	1	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		2.0052	mg/L	100	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.024	0.024			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1.001		.9872	mg/L	99	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1.001	U	.9959	mg/L	99	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1.001	U	1.002	mg/L	100	85	115	1	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	100		99.8	mg/L	100	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.6	0.6			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	50.00416		50.91	mg/L	102	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	50.00416	5.7	54.57	mg/L	98	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	50.00416	5.7	55.14	mg/L	99	85	115	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.946	mg/L	97	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.015	0.015			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.499		.5069	mg/L	102	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.499	.039	.5318	mg/L	99	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.499	.039	.5341	mg/L	99	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28657***

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397716													
WG397716ICV	ICV	01/29/16 10:51	II151130-3	.005		.00487	mg/L	97	95	105			
WG397716ICB	ICB	01/29/16 10:53				U	mg/L		-0.0002	0.0002			
WG397878													
WG397878LRB	LRB	01/29/16 15:46				U	mg/L		-0.00044	0.00044			
WG397878LFB	LFB	01/29/16 15:48	II160119-4	.002004		.00202	mg/L	101	85	115			
L28606-11LFM	LFM	01/29/16 15:57	II160119-4	.002004	U	.00201	mg/L	100	85	115			
L28606-11LFMD	LFMD	01/29/16 15:59	II160119-4	.002004	U	.00185	mg/L	92	85	115	8	20	
L28672-01LFM	LFM	01/29/16 16:45	II160119-4	.002004	U	.00193	mg/L	96	85	115			
L28672-01LFMD	LFMD	01/29/16 16:47	II160119-4	.002004	U	.00196	mg/L	98	85	115	2	20	

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386175													
WG386175ICV	ICV	07/01/15 13:07	HG150504-4	10		9.91	ng/L	99	79	121			
WG386175ICB	ICB	07/01/15 13:12				U	ng/L		-0.5	0.5			
WG397985													
WG397985CCV1	CCV	02/01/16 14:39	HG151119-4	10		9.37	ng/L	94	76.5	123.4			
WG397985CCB1	CCB	02/01/16 14:44				U	ng/L		-0.5	0.5			
WG397985PQV	PQV	02/01/16 14:49	HG151119-6	.5		.44	ng/L	88	70	130			
WG397985LFB	LFB	02/01/16 14:54	HG151119-5	2		1.85	ng/L	93	71	125			
WG397985CCV2	CCV	02/01/16 15:39	HG151119-4	10		9.38	ng/L	94	76.5	123.4			
WG397985CCB2	CCB	02/01/16 15:45				U	ng/L		-0.5	0.5			
L28700-01MS	MS	02/01/16 16:00	HG151119-5	2	.6	2.54	ng/L	97	71	125			
L28700-01MSD	MSD	02/01/16 16:05	HG151119-5	2	.6	2.45	ng/L	93	71	125	4	24	
WG397985CCV3	CCV	02/01/16 16:10	HG151119-4	10		9.24	ng/L	92	76.5	123.4			
WG397985CCB3	CCB	02/01/16 16:15				U	ng/L		-0.5	0.5			
WG398201													
WG398201CCV1	CCV	02/05/16 10:28	HG151119-4	10		9.74	ng/L	97	76.5	123.4			
WG398201CCB1	CCB	02/05/16 10:33				U	ng/L		-0.5	0.5			
WG398201PQV	PQV	02/05/16 10:38	HG151119-6	.5		.44	ng/L	88	70	130			
WG398201LFB	LFB	02/05/16 10:43	HG151119-5	2		1.92	ng/L	96	71	125			
L28657-05MS	MS	02/05/16 11:03	HG10XPREP	200	177	196	ng/L	95	71	125			
L28657-05MSD	MSD	02/05/16 11:08	HG10XPREP	200	177	197	ng/L	100	71	125	1	24	
WG398201CCV2	CCV	02/05/16 11:29	HG151119-4	10		9.77	ng/L	98	76.5	123.4			
WG398201CCB2	CCB	02/05/16 11:34				U	ng/L		-0.5	0.5			
WG398201CCV3	CCV	02/05/16 12:29	HG151119-4	10		9.79	ng/L	98	76.5	123.4			
WG398201CCB3	CCB	02/05/16 12:34				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.989	mg/L	99	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.06	0.06			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.4995		.512	mg/L	103	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.4995	.03	.518	mg/L	98	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.4995	.03	.52	mg/L	98	85	115	0	20	

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ACZ Project ID: ***L28657***

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.9898	mg/L	99	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.024	0.024			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.501		.5156	mg/L	103	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.501	.159	.6491	mg/L	98	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.501	.159	.647	mg/L	97	85	115	0	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397933													
WG397933ICV	ICV	01/29/16 19:27	WI160126-5	2.416		2.431	mg/L	101	90	110			
WG397933ICB	ICB	01/29/16 19:28				U	mg/L		-0.02	0.02			
WG397937													
WG397937LFB	LFB	01/29/16 22:24	WI151215-9	2		1.963	mg/L	98	90	110			
L28657-08AS	AS	01/29/16 22:45	WI151215-9	2	.02	2.058	mg/L	102	90	110			
L28657-09DUP	DUP	01/29/16 22:48			.03	.028	mg/L				7	20	RA
L28644-01AS	AS	01/29/16 22:59	WI151215-9	10	6.3	16	mg/L	97	90	110			
L28644-02DUP	DUP	01/29/16 23:01			20.8	20.8	mg/L				0	20	

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397646													
WG397646ICV	ICV	01/25/16 16:07	WI151212-6	11.988		12.31	mg/L	103	90	110			
WG397646ICB	ICB	01/25/16 16:08				U	mg/L		-0.05	0.05			
WG397646LFB	LFB	01/25/16 16:10	WI150204-10	10		10.928	mg/L	109	90	110			
L28657-04AS	AS	01/25/16 16:32	WI150204-10	10	U	10.751	mg/L	108	90	110			
L28657-05DUP	DUP	01/25/16 16:35			.26	.254	mg/L				2	20	RA
WG397817													
WG397817ICV	ICV	01/28/16 10:31	WI151212-6	11.988		12.041	mg/L	100	90	110			
WG397817ICB	ICB	01/28/16 10:33				U	mg/L		-0.05	0.05			
WG397817LFB	LFB	01/28/16 10:34	WI150204-10	10		10.016	mg/L	100	90	110			
L28657-01AS	AS	01/28/16 10:37	WI150204-10	10	U	9.913	mg/L	99	90	110			
L28657-02DUP	DUP	01/28/16 10:40			.07	U	mg/L				200	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397706													
WG397706LCSW1	LCSW	01/26/16 15:48	PCN48559	6.01		6	units	100	5.9	6.1			
WG397706LCSW4	LCSW	01/26/16 18:53	PCN48559	6.01		6.1	units	101	5.9	6.1			
L28657-05DUP	DUP	01/26/16 20:24			5	5.1	units				2	20	
L28665-06DUP	DUP	01/26/16 21:39			7.4	7.4	units				0	20	
WG397706LCSW7	LCSW	01/26/16 21:42	PCN48559	6.01		6	units	100	5.9	6.1			
WG397706LCSW10	LCSW	01/27/16 0:48	PCN48559	6.01		6	units	100	5.9	6.1			

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Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397723													
WG397723ICV	ICV	01/26/16 20:30	WI160106-3	.65228		.672	mg/L	103	90	110			
WG397723ICB	ICB	01/26/16 20:32				U	mg/L		-0.02	0.02			
WG397693LRB	LRB	01/26/16 20:33				U	mg/L		-0.02	0.02			
WG397693LFB	LFB	01/26/16 20:35	WI160112-21	.5		.487	mg/L	97	90	110			
L28657-01LFM	LFM	01/26/16 20:53	WI160112-21	.5	.03	.506	mg/L	95	90	110			
L28657-02DUP	DUP	01/26/16 20:55			.07	.072	mg/L				3	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	20		19.56	mg/L	98	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.6	0.6			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	100.0125		97.84	mg/L	98	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	100.0125	5.3	101.1	mg/L	96	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	100.0125	5.3	102.8	mg/L	97	85	115	2	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397592													
WG397592PBW	PBW	01/23/16 11:00				U	mg/L		-20	20			
WG397592LCSW	LCSW	01/23/16 11:02	PCN49647	260		256	mg/L	98	80	120			
L28657-09DUP	DUP	01/23/16 12:00			148	154	mg/L				4	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.98	mg/L	99	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.3	0.3			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1.0009		1.03	mg/L	103	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1.0009	U	1.01	mg/L	101	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1.0009	U	1.01	mg/L	101	85	115	0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.05		.0496	mg/L	99	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.0003	0.0003			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.0501		.04769	mg/L	95	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.0501	U	.05295	mg/L	106	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.0501	U	.05135	mg/L	102	70	130	3	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.0501	.0006	.05393	mg/L	106	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.0501	.0006	.05366	mg/L	106	70	130	1	20	

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ACZ Project ID: ***L28657***

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	1.001		.976	mg/L	98	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.03	0.03			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.5015		.482	mg/L	96	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.5015	U	.269	mg/L	54	85	115			M2 ZA
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.5015	U	.284	mg/L	57	85	115	5	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	100		96.89	mg/L	97	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.6	0.6			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	100.0581		97.86	mg/L	98	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	100.0581	2.4	98.97	mg/L	97	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	100.0581	2.4	100.5	mg/L	98	85	115	2	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.9685	mg/L	98	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.015	0.015			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.5005		.5068	mg/L	101	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.5005	.471	.9456	mg/L	95	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.5005	.471	.9558	mg/L	97	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397819													
WG397819ICB	ICB	01/28/16 10:40				U	mg/L		-3	3			
WG397819ICV	ICV	01/28/16 10:40	WI160114-1	20		19.2	mg/L	96	90	110			
WG397819LFB	LFB	01/28/16 11:43	WI150904-1	10.01		9.6	mg/L	96	90	110			
L28657-01DUP	DUP	01/28/16 11:50			73.5	74.5	mg/L				1	20	
L28657-02AS	AS	01/28/16 11:56	SO4TURB10X	10	271	291	mg/L	200	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.05		.04851	mg/L	97	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.0003	0.0003			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.0501		.04661	mg/L	93	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.0501	.0001	.05005	mg/L	100	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.0501	.0001	.05043	mg/L	100	70	130	1	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.0501	U	.04743	mg/L	95	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.0501	U	.04646	mg/L	93	70	130	2	20	

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Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		2.019	mg/L	101	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.12	0.12			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1.001		.997	mg/L	100	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1.001	U	.996	mg/L	100	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1.001	U	.996	mg/L	100	85	115	0	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.993	mg/L	100	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.015	0.015			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	1.003		1.005	mg/L	100	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	1.003	.007	1.007	mg/L	100	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	1.003	.007	1.012	mg/L	100	85	115	0	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397990													
WG397990ICV	ICV	02/01/16 15:50	MS151201-3	.05		.05282	mg/L	106	90	110			
WG397990ICB	ICB	02/01/16 15:53				U	mg/L		-0.0003	0.0003			
WG397990LFB	LFB	02/01/16 15:56	MS151223-2	.05		.05152	mg/L	103	85	115			
L28591-02AS	AS	02/01/16 16:05	MS151223-2	.05	.0159	.0755	mg/L	119	70	130			
L28591-02ASD	ASD	02/01/16 16:08	MS151223-2	.05	.0159	.07571	mg/L	120	70	130	0	20	
L28657-07AS	AS	02/01/16 16:55	MS151223-2	.05	U	.05236	mg/L	105	70	130			
L28657-07ASD	ASD	02/01/16 16:58	MS151223-2	.05	U	.05205	mg/L	104	70	130	1	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.9758	mg/L	99	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.015	0.015			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.501		.5074	mg/L	101	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.501	.008	.493	mg/L	97	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.501	.008	.4993	mg/L	98	85	115	1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397702													
WG397702ICV	ICV	01/26/16 21:11	II160105-3	2		1.929	mg/L	96	95	105			
WG397702ICB	ICB	01/26/16 21:17				U	mg/L		-0.03	0.03			
WG397702LFB	LFB	01/26/16 21:29	II160121-2	.4995		.496	mg/L	99	85	115			
L28657-02AS	AS	01/26/16 22:27	II160121-2	.4995	.27	.726	mg/L	91	85	115			
L28657-02ASD	ASD	01/26/16 22:30	II160121-2	.4995	.27	.727	mg/L	91	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-01	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG398201	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG397702	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because 1he concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397817	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-02	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG398201	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG397702	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397817	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-03	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397782	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
	WG397817	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-04	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397646	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-05	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG398201	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG397702	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control Is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397646	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-06	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397782	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397646	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-07	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG398201	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG397702	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397782	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397646	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-08	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397782	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397937	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397646	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L28657***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28657-09	WG397702	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397727	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397887	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397885	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397782	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397937	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397646	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397706	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397723	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397592	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397819	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397706	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L28657
Date Received:	01/21/2016 09:39
Received By:	ddp
Date Printed:	1/21/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	X		

A change was made in the Sample ID, Matrix, Anlyses Requested Line 2 section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L28657-01 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-02 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-03 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-04 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-05 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-06 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-07 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-08 : A Green, Yellow, HG container not received and a new container created from the White .

L28657-09 : A Green, Yellow, HG, Purple container not received

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L28657
Date Received:	01/21/2016 09:39
Received By:	ddp
Date Printed:	1/21/2016

and a new container created from the White .

16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA23263	3.2	<=6.0	12	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc.

L28657

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500	Mercury by 1631E				
CAL-002 (86-95)	1/20/16	WW	1	x			x				
[redacted]											
CAL-003 (675-685)		WW	1	x			x				
GMC-012 (832-851)		WW	1	x			x				
CAL-004 (295-315)		WW	1	x			x				
CAL-001 (750-762)		WW	1	x			x				
GMC-014 (176-184)		WW	1	x			x				
CAL-001 (380-400)		WW	1	x			x				
CAL-002 (177-187)		WW	1	x			x				
Calico Leach Res. after CN Destruct		WW	1	x	x	x	x				

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 8
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	1/20/16 9Am	BLR	1-21-16 9:30

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L28657 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

*****Gray out Analyses DOESN'T get done on all Samples, just 1 of the Sample SEE COC*****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

February 09, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L28697

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 27, 2016. This project has been assigned to ACZ's project number, L28697. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L28697. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 10, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L28697-01***
Date Sampled: *01/26/16 00:00*
Date Received: *01/27/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/02/16 9:16	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.81			mg/L	0.03	0.2	02/01/16 15:56	gss
Antimony, dissolved	M200.8 ICP-MS	5	0.038			mg/L	0.002	0.01	02/04/16 17:33	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0477			mg/L	0.0002	0.001	02/03/16 23:19	mfm
Barium, dissolved	M200.7 ICP	1	0.089			mg/L	0.003	0.02	02/01/16 15:56	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	02/03/16 23:19	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/01/16 15:56	gss
Boron, dissolved	M200.7 ICP	1	0.45			mg/L	0.01	0.05	02/01/16 15:56	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/03/16 23:19	mfm
Calcium, dissolved	M200.7 ICP	1	0.9			mg/L	0.1	0.5	02/01/16 15:56	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/01/16 15:56	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/01/16 15:56	gss
Copper, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	02/01/16 15:56	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/01/16 15:56	gss
Iron, dissolved	M200.7 ICP	1	0.75			mg/L	0.02	0.05	02/01/16 15:56	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	02/03/16 23:19	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/01/16 15:56	gss
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	02/01/16 15:56	gss
Manganese, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	02/01/16 15:56	gss
Mercury, dissolved	M245.1 CVAA	1	0.0030			mg/L	0.0002	0.001	02/06/16 14:55	pta
Molybdenum, dissolved	M200.7 ICP	1	0.05	B		mg/L	0.02	0.1	02/02/16 17:33	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/01/16 15:56	gss
Potassium, dissolved	M200.7 ICP	1	1.6			mg/L	0.2	1	02/01/16 15:56	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/01/16 15:56	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0051			mg/L	0.0001	0.0003	02/03/16 23:19	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/02/16 17:33	gss
Sodium, dissolved	M200.7 ICP	1	21.5			mg/L	0.2	1	02/01/16 15:56	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/01/16 15:56	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/03/16 23:19	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/01/16 15:56	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/01/16 15:56	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	02/03/16 23:19	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/01/16 15:56	gss
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	02/01/16 15:56	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L28697-01***
Date Sampled: *01/26/16 00:00*
Date Received: *01/27/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	23.0			mg/L	2	20	01/29/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/29/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/29/16 0:00	sck
Total Alkalinity		1	23.0		*	mg/L	2	20	01/29/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			02/09/16 0:00	calc
Sum of Anions			1.2			meq/L			02/09/16 0:00	calc
Sum of Cations			1.2			meq/L			02/09/16 0:00	calc
Chloride	SM4500Cl-E	1	0.7	B		mg/L	0.5	2	02/01/16 9:12	krh
Conductivity @25C	SM2510B	1	117		*	umhos/cm	1	10	01/29/16 15:46	sck
Fluoride	SM4500F-C	1	0.75		*	mg/L	0.05	0.3	02/01/16 13:25	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		3.5	B		mg/L	0.2	5	02/09/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.24		*	mg/L	0.02	0.1	02/04/16 23:26	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.06	B		mg/L	0.05	0.2	02/02/16 13:12	krh
pH (lab)	SM4500H+ B									
pH		1	7.8	H	*	units	0.1	0.1	01/29/16 0:00	sck
pH measured at		1	23.2			C	0.1	0.1	01/29/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.06		*	mg/L	0.02	0.05	02/03/16 21:22	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	150		*	mg/L	10	20	01/28/16 10:50	emk
Sulfate	D516-02/-07 - Turbidimetric	1	30.9		*	mg/L	1	5	02/01/16 14:30	krh
TDS (calculated)	Calculation		72.4			mg/L			02/09/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.07						02/09/16 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for Instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L28697***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397906													
WG397906PBW1	PBW	01/29/16 14:48				U	mg/L		-20	20			
WG397906LCSW3	LCSW	01/29/16 15:06	WC160127-1	820.0001		808	mg/L	99	90	110			
L28709-05DUP	DUP	01/29/16 16:53			57	56.5	mg/L				1	20	
WG397906LCSW6	LCSW	01/29/16 18:40	WC160127-1	820.0001		824	mg/L	100	90	110			
WG397906PBW2	PBW	01/29/16 18:48				U	mg/L		-20	20			
WG397906LCSW9	LCSW	01/29/16 22:00	WC160127-1	820.0001		827	mg/L	101	90	110			
WG397906PBW3	PBW	01/29/16 22:08				U	mg/L		-20	20			
WG397906LCSW12	LCSW	01/30/16 1:25	WC160127-1	820.0001		838	mg/L	102	90	110			
WG397906PBW4	PBW	01/30/16 1:33				U	mg/L		-20	20			
WG397906LCSW15	LCSW	01/30/16 4:37	WC160127-1	820.0001		845	mg/L	103	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		2.061	mg/L	103	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.09	0.09			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	1.0013		1.004	mg/L	100	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	1.0013	.05	1.11	mg/L	106	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	1.0013	.05	1.08	mg/L	103	85	115	3	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398186													
WG398186ICV	ICV	02/04/16 17:23	MS151201-3	.02		.01816	mg/L	91	90	110			
WG398186ICB	ICB	02/04/16 17:25				U	mg/L		-0.0012	0.0012			
WG398186LFB	LFB	02/04/16 17:27	MS151223-2	.01001		.01042	mg/L	104	85	115			
L28768-03AS	AS	02/04/16 17:53	MS151223-2	.02002	U	.02306	mg/L	115	70	130			
L28768-03ASD	ASD	02/04/16 17:55	MS151223-2	.02002	U	.02501	mg/L	125	70	130	8	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398125													
WG398125ICV	ICV	02/03/16 21:59	MS151201-3	.05		.05276	mg/L	106	90	110			
WG398125ICB	ICB	02/03/16 22:02				U	mg/L		-0.0006	0.0006			
WG398125LFB	LFB	02/03/16 22:05	MS151223-2	.0501		.05224	mg/L	104	85	115			
L28589-01AS	AS	02/03/16 22:55	MS151223-2	.0501	.0002	.0591	mg/L	118	70	130			
L28589-01ASD	ASD	02/03/16 22:58	MS151223-2	.0501	.0002	.05906	mg/L	117	70	130	0	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		1.9478	mg/L	97	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.009	0.009			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	.5		.4846	mg/L	97	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	.5	.036	.5295	mg/L	99	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	.5	.036	.5297	mg/L	99	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28697***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398125													
WG398125ICV	ICV	02/03/16 21:59	MS151201-3	.05		.04878	mg/L	98	90	110			
WG398125ICB	ICB	02/03/16 22:02				U	mg/L		-0.00015	0.00015			
WG398125LFB	LFB	02/03/16 22:05	MS151223-2	.0501		.0479	mg/L	96	85	115			
L28589-01AS	AS	02/03/16 22:55	MS151223-2	.0501	U	.05312	mg/L	106	70	130			
L28589-01ASD	ASD	02/03/16 22:58	MS151223-2	.0501	U	.0535	mg/L	107	70	130	1	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		2.019	mg/L	101	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.12	0.12			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	1		.984	mg/L	98	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	1	U	1.001	mg/L	100	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	1	U	.983	mg/L	98	85	115	2	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		2.02	mg/L	101	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.03	0.03			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	.5005		.516	mg/L	103	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	.5005	U	.514	mg/L	103	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	.5005	U	.51	mg/L	102	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398125													
WG398125ICV	ICV	02/03/16 21:59	MS151201-3	.05		.05157	mg/L	103	90	110			
WG398125ICB	ICB	02/03/16 22:02				U	mg/L		-0.0003	0.0003			
WG398125LFB	LFB	02/03/16 22:05	MS151223-2	.05005		.04998	mg/L	100	85	115			
L28589-01AS	AS	02/03/16 22:55	MS151223-2	.05005	U	.05281	mg/L	106	70	130			
L28589-01ASD	ASD	02/03/16 22:58	MS151223-2	.05005	U	.05312	mg/L	106	70	130	1	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	100		98.91	mg/L	99	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.3	0.3			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	68.01261		68.54	mg/L	101	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	68.01261	30.6	100.5	mg/L	103	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	68.01261	30.6	98.25	mg/L	99	85	115	2	20	

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Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397950													
WG397950ICB	ICB	02/01/16 9:00				U	mg/L		-1.5	1.5			
WG397950ICV	ICV	02/01/16 9:00	WI150701-4	55.055		56.6	mg/L	103	90	110			
WG397950LFB1	LFB	02/01/16 9:12	WI150826-7	29.97		30.67	mg/L	102	90	110			
L28697-01AS	AS	02/01/16 9:12	WI150826-7	29.97	.7	31.68	mg/L	103	90	110			
L28702-01DUP	DUP	02/01/16 9:12			64.4	64.6	mg/L				0	20	
WG397950LFB2	LFB	02/01/16 9:27	WI150826-7	29.97		31.01	mg/L	103	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		1.976	mg/L	99	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.03	0.03			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	.5005		.489	mg/L	98	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	.5005	U	.498	mg/L	100	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	.5005	U	.491	mg/L	98	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2.002		1.93	mg/L	96	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.03	0.03			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	.5005		.5	mg/L	100	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	.5005	U	.497	mg/L	99	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	.5005	U	.495	mg/L	99	85	115	0	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397906													
WG397906LCSW2	LCSW	01/29/16 14:53	PCN48869	1408		1430	umhos/cm	102	90	110			
L28709-05DUP	DUP	01/29/16 16:53			133	132	umhos/cm				1	20	
WG397906LCSW5	LCSW	01/29/16 18:27	PCN48869	1408		1390	umhos/cm	99	90	110			
WG397906LCSW8	LCSW	01/29/16 21:47	PCN48869	1408		1390	umhos/cm	99	90	110			
WG397906LCSW11	LCSW	01/30/16 1:12	PCN48869	1408		1380	umhos/cm	98	90	110			
WG397906LCSW14	LCSW	01/30/16 4:24	PCN48869	1408		1350	umhos/cm	96	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		1.957	mg/L	98	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.03	0.03			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	.499		.492	mg/L	99	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	.499	U	.504	mg/L	101	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	.499	U	.503	mg/L	101	85	115	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L28697***

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397966													
WG397966ICV	ICV	02/01/16 10:44	WC160121-9	2		1.893	mg/L	95	95	105			
WG397966ICB	ICB	02/01/16 10:48				.071	mg/L		-0.15	0.15			
WG397967													
WG397967ICV	ICV	02/01/16 13:11	WC160201-7	2		1.928	mg/L	96	95	105			
WG397967ICB	ICB	02/01/16 13:15				.058	mg/L		-0.15	0.15			
WG397967LFB1	LFB	02/01/16 13:22	WC151103-7	5		4.691	mg/L	94	90	110			
L28702-01AS	AS	02/01/16 13:32	WC151103-7	5	1.26	5.669	mg/L	88	90	110			M2
L28702-01DUP	DUP	02/01/16 13:36			1.26	1.268	mg/L				1	20	
WG397967LFB2	LFB	02/01/16 15:17	WC151103-7	5		4.649	mg/L	93	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		2.01	mg/L	101	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.3	0.3			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	1		.93	mg/L	93	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	1	U	.98	mg/L	98	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	1	U	.95	mg/L	95	85	115	3	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		1.95	mg/L	98	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.06	0.06			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	1.0001		.988	mg/L	99	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	1.0001	U	1.006	mg/L	101	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	1.0001	U	.994	mg/L	99	85	115	1	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398125													
WG398125ICV	ICV	02/03/16 21:59	MS151201-3	.05		.05151	mg/L	103	90	110			
WG398125ICB	ICB	02/03/16 22:02				U	mg/L		-0.0003	0.0003			
WG398125LFB	LFB	02/03/16 22:05	MS151223-2	.05005		.04931	mg/L	99	85	115			
L28589-01AS	AS	02/03/16 22:55	MS151223-2	.05005	U	.05033	mg/L	101	70	130			
L28589-01ASD	ASD	02/03/16 22:58	MS151223-2	.05005	U	.0506	mg/L	101	70	130	1	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		2.014	mg/L	101	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.024	0.024			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	1.001		.9587	mg/L	96	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	1.001	U	.9814	mg/L	98	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	1.001	U	.9669	mg/L	97	85	115	1	20	

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Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	100		98.3	mg/L	98	95	105			
WG397989ICB	ICB	02/01/16 15:23				.21	mg/L		-0.6	0.6			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	50.00416		48.23	mg/L	96	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	50.00416	4.8	54.36	mg/L	99	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	50.00416	4.8	53.41	mg/L	97	85	115	2	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		1.938	mg/L	97	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.015	0.015			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	.499		.4901	mg/L	98	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	.499	U	.4917	mg/L	99	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	.499	U	.4881	mg/L	98	85	115	1	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398169													
WG398169ICV	ICV	02/06/16 14:27	II151130-3	.005		.0049	mg/L	98	95	105			
WG398169ICB	ICB	02/06/16 14:29				U	mg/L		-0.0002	0.0002			
WG398169LRB	LRB	02/06/16 14:31				U	mg/L		-0.00044	0.00044			
WG398169LFB	LFB	02/06/16 14:33	II160129-2	.002004		.00184	mg/L	92	85	115			
L25103-32LFM	LFM	02/06/16 14:40	II160129-2	.002004	U	.00182	mg/L	91	85	115			
L25103-32LFMD	LFMD	02/06/16 14:43	II160129-2	.002004	U	.0018	mg/L	90	85	115	1	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398046													
WG398046ICV	ICV	02/02/16 16:58	II160105-3	2		1.974	mg/L	99	95	105			
WG398046ICB	ICB	02/02/16 17:04				U	mg/L		-0.06	0.06			
WG398046LFB	LFB	02/02/16 17:17	II160121-2	.4995		.498	mg/L	100	85	115			
L28690-02AS	AS	02/02/16 17:27	II160121-2	.4995	U	.493	mg/L	99	85	115			
L28690-02ASD	ASD	02/02/16 17:30	II160121-2	.4995	U	.491	mg/L	98	85	115	0	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		1.973	mg/L	99	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.024	0.024			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	.501		.5102	mg/L	102	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	.501	U	.5088	mg/L	102	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	.501	U	.5054	mg/L	101	85	115	1	20	

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Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398191													
WG398191ICV	ICV	02/04/16 18:27	WI160126-5	2.416		2.474	mg/L	102	90	110			
WG398191ICB	ICB	02/04/16 18:28				U	mg/L		-0.02	0.02			
WG398198													
WG398198LFB	LFB	02/04/16 23:25	WI151215-9	2		2.008	mg/L	100	90	110			
L28697-01AS	AS	02/04/16 23:27	WI151215-9	2	.24	2.244	mg/L	100	90	110			
L28717-01DUP	DUP	02/04/16 23:30			.13	.13	mg/L				0	20	RA

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398000													
WG398000ICV	ICV	02/02/16 13:02	WI151212-6	11.988		11.952	mg/L	100	90	110			
WG398000ICB	ICB	02/02/16 13:04				U	mg/L		-0.05	0.05			
WG398000LFB1	LFB	02/02/16 13:05	WI150204-10	10		9.251	mg/L	93	90	110			
L28621-02AS	AS	02/02/16 13:08	WI150204-10	10	.74	10.745	mg/L	100	90	110			
L28692-01DUP	DUP	02/02/16 13:11			4.84	4.861	mg/L				0	20	
WG398000ICV1	ICV	02/02/16 14:51	WI151212-6	11.988		12.093	mg/L	101	90	110			
WG398000ICB1	ICB	02/02/16 14:53				U	mg/L		-0.05	0.05			
WG398000LFB2	LFB	02/02/16 15:18	WI150204-10	10		9.994	mg/L	100	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397906													
WG397906LCSW1	LCSW	01/29/16 14:52	PCN48559	6.01		6	units	100	5.9	6.1			
L28709-05DUP	DUP	01/29/16 16:53			8.1	8.1	units				0	20	
WG397906LCSW4	LCSW	01/29/16 18:26	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG397906LCSW7	LCSW	01/29/16 21:46	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG397906LCSW10	LCSW	01/30/16 1:11	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG397906LCSW13	LCSW	01/30/16 4:22	PCN48559	6.01		6.1	units	101	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398130													
WG398130ICV	ICV	02/03/16 21:16	WI160106-3	.65228		.694	mg/L	106	90	110			
WG398130ICB	ICB	02/03/16 21:18				U	mg/L		-0.02	0.02			
WG398004LRB	LRB	02/03/16 21:19				U	mg/L		-0.02	0.02			
WG398004LFB	LFB	02/03/16 21:21	WI160129-2	.5		.488	mg/L	98	90	110			
L28697-01LFM	LFM	02/03/16 21:23	WI160129-2	.5	.06	.552	mg/L	98	90	110			
L28717-13DUP	DUP	02/03/16 21:25			.08	.076	mg/L				5	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	20		19.33	mg/L	97	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.6	0.6			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	100.0125		94.19	mg/L	94	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	100.0125	.7	97.77	mg/L	97	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	100.0125	.7	95.93	mg/L	95	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28697***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397844													
WG397844PBW	PBW	01/28/16 10:45				14	mg/L		-20	20			
WG397844LCSW	LCSW	01/28/16 10:47	PCN49646	260		274	mg/L	105	80	120			
L28717-10DUP	DUP	01/28/16 11:16			42	46	mg/L				9	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		1.97	mg/L	99	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.3	0.3			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	1.0009		.97	mg/L	97	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	1.0009	U	1	mg/L	100	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	1.0009	U	.98	mg/L	98	85	115	2	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398125													
WG398125ICV	ICV	02/03/16 21:59	MS151201-3	.05		.05136	mg/L	103	90	110			
WG398125ICB	ICB	02/03/16 22:02				U	mg/L		-0.0003	0.0003			
WG398125LFB	LFB	02/03/16 22:05	MS151223-2	.0501		.05013	mg/L	100	85	115			
L28589-01AS	AS	02/03/16 22:55	MS151223-2	.0501	U	.05635	mg/L	112	70	130			
L28589-01ASD	ASD	02/03/16 22:58	MS151223-2	.0501	U	.05964	mg/L	119	70	130	6	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398046													
WG398046ICV	ICV	02/02/16 16:58	II160105-3	1.001		.97	mg/L	97	95	105			
WG398046ICB	ICB	02/02/16 17:04				U	mg/L		-0.03	0.03			
WG398046LFB	LFB	02/02/16 17:17	II160121-2	.5015		.468	mg/L	93	85	115			
L28690-02AS	AS	02/02/16 17:27	II160121-2	.5015	U	.396	mg/L	79	85	115			M2 ZA
L28690-02ASD	ASD	02/02/16 17:30	II160121-2	.5015	U	.404	mg/L	81	85	115	2	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	100		95.95	mg/L	96	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.6	0.6			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	100.0581		93.94	mg/L	94	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	100.0581	4	101.1	mg/L	97	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	100.0581	4	99.25	mg/L	95	85	115	2	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		1.9578	mg/L	98	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.015	0.015			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	.5005		.4868	mg/L	97	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	.5005	.134	.6353	mg/L	100	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	.5005	.134	.6232	mg/L	98	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L28697***

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397984													
WG397984ICB	ICB	02/01/16 14:20				U	mg/L		-3	3			
WG397984ICV	ICV	02/01/16 14:20	WI160201-1	20		20.5	mg/L	103	90	110			
L28689-01DUP	DUP	02/01/16 14:39			5320	5170	mg/L				3	20	
WG397984LFB	LFB	02/01/16 14:41	WI160201-3	10.01		11	mg/L	110	90	110			
L28689-02AS	AS	02/01/16 15:05	SO4TURB	10.0000008	4550	4630	mg/L	800	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398125													
WG398125ICV	ICV	02/03/16 21:59	MS151201-3	.05		.05329	mg/L	107	90	110			
WG398125ICB	ICB	02/03/16 22:02				U	mg/L		-0.0003	0.0003			
WG398125LFB	LFB	02/03/16 22:05	MS151223-2	.0501		.05139	mg/L	103	85	115			
L28589-01AS	AS	02/03/16 22:55	MS151223-2	.0501	U	.05277	mg/L	105	70	130			
L28589-01ASD	ASD	02/03/16 22:58	MS151223-2	.0501	U	.05271	mg/L	105	70	130	0	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		2.032	mg/L	102	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.12	0.12			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	1.001		.963	mg/L	96	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	1.001	U	.973	mg/L	97	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	1.001	U	.991	mg/L	99	85	115	2	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		1.997	mg/L	100	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.015	0.015			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	1.003		.9699	mg/L	97	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	1.003	U	.9956	mg/L	99	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	1.003	U	.98	mg/L	98	85	115	2	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398125													
WG398125ICV	ICV	02/03/16 21:59	MS151201-3	.05		.05346	mg/L	107	90	110			
WG398125ICB	ICB	02/03/16 22:02				U	mg/L		-0.0003	0.0003			
WG398125LFB	LFB	02/03/16 22:05	MS151223-2	.05		.05184	mg/L	104	85	115			
L28589-01AS	AS	02/03/16 22:55	MS151223-2	.05	U	.05352	mg/L	107	70	130			
L28589-01ASD	ASD	02/03/16 22:58	MS151223-2	.05	U	.05398	mg/L	108	70	130	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L28697***

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		1.997	mg/L	100	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.015	0.015			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	.501		.4925	mg/L	98	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	.501	U	.5121	mg/L	102	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	.501	U	.5028	mg/L	100	85	115	2	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG397989													
WG397989ICV	ICV	02/01/16 15:17	II160105-3	2		1.965	mg/L	98	95	105			
WG397989ICB	ICB	02/01/16 15:23				U	mg/L		-0.03	0.03			
WG397989LFB	LFB	02/01/16 15:35	II160121-2	.4995		.485	mg/L	97	85	115			
L28690-02AS	AS	02/01/16 15:50	II160121-2	.4995	U	.507	mg/L	102	85	115			
L28690-02ASD	ASD	02/01/16 15:53	II160121-2	.4995	U	.49	mg/L	98	85	115	3	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L28697***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L28697-01	WG398046	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG397906	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG397967	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG398198	Nitrate/Nitnte as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397906	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG398130	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397844	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG397984	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG397906	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L28697
Date Received: 01/27/2016 09:35
Received By: ddp
Date Printed: 1/27/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L28697-01 : A Green, Yellow container not received and a new container created from the White .

16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA23285	1.2	<=6.0	13	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L28697
Date Received:	01/27/2016 09:35
Received By:	ddp
Date Printed:	1/27/2016

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L28697

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:

Project/PO #: 3981

Reporting state for compliance testing:

Sampler's Name: Robert

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-004 (860-875)	1/26/16	WW	1	x							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC-2 WK: 8
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	1/26/16 9AM	[signature]	1/27/16 0930

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L28697 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

****Gray out Analyses DOESN'T get done on all Samples, Just 1 of the Sample SEE COC****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

February 29, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L29021

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 18, 2016. This project has been assigned to ACZ's project number, L29021. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L29021. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 30, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACCREDITED IN ACCORDANCE WITH nelac

ACIL

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L29021-01***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/22/16 12:13	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	3.10			mg/L	0.03	0.2	02/20/16 18:26	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0135			mg/L	0.0004	0.002	02/25/16 20:41	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0278			mg/L	0.0002	0.001	02/25/16 20:41	msh
Barium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.003	0.02	02/20/16 18:26	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00117			mg/L	0.00005	0.0003	02/25/16 20:41	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/20/16 18:26	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 18:26	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	02/25/16 20:41	msh
Calcium, dissolved	M200.7 ICP	1	5.7			mg/L	0.1	0.5	02/20/16 18:26	aeb
Chromium, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	02/23/16 14:53	aeb
Cobalt, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	02/20/16 18:26	aeb
Copper, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	02/20/16 18:26	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 18:26	aeb
Iron, dissolved	M200.7 ICP	1	22.70		*	mg/L	0.02	0.05	02/20/16 18:26	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	02/25/16 20:41	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/20/16 18:26	aeb
Magnesium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	02/20/16 18:26	aeb
Manganese, dissolved	M200.7 ICP	1	0.085			mg/L	0.005	0.03	02/20/16 18:26	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	02/26/16 12:57	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/20/16 18:26	aeb
Nickel, dissolved	M200.7 ICP	1	0.330			mg/L	0.008	0.04	02/20/16 18:26	aeb
Potassium, dissolved	M200.7 ICP	1	1.2			mg/L	0.2	1	02/20/16 18:26	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 18:26	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0001	0.0003	02/25/16 20:41	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/20/16 18:26	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	02/20/16 18:26	aeb
Strontium, dissolved	M200.7 ICP	1	0.034			mg/L	0.005	0.03	02/20/16 18:26	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0094			mg/L	0.0001	0.0005	02/25/16 20:41	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/20/16 18:26	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/20/16 18:26	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0062			mg/L	0.0001	0.0005	02/25/16 20:41	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 18:26	aeb
Zinc, dissolved	M200.7 ICP	1	0.25			mg/L	0.01	0.05	02/20/16 18:26	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L29021-01***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Carbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Hydroxide as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-7.3			%			02/29/16 0:00	calc
Sum of Anions			2.2			meq/L			02/29/16 0:00	calc
Sum of Cations			1.9			meq/L			02/29/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/25/16 18:01	mss2
Conductivity @25C	SM2510B	1	289		*	umhos/cm	1	10	02/19/16 19:18	sck
Fluoride	SM4500F-C	200	10	B	*	mg/L	10	50	02/27/16 11:42	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		16			mg/L	0.2	5	02/29/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	02/26/16 22:16	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/24/16 13:22	mss2
pH (lab)	SM4500H+ B									
pH		1	3.7	H	*	units	0.1	0.1	02/19/16 0:00	sck
pH measured at		1	20.9		*	C	0.1	0.1	02/19/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.02	0.05	02/24/16 10:50	spl
Residue, Filterable (TDS) @180C	SM2540C	1	132		*	mg/L	10	20	02/22/16 14:29	emk
Sulfate	D516-02/-07 - Turbidimetric	5	80.5		*	mg/L	5	25	02/23/16 16:22	spl
TDS (calculated)	Calculation		124			mg/L			02/29/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.06						02/29/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L29021-02***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/22/16 12:20	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.16	B		mg/L	0.03	0.2	02/20/16 18:30	aeb
Antimony, dissolved	M200.8 ICP-MS	2	0.0274			mg/L	0.0008	0.004	02/29/16 12:07	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0198			mg/L	0.0002	0.001	02/25/16 20:44	msh
Barium, dissolved	M200.7 ICP	1	0.040			mg/L	0.003	0.02	02/20/16 18:30	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	02/25/16 20:44	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/20/16 18:30	aeb
Boron, dissolved	M200.7 ICP	1	0.22			mg/L	0.01	0.05	02/20/16 18:30	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/25/16 20:44	msh
Calcium, dissolved	M200.7 ICP	1	0.5			mg/L	0.1	0.5	02/20/16 18:30	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/23/16 14:57	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 18:30	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 18:30	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 18:30	aeb
Iron, dissolved	M200.7 ICP	1	0.08		*	mg/L	0.02	0.05	02/20/16 18:30	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	02/25/16 20:44	msh
Lithium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.008	0.04	02/20/16 18:30	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	02/20/16 18:30	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 18:30	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	02/26/16 12:59	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/20/16 18:30	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/20/16 18:30	aeb
Potassium, dissolved	M200.7 ICP	1	3.2			mg/L	0.2	1	02/20/16 18:30	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 18:30	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0054			mg/L	0.0001	0.0003	02/25/16 20:44	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/20/16 18:30	aeb
Sodium, dissolved	M200.7 ICP	1	29.1			mg/L	0.2	1	02/20/16 18:30	aeb
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 18:30	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	02/25/16 20:44	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/20/16 18:30	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/20/16 18:30	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/25/16 20:44	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 18:30	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 18:30	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L29021-02***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	10.2	B	*	mg/L	2	20	02/19/16 0:00	sck
Carbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Hydroxide as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Total Alkalinity		1	10.2	B	*	mg/L	2	20	02/19/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-6.7			%			02/29/16 0:00	calc
Sum of Anions			1.6			meq/L			02/29/16 0:00	calc
Sum of Cations			1.4			meq/L			02/29/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/25/16 18:01	mss2
Conductivity @25C	SM2510B	1	177		*	umhos/cm	1	10	02/19/16 19:26	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	02/27/16 11:51	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.3	B		mg/L	0.2	5	02/29/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B	*	mg/L	0.02	0.1	02/26/16 22:19	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/25/16 11:32	spl
pH (lab)	SM4500H+ B									
pH		1	7.5	H	*	units	0.1	0.1	02/19/16 0:00	sck
pH measured at		1	20.7		*	C	0.1	0.1	02/19/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	02/24/16 10:51	spl
Residue, Filterable (TDS) @180C	SM2540C	1	106		*	mg/L	10	20	02/22/16 14:31	emk
Sulfate	D516-02/-07 - Turbidimetric	5	65.2		*	mg/L	5	25	02/23/16 16:22	spl
TDS (calculated)	Calculation		104			mg/L			02/29/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.02						02/29/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L29021-03***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/22/16 12:27	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	8.78			mg/L	0.03	0.2	02/20/16 18:33	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0020			mg/L	0.0004	0.002	02/25/16 20:48	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.1945			mg/L	0.0002	0.001	02/25/16 20:48	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	02/20/16 18:33	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00460			mg/L	0.00005	0.0003	02/25/16 20:48	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/20/16 18:33	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 18:33	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0005	02/25/16 20:48	msh
Calcium, dissolved	M200.7 ICP	1	48.2			mg/L	0.1	0.5	02/20/16 18:33	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/23/16 15:06	aeb
Cobalt, dissolved	M200.7 ICP	1	0.25			mg/L	0.01	0.05	02/20/16 18:33	aeb
Copper, dissolved	M200.7 ICP	1	0.30			mg/L	0.01	0.05	02/20/16 18:33	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 18:33	aeb
Iron, dissolved	M200.7 ICP	1	79.30		*	mg/L	0.02	0.05	02/20/16 18:33	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	02/25/16 20:48	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/20/16 18:33	aeb
Magnesium, dissolved	M200.7 ICP	1	7.8			mg/L	0.2	1	02/20/16 18:33	aeb
Manganese, dissolved	M200.7 ICP	1	0.067			mg/L	0.005	0.03	02/20/16 18:33	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	02/26/16 13:01	pta
Molybdenum, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.02	0.1	02/20/16 18:33	aeb
Nickel, dissolved	M200.7 ICP	1	0.243			mg/L	0.008	0.04	02/20/16 18:33	aeb
Potassium, dissolved	M200.7 ICP	1	5.1			mg/L	0.2	1	02/20/16 18:33	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 18:33	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0003	02/25/16 20:48	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/20/16 18:33	aeb
Sodium, dissolved	M200.7 ICP	1	2.2			mg/L	0.2	1	02/20/16 18:33	aeb
Strontium, dissolved	M200.7 ICP	1	0.505			mg/L	0.005	0.03	02/20/16 18:33	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0043			mg/L	0.0001	0.0005	02/25/16 20:48	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/20/16 18:33	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/20/16 18:33	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0056			mg/L	0.0001	0.0005	02/25/16 20:48	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 18:33	aeb
Zinc, dissolved	M200.7 ICP	1	0.35			mg/L	0.01	0.05	02/20/16 18:33	aeb

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L29021-03***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Carbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Hydroxide as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-5.6			%			02/29/16 0:00	calc
Sum of Anions			9.5			meq/L			02/29/16 0:00	calc
Sum of Cations			8.5			meq/L			02/29/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/25/16 18:01	mss2
Conductivity @25C	SM2510B	1	1410		*	umhos/cm	1	10	02/19/16 19:30	sck
Fluoride	SM4500F-C	400		U	*	mg/L	20	100	02/27/16 12:18	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		152			mg/L	0.2	5	02/29/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B	*	mg/L	0.02	0.1	02/26/16 22:21	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/25/16 11:35	spl
pH (lab)	SM4500H+ B									
pH		1	2.6	H	*	units	0.1	0.1	02/19/16 0:00	sck
pH measured at		1	21.0		*	C	0.1	0.1	02/19/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.13		*	mg/L	0.02	0.05	02/24/16 10:52	spl
Residue, Filterable (TDS) @180C	SM2540C	2	1240		*	mg/L	20	40	02/22/16 14:34	emk
Sulfate	D516-02/-07 - Turbidimetric	20	452		*	mg/L	20	100	02/23/16 16:35	spl
TDS (calculated)	Calculation		605			mg/L			02/29/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.05						02/29/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L29021-04***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/22/16 12:34	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	4.69			mg/L	0.03	0.2	02/20/16 18:36	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0004	0.002	02/25/16 20:51	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.1214			mg/L	0.0002	0.001	02/25/16 20:51	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	02/20/16 18:36	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00055			mg/L	0.00005	0.0003	02/25/16 20:51	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/20/16 18:36	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 18:36	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	02/25/16 20:51	msh
Calcium, dissolved	M200.7 ICP	1	26.9			mg/L	0.1	0.5	02/20/16 18:36	aeb
Chromium, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	02/23/16 15:09	aeb
Cobalt, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	02/20/16 18:36	aeb
Copper, dissolved	M200.7 ICP	1	0.23			mg/L	0.01	0.05	02/20/16 18:36	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 18:36	aeb
Iron, dissolved	M200.7 ICP	1	38.70		*	mg/L	0.02	0.05	02/20/16 18:36	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	02/25/16 20:51	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/20/16 18:36	aeb
Magnesium, dissolved	M200.7 ICP	1	0.9	B		mg/L	0.2	1	02/20/16 18:36	aeb
Manganese, dissolved	M200.7 ICP	1	0.097			mg/L	0.005	0.03	02/20/16 18:36	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	02/26/16 13:03	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/20/16 18:36	aeb
Nickel, dissolved	M200.7 ICP	1	0.074			mg/L	0.008	0.04	02/20/16 18:36	aeb
Potassium, dissolved	M200.7 ICP	1	2			mg/L	0.2	1	02/20/16 18:36	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 18:36	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0001	0.0003	02/25/16 20:51	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/20/16 18:36	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	02/20/16 18:36	aeb
Strontium, dissolved	M200.7 ICP	1	0.018	B		mg/L	0.005	0.03	02/20/16 18:36	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	02/25/16 20:51	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/20/16 18:36	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/20/16 18:36	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0199			mg/L	0.0001	0.0005	02/25/16 20:51	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 18:36	aeb
Zinc, dissolved	M200.7 ICP	1	0.20			mg/L	0.01	0.05	02/20/16 18:36	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L29021-04***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Carbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Hydroxide as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-12.8			%			02/29/16 0:00	calc
Sum of Anions			5.3			meq/L			02/29/16 0:00	calc
Sum of Cations			4.1			meq/L			02/29/16 0:00	calc
Chloride	SM4500Cl-E	1	3		*	mg/L	0.5	2	02/25/16 18:01	mss2
Conductivity @25C	SM2510B	1	1230		*	umhos/cm	1	10	02/19/16 19:38	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	02/27/16 12:29	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		71			mg/L	0.2	5	02/29/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B	*	mg/L	0.02	0.1	02/26/16 22:27	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/25/16 11:38	spl
pH (lab)	SM4500H+ B									
pH		1	2.7	H	*	units	0.1	0.1	02/19/16 0:00	sck
pH measured at		1	21.4		*	C	0.1	0.1	02/19/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.08		*	mg/L	0.02	0.05	02/24/16 10:53	spl
Residue, Filterable (TDS) @180C	SM2540C	1	308		*	mg/L	10	20	02/22/16 14:37	emk
Sulfate	D516-02/-07 - Turbidimetric	10	249		*	mg/L	10	50	02/23/16 16:35	spl
TDS (calculated)	Calculation		326			mg/L			02/29/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.94						02/29/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L29021-05***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/22/16 12:42	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.67			mg/L	0.03	0.2	02/20/16 18:45	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0020			mg/L	0.0004	0.002	02/25/16 20:54	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0062			mg/L	0.0002	0.001	02/25/16 20:54	msh
Barium, dissolved	M200.7 ICP	1	0.022			mg/L	0.003	0.02	02/20/16 18:45	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00174			mg/L	0.00005	0.0003	02/25/16 20:54	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/20/16 18:45	aeb
Boron, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	02/20/16 18:45	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	02/25/16 20:54	msh
Calcium, dissolved	M200.7 ICP	1	22			mg/L	0.1	0.5	02/20/16 18:45	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/23/16 15:12	aeb
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	02/20/16 18:45	aeb
Copper, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	02/20/16 18:45	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 18:45	aeb
Iron, dissolved	M200.7 ICP	1	2.15		*	mg/L	0.02	0.05	02/20/16 18:45	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	02/25/16 20:54	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/20/16 18:45	aeb
Magnesium, dissolved	M200.7 ICP	1	4.3			mg/L	0.2	1	02/20/16 18:45	aeb
Manganese, dissolved	M200.7 ICP	1	0.279			mg/L	0.005	0.03	02/20/16 18:45	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	02/26/16 13:05	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/20/16 18:45	aeb
Nickel, dissolved	M200.7 ICP	1	0.035	B		mg/L	0.008	0.04	02/20/16 18:45	aeb
Potassium, dissolved	M200.7 ICP	1	6.5			mg/L	0.2	1	02/20/16 18:45	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 18:45	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0003	02/25/16 20:54	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/20/16 18:45	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	02/20/16 18:45	aeb
Strontium, dissolved	M200.7 ICP	1	0.060			mg/L	0.005	0.03	02/20/16 18:45	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	02/25/16 20:54	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/20/16 18:45	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/20/16 18:45	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	02/25/16 20:54	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 18:45	aeb
Zinc, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	02/20/16 18:45	aeb

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L29021-05***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Carbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Hydroxide as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-7.7			%			02/29/16 0:00	calc
Sum of Anions			2.1			meq/L			02/29/16 0:00	calc
Sum of Cations			1.8			meq/L			02/29/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/25/16 19:06	mss2
Conductivity @25C	SM2510B	1	268		*	umhos/cm	1	10	02/19/16 19:42	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	02/27/16 12:41	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		73			mg/L	0.2	5	02/29/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	02/26/16 22:28	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/25/16 11:40	spl
pH (lab)	SM4500H+ B									
pH		1	4.0	H	*	units	0.1	0.1	02/19/16 0:00	sck
pH measured at		1	21.5		*	C	0.1	0.1	02/19/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	02/24/16 10:56	spl
Residue, Filterable (TDS) @180C	SM2540C	1	166		*	mg/L	10	20	02/22/16 14:39	emk
Sulfate	D516-02/-07 - Turbidimetric	5	99.5		*	mg/L	5	25	02/23/16 16:22	spl
TDS (calculated)	Calculation		136			mg/L			02/29/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.22						02/29/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L29021-06***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/22/16 12:49	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	02/20/16 18:49	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	02/25/16 20:57	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0002	0.001	02/25/16 20:57	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	02/20/16 18:49	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	02/25/16 20:57	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/20/16 18:49	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 18:49	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/25/16 20:57	msh
Calcium, dissolved	M200.7 ICP	1	2.9			mg/L	0.1	0.5	02/20/16 18:49	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/23/16 15:15	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 18:49	aeb
Copper, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	02/20/16 18:49	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 18:49	aeb
Iron, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.02	0.05	02/20/16 18:49	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	02/25/16 20:57	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/20/16 18:49	aeb
Magnesium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	02/20/16 18:49	aeb
Manganese, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.005	0.03	02/20/16 18:49	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	02/26/16 13:15	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/20/16 18:49	aeb
Nickel, dissolved	M200.7 ICP	1	0.020	B		mg/L	0.008	0.04	02/20/16 18:49	aeb
Potassium, dissolved	M200.7 ICP	1	4.1			mg/L	0.2	1	02/20/16 18:49	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 18:49	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0122			mg/L	0.0001	0.0003	02/25/16 20:57	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/20/16 18:49	aeb
Sodium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	02/20/16 18:49	aeb
Strontium, dissolved	M200.7 ICP	1	0.030			mg/L	0.005	0.03	02/20/16 18:49	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	02/25/16 20:57	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/20/16 18:49	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/20/16 18:49	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/25/16 20:57	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 18:49	aeb
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	02/20/16 18:49	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L29021-06***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Carbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Hydroxide as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-15.7			%			02/29/16 0:00	calc
Sum of Anions			0.442	B		meq/L			02/29/16 0:00	calc
Sum of Cations			0.322	B		meq/L			02/29/16 0:00	calc
Chloride	SM4500Cl-E	1	0.7	B	*	mg/L	0.5	2	02/25/16 18:08	mss2
Conductivity @25C	SM2510B	1	61.6		*	umhos/cm	1	10	02/19/16 19:47	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	02/27/16 12:52	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		9.3			mg/L	0.2	5	02/29/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B	*	mg/L	0.02	0.1	02/26/16 22:29	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.15	B	*	mg/L	0.05	0.2	02/25/16 11:41	spl
pH (lab)	SM4500H+ B									
pH		1	4.8	H	*	units	0.1	0.1	02/19/16 0:00	sck
pH measured at		1	21.2		*	C	0.1	0.1	02/19/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	02/24/16 10:57	spl
Residue, Filterable (TDS) @180C	SM2540C	1	30		*	mg/L	10	20	02/22/16 14:42	emk
Sulfate	D516-02/-07 - Turbidimetric	1	20.1		*	mg/L	1	5	02/23/16 16:16	spl
TDS (calculated)	Calculation		28.9			mg/L			02/29/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.04						02/29/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L29021-07***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/22/16 12:56	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	9.18			mg/L	0.03	0.2	02/20/16 18:52	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0004	0.002	02/25/16 21:07	msh
Arsenic, dissolved	M200.8 ICP-MS	5	0.643			mg/L	0.001	0.005	02/29/16 12:10	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	02/20/16 18:52	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00468			mg/L	0.00005	0.0003	02/25/16 21:07	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/20/16 18:52	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 18:52	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0001	0.0005	02/25/16 21:07	msh
Calcium, dissolved	M200.7 ICP	1	19.1			mg/L	0.1	0.5	02/20/16 18:52	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/23/16 15:19	aeb
Cobalt, dissolved	M200.7 ICP	1	0.13			mg/L	0.01	0.05	02/20/16 18:52	aeb
Copper, dissolved	M200.7 ICP	1	0.21			mg/L	0.01	0.05	02/20/16 18:52	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 18:52	aeb
Iron, dissolved	M200.7 ICP	1	63.50		*	mg/L	0.02	0.05	02/20/16 18:52	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0041			mg/L	0.0001	0.0005	02/25/16 21:07	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/20/16 18:52	aeb
Magnesium, dissolved	M200.7 ICP	1	2.9			mg/L	0.2	1	02/20/16 18:52	aeb
Manganese, dissolved	M200.7 ICP	1	0.232			mg/L	0.005	0.03	02/20/16 18:52	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	02/26/16 13:17	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/20/16 18:52	aeb
Nickel, dissolved	M200.7 ICP	1	0.146			mg/L	0.008	0.04	02/20/16 18:52	aeb
Potassium, dissolved	M200.7 ICP	1	6.5			mg/L	0.2	1	02/20/16 18:52	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 18:52	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0003	02/25/16 21:07	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/20/16 18:52	aeb
Sodium, dissolved	M200.7 ICP	1	0.9	B		mg/L	0.2	1	02/20/16 18:52	aeb
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 18:52	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0001	0.0005	02/25/16 21:07	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/20/16 18:52	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/20/16 18:52	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0001	0.0005	02/25/16 21:07	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 18:52	aeb
Zinc, dissolved	M200.7 ICP	1	0.88			mg/L	0.01	0.05	02/20/16 18:52	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L29021-07***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Carbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Hydroxide as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.5			%			02/29/16 0:00	calc
Sum of Anions			6.1			meq/L			02/29/16 0:00	calc
Sum of Cations			5.8			meq/L			02/29/16 0:00	calc
Chloride	SM4500Cl-E	1	1.3	B	*	mg/L	0.5	2	02/25/16 18:08	mss2
Conductivity @25C	SM2510B	1	1040		*	umhos/cm	1	10	02/19/16 19:52	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	02/27/16 13:03	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		60			mg/L	0.2	5	02/29/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B	*	mg/L	0.02	0.1	02/26/16 22:30	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/25/16 11:43	spl
pH (lab)	SM4500H+ B									
pH		1	2.8	H	*	units	0.1	0.1	02/19/16 0:00	sck
pH measured at		1	21.0		*	C	0.1	0.1	02/19/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.14		*	mg/L	0.02	0.05	02/24/16 10:59	spl
Residue, Filterable (TDS) @180C	SM2540C	2	464		*	mg/L	20	40	02/22/16 14:44	emk
Sulfate	D516-02/-07 - Turbidimetric	10	288		*	mg/L	10	50	02/23/16 16:35	spl
TDS (calculated)	Calculation		393			mg/L			02/29/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.18						02/29/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L29021-08***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/22/16 13:03	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	02/20/16 19:01	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0004	0.002	02/25/16 21:10	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0288			mg/L	0.0002	0.001	02/25/16 21:10	msh
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	02/20/16 19:01	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	02/25/16 21:10	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/20/16 19:01	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 19:01	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/25/16 21:10	msh
Calcium, dissolved	M200.7 ICP	1	2.9			mg/L	0.1	0.5	02/20/16 19:01	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/23/16 15:28	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 19:01	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 19:01	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 19:01	aeb
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.05	02/20/16 19:01	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/25/16 21:10	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/20/16 19:01	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	02/20/16 19:01	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 19:01	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	02/26/16 13:19	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/20/16 19:01	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/20/16 19:01	aeb
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	02/20/16 19:01	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 19:01	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	02/25/16 21:10	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/20/16 19:01	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	02/20/16 19:01	aeb
Strontium, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.005	0.03	02/20/16 19:01	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/25/16 21:10	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/20/16 19:01	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/20/16 19:01	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/25/16 21:10	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 19:01	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 19:01	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L29021-08***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	5.7	B	*	mg/L	2	20	02/19/16 0:00	sck
Carbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Hydroxide as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Total Alkalinity		1	5.7	B	*	mg/L	2	20	02/19/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			02/29/16 0:00	calc
Sum of Anions			0.135	B		meq/L			02/29/16 0:00	calc
Sum of Cations			0.145	B		meq/L			02/29/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/25/16 18:08	mss2
Conductivity @25C	SM2510B	1	22.1		*	umhos/cm	1	10	02/19/16 20:00	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	02/27/16 13:21	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		7.2			mg/L	0.2	5	02/29/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	02/26/16 22:32	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/25/16 11:44	spl
pH (lab)	SM4500H+ B									
pH		1	7.1	H	*	units	0.1	0.1	02/19/16 0:00	sck
pH measured at		1	20.7		*	C	0.1	0.1	02/19/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	02/24/16 11:00	spl
Residue, Filterable (TDS) @180C	SM2540C	1	20		*	mg/L	10	20	02/23/16 10:35	sck
Sulfate	D516-02/-07 - Turbidimetric	1	1.0	B	*	mg/L	1	5	02/23/16 16:17	spl
TDS (calculated)	Calculation		7.39			mg/L			02/29/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.71						02/29/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L29021-09***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/22/16 13:10	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	02/20/16 19:05	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0012	B		mg/L	0.0004	0.002	02/25/16 21:13	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0040			mg/L	0.0002	0.001	02/25/16 21:13	msh
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	02/20/16 19:05	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	02/25/16 21:13	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/20/16 19:05	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 19:05	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/25/16 21:13	msh
Calcium, dissolved	M200.7 ICP	1	1.2			mg/L	0.1	0.5	02/20/16 19:05	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/23/16 15:31	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 19:05	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 19:05	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 19:05	aeb
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.05	02/20/16 19:05	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/25/16 21:13	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/20/16 19:05	aeb
Magnesium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	02/20/16 19:05	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 19:05	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	02/26/16 13:21	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/20/16 19:05	aeb
Nickel, dissolved	M200.7 ICP	1	0.076			mg/L	0.008	0.04	02/20/16 19:05	aeb
Potassium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	02/20/16 19:05	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 19:05	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0034			mg/L	0.0001	0.0003	02/25/16 21:13	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/20/16 19:05	aeb
Sodium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	02/20/16 19:05	aeb
Strontium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.005	0.03	02/20/16 19:05	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	02/25/16 21:13	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/20/16 19:05	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/20/16 19:05	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/25/16 21:13	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 19:05	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 19:05	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L29021-09***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Carbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Hydroxide as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			02/29/16 0:00	calc
Sum of Anions			0.124	B		meq/L			02/29/16 0:00	calc
Sum of Cations			0.105	B		meq/L			02/29/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/25/16 18:08	mss2
Conductivity @25C	SM2510B	1	22.6		*	umhos/cm	1	10	02/19/16 20:06	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	02/25/16 13:56	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		3.8	B		mg/L	0.2	5	02/29/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	02/26/16 22:33	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/25/16 11:49	spl
pH (lab)	SM4500H+ B									
pH		1	5.6	H	*	units	0.1	0.1	02/19/16 0:00	sck
pH measured at		1	20.9		*	C	0.1	0.1	02/19/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	02/24/16 11:01	spl
Residue, Filterable (TDS) @180C	SM2540C	1	18	B	*	mg/L	10	20	02/23/16 10:37	sck
Sulfate	D516-02/-07 - Turbidimetric	1	5.9		*	mg/L	1	5	02/23/16 16:58	spl
TDS (calculated)	Calculation		8.11			mg/L			02/29/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.22						02/29/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L29021-10***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								02/25/16 14:08	krh
Cyanide, WAD	SM4500-CN I- distillation				*				02/25/16 11:10	krh
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/22/16 13:25	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.55			mg/L	0.03	0.2	02/20/16 19:08	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	02/25/16 21:16	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0002	0.001	02/25/16 21:16	msh
Barium, dissolved	M200.7 ICP	1	0.054			mg/L	0.003	0.02	02/20/16 19:08	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00174			mg/L	0.00005	0.0003	02/25/16 21:16	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/20/16 19:08	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/20/16 19:08	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0005	02/25/16 21:16	msh
Calcium, dissolved	M200.7 ICP	1	14.8			mg/L	0.1	0.5	02/20/16 19:08	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/23/16 15:34	aeb
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	02/20/16 19:08	aeb
Copper, dissolved	M200.7 ICP	1	4.09			mg/L	0.01	0.05	02/20/16 19:08	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 19:08	aeb
Iron, dissolved	M200.7 ICP	1	0.85		*	mg/L	0.02	0.05	02/20/16 19:08	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	02/25/16 21:16	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/20/16 19:08	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	02/20/16 19:08	aeb
Manganese, dissolved	M200.7 ICP	1	0.253			mg/L	0.005	0.03	02/20/16 19:08	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	02/26/16 13:23	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/20/16 19:08	aeb
Nickel, dissolved	M200.7 ICP	1	0.045			mg/L	0.008	0.04	02/20/16 19:08	aeb
Potassium, dissolved	M200.7 ICP	1	2.8			mg/L	0.2	1	02/20/16 19:08	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/20/16 19:08	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0034			mg/L	0.0001	0.0003	02/25/16 21:16	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/20/16 19:08	aeb
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	02/20/16 19:08	aeb
Strontium, dissolved	M200.7 ICP	1	0.086			mg/L	0.005	0.03	02/20/16 19:08	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	02/25/16 21:16	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/20/16 19:08	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/20/16 19:08	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	02/25/16 21:16	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/20/16 19:08	aeb
Zinc, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	02/20/16 19:08	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L29021-10***
Date Sampled: *02/17/16 00:00*
Date Received: *02/18/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Carbonate as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Hydroxide as CaCO3		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	02/19/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			02/29/16 0:00	calc
Sum of Anions			1.1			meq/L			02/29/16 0:00	calc
Sum of Cations			1.1			meq/L			02/29/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/25/16 18:08	mss2
Conductivity @25C	SM2510B	1	175		*	umhos/cm	1	10	02/19/16 20:10	sck
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.018		*	mg/L	0.003	0.01	02/25/16 23:39	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	02/25/16 20:41	pjb
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	02/25/16 14:10	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		37			mg/L	0.2	5	02/29/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	02/26/16 22:34	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.15	B	*	mg/L	0.05	0.2	02/25/16 11:50	spl
pH (lab)	SM4500H+ B									
pH		1	4.1	H	*	units	0.1	0.1	02/19/16 0:00	sck
pH measured at		1	21.0		*	C	0.1	0.1	02/19/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	02/24/16 11:03	spl
Residue, Filterable (TDS) @180C	SM2540C	1	136		*	mg/L	10	20	02/23/16 10:40	sck
Sulfate	D516-02/-07 - Turbidimetric	5	51.7		*	mg/L	5	25	02/23/16 17:04	spl
TDS (calculated)	Calculation		75.9			mg/L			02/29/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.79						02/29/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of Interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L29021***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398870													
WG398870PBW1	PBW	02/19/16 14:14				U	mg/L		-20	20			
WG398870LCSW3	LCSW	02/19/16 14:31	WC160127-1	820.0001		810	mg/L	99	90	110			
WG398870LCSW6	LCSW	02/19/16 18:11	WC160127-1	820.0001		825	mg/L	101	90	110			
WG398870PBW2	PBW	02/19/16 18:19				U	mg/L		-20	20			
L29021-03DUP	DUP	02/19/16 19:34			U	U	mg/L				0	20	RA
L29023-02DUP	DUP	02/19/16 20:42			132	132	mg/L				0	20	
WG398870LCSW9	LCSW	02/19/16 21:00	WC160127-1	820.0001		824	mg/L	100	90	110			
WG398870PBW3	PBW	02/19/16 21:08				U	mg/L		-20	20			
WG398870LCSW12	LCSW	02/20/16 3:01	WC160127-1	820.0001		823	mg/L	100	90	110			
WG398870PBW4	PBW	02/20/16 3:11				2.2	mg/L		-20	20			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.994	mg/L	100	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.09	0.09			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	1.0013		.979	mg/L	98	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	1.0013	4.69	5.639	mg/L	95	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	1.0013	4.69	5.591	mg/L	90	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399203													
WG399203ICV	ICV	02/25/16 19:47	MS151201-3	.02		.01957	mg/L	98	90	110			
WG399203ICB	ICB	02/25/16 19:50				U	mg/L		-0.0012	0.0012			
WG399203LFB	LFB	02/25/16 19:53	MS151223-2	.01001		.00992	mg/L	99	85	115			
L29021-10AS	AS	02/25/16 21:19	MS151223-2	.01001	U	.01035	mg/L	103	70	130			
L29021-10ASD	ASD	02/25/16 21:23	MS151223-2	.01001	U	.01051	mg/L	105	70	130	2	20	
WG399303													
WG399303ICV	ICV	02/29/16 11:26	MS151201-3	.02		.01901	mg/L	95	90	110			
WG399303ICB	ICB	02/29/16 11:29				U	mg/L		-0.0012	0.0012			
WG399303LFB	LFB	02/29/16 11:32	MS151223-2	.01001		.0102	mg/L	102	85	115			
L29015-02AS	AS	02/29/16 11:45	MS151223-2	.05005	U	.0505	mg/L	101	70	130			
L29015-02ASD	ASD	02/29/16 11:48	MS151223-2	.05005	U	.0518	mg/L	103	70	130	3	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L29021***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399203													
WG399203ICV	ICV	02/25/16 19:47	MS151201-3	.05		.05224	mg/L	104	90	110			
WG399203ICB	ICB	02/25/16 19:50				U	mg/L		-0.0006	0.0006			
WG399203LFB	LFB	02/25/16 19:53	MS151223-2	.0501		.05084	mg/L	101	85	115			
L29021-10AS	AS	02/25/16 21:19	MS151223-2	.0501	.0013	.0533	mg/L	104	70	130			
L29021-10ASD	ASD	02/25/16 21:23	MS151223-2	.0501	.0013	.05324	mg/L	104	70	130	0	20	
WG399303													
WG399303ICV	ICV	02/29/16 11:26	MS151201-3	.05		.05241	mg/L	105	90	110			
WG399303ICB	ICB	02/29/16 11:29				U	mg/L		-0.0006	0.0006			
WG399303LFB	LFB	02/29/16 11:32	MS151223-2	.0501		.05085	mg/L	101	85	115			
L29015-02AS	AS	02/29/16 11:45	MS151223-2	.2505	U	.2547	mg/L	102	70	130			
L29015-02ASD	ASD	02/29/16 11:48	MS151223-2	.2505	U	.2542	mg/L	101	70	130	0	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.9145	mg/L	96	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.009	0.009			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	.5		.4979	mg/L	100	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	.5	U	.4901	mg/L	98	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	.5	U	.4878	mg/L	98	85	115	0	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399203													
WG399203ICV	ICV	02/25/16 19:47	MS151201-3	.05		.04601	mg/L	92	90	110			
WG399203ICB	ICB	02/25/16 19:50				U	mg/L		-0.00015	0.00015			
WG399203LFB	LFB	02/25/16 19:53	MS151223-2	.0501		.0459	mg/L	92	85	115			
L29021-10AS	AS	02/25/16 21:19	MS151223-2	.0501	.00174	.0494	mg/L	95	70	130			
L29021-10ASD	ASD	02/25/16 21:23	MS151223-2	.0501	.00174	.04976	mg/L	96	70	130	1	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.977	mg/L	99	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.12	0.12			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	1		.978	mg/L	98	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	1	U	.98	mg/L	98	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	1	U	.973	mg/L	97	85	115	1	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.968	mg/L	98	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.03	0.03			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	.5005		.505	mg/L	101	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	.5005	U	.52	mg/L	104	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	.5005	U	.527	mg/L	105	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L29021***

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399203													
WG399203ICV	ICV	02/25/16 19:47	MS151201-3	.05		.04937	mg/L	99	90	110			
WG399203ICB	ICB	02/25/16 19:50				U	mg/L		-0.0003	0.0003			
WG399203LFB	LFB	02/25/16 19:53	MS151223-2	.05005		.04885	mg/L	98	85	115			
L29021-10AS	AS	02/25/16 21:19	MS151223-2	.05005	.001	.05047	mg/L	99	70	130			
L29021-10ASD	ASD	02/25/16 21:23	MS151223-2	.05005	.001	.05085	mg/L	100	70	130	1	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	100		102.55	mg/L	103	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.3	0.3			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	67.97118		70.62	mg/L	104	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	67.97118	26.9	96.87	mg/L	103	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	67.97118	26.9	96.13	mg/L	102	85	115	1	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399221													
WG399221ICB	ICB	02/25/16 17:38				U	mg/L		-1.5	1.5			
WG399221ICV	ICV	02/25/16 17:38	WI150701-4	55.055		56.23	mg/L	102	90	110			
WG399221LFB1	LFB	02/25/16 18:00	WI150826-7	29.97		30.6	mg/L	102	90	110			
L29019-01AS	AS	02/25/16 18:00	WI150826-7	29.97	17.2	47.54	mg/L	101	90	110			
L29021-06AS	AS	02/25/16 18:08	WI150826-7	29.97	.7	31.92	mg/L	104	90	110			
WG399221LFB2	LFB	02/25/16 18:09	WI150826-7	29.97		30.36	mg/L	101	90	110			
L28985-01DUP	DUP	02/25/16 18:12			200	199.3	mg/L				0	20	
L29021-05DUP	DUP	02/25/16 19:06			U	U	mg/L				0	20	RA

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399005													
WG399005ICV	ICV	02/23/16 14:32	II160209-1	2		1.983	mg/L	99	95	105			
WG399005ICB	ICB	02/23/16 14:38				U	mg/L		-0.03	0.03			
WG399005LFB	LFB	02/23/16 14:50	II160220-2	.5005		.527	mg/L	105	85	115			
L29021-02AS	AS	02/23/16 15:00	II160220-2	.5005	U	.533	mg/L	106	85	115			
L29021-02ASD	ASD	02/23/16 15:03	II160220-2	.5005	U	.529	mg/L	106	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2.002		1.901	mg/L	95	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.03	0.03			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	.5005		.506	mg/L	101	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	.5005	.05	.547	mg/L	99	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	.5005	.05	.543	mg/L	99	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L29021***

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398870													
WG398870LCSW2	LCSW	02/19/16 14:19	PCN48848	1408		1520	umhos/cm	108	90	110			
WG398870LCSW5	LCSW	02/19/16 17:58	PCN48848	1408		1480	umhos/cm	105	90	110			
L29021-03DUP	DUP	02/19/16 19:34			1410	1490	umhos/cm				6	20	
L29023-02DUP	DUP	02/19/16 20:42			3260	3230	umhos/cm				1	20	
WG398870LCSW8	LCSW	02/19/16 20:47	PCN48848	1408		1490	umhos/cm	106	90	110			
WG398870LCSW14	LCSW	02/20/16 7:32	PCN48848	1408		1390	umhos/cm	99	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.923	mg/L	96	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.03	0.03			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	.499		.51	mg/L	102	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	.499	.23	.723	mg/L	99	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	.499	.23	.717	mg/L	98	85	115	1	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399226													
WG399226ICV	ICV	02/25/16 23:30	WI160211-12	.3003		.2791	mg/L	93	90	110			
WG399226ICB	ICB	02/25/16 23:31				U	mg/L		-0.003	0.003			
WG399152LRB	LRB	02/25/16 23:32				U	mg/L		-0.003	0.003			
WG399152LFB	LFB	02/25/16 23:33	WI160211-14	.2		.1982	mg/L	99	90	110			
L29007-07DUP	DUP	02/25/16 23:35			U	U	mg/L				0	20	RA
L29007-08LFM	LFM	02/25/16 23:37	WI160211-14	.2	U	.2004	mg/L	100	90	110			

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399225													
WG399225ICV	ICV	02/25/16 20:31	WI160211-12	.3003		.2741	mg/L	91	90	110			
WG399225ICB	ICB	02/25/16 20:32				U	mg/L		-0.003	0.003			
WG399151LRB	LRB	02/25/16 20:33				U	mg/L		-0.003	0.003			
WG399151LFB	LFB	02/25/16 20:34	WI160211-11	.2002		.1892	mg/L	95	90	110			
L29005-05DUP	DUP	02/25/16 20:35			U	U	mg/L				0	20	RA
L29005-06LFM	LFM	02/25/16 20:37	WI160211-11	.2002	U	.1899	mg/L	95	90	110			

McClelland Laboratories, Inc. ACZ Project ID: ***L29021***

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399171													
WG399171ICV	ICV	02/25/16 12:21	WC160212-1	2		1.937	mg/L	97	95	105			
WG399171ICB	ICB	02/25/16 12:26				.066	mg/L		-0.15	0.15			
WG399171LFB1	LFB	02/25/16 12:33	WC151103-7	5		4.882	mg/L	98	90	110			
L29021-09AS	AS	02/25/16 14:00	WC151103-7	200	U	201.9	mg/L	101	90	110			
L29021-09DUP	DUP	02/25/16 14:05			U	2.3	mg/L				200	20	RA
WG399171LFB2	LFB	02/25/16 15:02	WC151103-7	5		4.905	mg/L	98	90	110			
WG399285													
WG399285ICV	ICV	02/27/16 11:26	WC160226-7	2		1.946	mg/L	97	95	105			
WG399285ICB	ICB	02/27/16 11:30				.083	mg/L		-0.15	0.15			
WG399285LFB	LFB	02/27/16 11:37	WC151103-7	5		4.933	mg/L	99	90	110			
L29021-02AS	AS	02/27/16 11:59	WC151103-7	1000	U	964	mg/L	96	90	110			
L29021-02DUP	DUP	02/27/16 12:08			U	U	mg/L				0	20	RA

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		2.04	mg/L	102	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.3	0.3			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	1		1.02	mg/L	102	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	1	U	1.03	mg/L	103	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	1	U	1.01	mg/L	101	85	115	2	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.926	mg/L	96	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.06	0.06			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	1.0001		1.015	mg/L	101	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	1.0001	38.7	38.38	mg/L	-32	85	115			M3
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	1.0001	38.7	38.16	mg/L	-54	85	115	1	20	M3

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399203													
WG399203ICV	ICV	02/25/16 19:47	MS151201-3	.05		.04965	mg/L	99	90	110			
WG399203ICB	ICB	02/25/16 19:50				U	mg/L		-0.0003	0.0003			
WG399203LFB	LFB	02/25/16 19:53	MS151223-2	.05005		.04717	mg/L	94	85	115			
L29021-10AS	AS	02/25/16 21:19	MS151223-2	.05005	.0004	.04961	mg/L	98	70	130			
L29021-10ASD	ASD	02/25/16 21:23	MS151223-2	.05005	.0004	.04945	mg/L	98	70	130	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L29021***

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.9715	mg/L	99	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.024	0.024			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	1.002		.975	mg/L	97	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	1.002	U	.9684	mg/L	97	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	1.002	U	.9643	mg/L	96	85	115	0	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	100		99.94	mg/L	100	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.6	0.6			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	50.00605		49.52	mg/L	99	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	50.00605	.9	50.53	mg/L	99	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	50.00605	.9	50.09	mg/L	98	85	115	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.9285	mg/L	96	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.015	0.015			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	.499		.5042	mg/L	101	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	.499	.097	.6017	mg/L	101	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	.499	.097	.5963	mg/L	100	85	115	1	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399044													
WG399044ICV	ICV	02/26/16 9:11	II151130-3	.005		.00482	mg/L	96	95	105			
WG399044ICB	ICB	02/26/16 9:13				U	mg/L		-0.0002	0.0002			
WG399187													
WG399187LRB	LRB	02/26/16 12:25				U	mg/L		-0.00044	0.00044			
WG399187LFB	LFB	02/26/16 12:27	HG160224-2	.002004		.00195	mg/L	97	85	115			
L29021-05LFM	LFM	02/26/16 13:07	HG160224-2	.002004	U	.00185	mg/L	92	85	115			
L29021-05LFMD	LFMD	02/26/16 13:13	HG160224-2	.002004	U	.00191	mg/L	95	85	115	3	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.974	mg/L	99	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.06	0.06			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	.4995		.495	mg/L	99	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	.4995	U	.499	mg/L	100	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	.4995	U	.5	mg/L	100	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L29021***

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.9692	mg/L	98	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.024	0.024			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	.501		.5227	mg/L	104	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	.501	.074	.5865	mg/L	102	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	.501	.074	.5852	mg/L	102	85	115	0	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399275													
WG399275ICV	ICV	02/26/16 21:51	WI160126-5	2.416		2.444	mg/L	101	90	110			
WG399275ICB	ICB	02/26/16 21:52				U	mg/L		-0.02	0.02			
WG399275LFB	LFB	02/26/16 21:56	WI151215-9	2		1.898	mg/L	95	90	110			
L29021-01AS	AS	02/26/16 22:17	WI151215-9	2	.03	.368	mg/L	17	90	110			M2
L29021-02DUP	DUP	02/26/16 22:20			.06	.061	mg/L				2	20	RA

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399091													
WG399091ICV	ICV	02/24/16 10:15	WI160202-6	11.988		12.276	mg/L	102	90	110			
WG399091ICB	ICB	02/24/16 10:16				U	mg/L		-0.05	0.05			
WG399111													
WG399111LFB	LFB	02/24/16 12:57	WI150204-10	10		10.95	mg/L	110	90	110			
L29020-01DUP	DUP	02/24/16 13:20			U	U	mg/L				0	20	RA
L29021-01AS	AS	02/24/16 13:23	WI150204-10	10	U	11.233	mg/L	112	90	110			M1
WG399175													
WG399175ICV	ICV	02/25/16 11:28	WI160202-6	11.988		12.533	mg/L	105	90	110			
WG399175ICB	ICB	02/25/16 11:29				U	mg/L		-0.05	0.05			
WG399175LFB1	LFB	02/25/16 11:31	WI150204-10	10		10.062	mg/L	101	90	110			
L29021-02AS	AS	02/25/16 11:34	WI150204-10	10	U	10.266	mg/L	103	90	110			
L29021-03DUP	DUP	02/25/16 11:37			U	U	mg/L				0	20	RA
WG399175LFB2	LFB	02/25/16 12:13	WI150204-10	10		9.919	mg/L	99	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398870													
WG398870LCSW1	LCSW	02/19/16 14:17	PCN48559	6.01		6	units	100	5.9	6.1			
WG398870LCSW4	LCSW	02/19/16 17:57	PCN48559	6.01		6.1	units	101	5.9	6.1			
L29021-03DUP	DUP	02/19/16 19:34			2.6	2.6	units				0	20	
L29023-02DUP	DUP	02/19/16 20:42			7.3	7.4	units				1	20	
WG398870LCSW7	LCSW	02/19/16 20:46	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG398870LCSW10	LCSW	02/20/16 2:48	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG398870LCSW13	LCSW	02/20/16 7:30	PCN48559	6.01		6.1	units	101	5.9	6.1			

McClelland Laboratories, Inc. ACZ Project ID: ***L29021***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399101													
WG399101ICV	ICV	02/24/16 9:55	WI160106-3	.65228		.716	mg/L	110	90	110			
WG399101ICB	ICB	02/24/16 9:57				U	mg/L		-0.02	0.02			
WG399102													
WG398945LRB	LRB	02/24/16 10:43				U	mg/L		-0.02	0.02			
WG398945LFB	LFB	02/24/16 10:44	WI160216-2	.5		.456	mg/L	91	90	110			
L29006-01LFM	LFM	02/24/16 10:47	WI160216-2	.5	.03	.482	mg/L	90	90	110			
L29016-01DUP	DUP	02/24/16 10:49			.02	.024	mg/L				18	20	RA
L29021-09LFM	LFM	02/24/16 11:02	WI160216-2	.5	U	.447	mg/L	89	90	110			M2
L29021-10DUP	DUP	02/24/16 11:04			U	U	mg/L				0	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	20		19.51	mg/L	98	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.6	0.6			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	100.0377		96.39	mg/L	96	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	100.0377	2	98	mg/L	96	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	100.0377	2	97.6	mg/L	96	85	115	0	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398963													
WG398963PBW	PBW	02/22/16 14:03				U	mg/L		-20	20			
WG398963LCSW	LCSW	02/22/16 14:05	PCN50240	260		258	mg/L	99	80	120			
L29019-05DUP	DUP	02/22/16 14:26			1370	1390	mg/L				1	10	
L29056-01DUP	DUP	02/22/16 15:03			700	690	mg/L				1	10	
WG398998													
WG398998PBW	PBW	02/23/16 10:30				U	mg/L		-20	20			
WG398998LCSW	LCSW	02/23/16 10:32	PCN50240	260		266	mg/L	102	80	120			
L29024-04DUP	DUP	02/23/16 11:01			2430	2430	mg/L				0	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.95	mg/L	98	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.3	0.3			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	1.0009		1.02	mg/L	102	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	1.0009	U	1	mg/L	100	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	1.0009	U	.99	mg/L	99	85	115	1	20	

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ACZ Project ID: ***L29021***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399203													
WG399203ICV	ICV	02/25/16 19:47	MS151201-3	.05		.05017	mg/L	100	90	110			
WG399203ICB	ICB	02/25/16 19:50				.00015	mg/L		-0.0003	0.0003			
WG399203LFB	LFB	02/25/16 19:53	MS151223-2	.0501		.04798	mg/L	96	85	115			
L29021-10AS	AS	02/25/16 21:19	MS151223-2	.0501	.0034	.05085	mg/L	95	70	130			
L29021-10ASD	ASD	02/25/16 21:23	MS151223-2	.0501	.0034	.05055	mg/L	94	70	130	1	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	1.001		.982	mg/L	98	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.03	0.03			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	.5015		.507	mg/L	101	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	.5015	U	.349	mg/L	70	85	115			M2 ZA
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	.5015	U	.344	mg/L	69	85	115	1	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	100		101.1	mg/L	101	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.6	0.6			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	100.0235		99.17	mg/L	99	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	100.0235	U	98.96	mg/L	99	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	100.0235	U	98.19	mg/L	98	85	115	1	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.9408	mg/L	97	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.015	0.015			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	.5		.4874	mg/L	97	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	.5	.018	.5054	mg/L	97	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	.5	.018	.5016	mg/L	97	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399031													
WG399031ICB	ICB	02/23/16 11:44				U	mg/L		-3	3			
WG399031ICV	ICV	02/23/16 11:44	WI160223-2	20		20.5	mg/L	103	90	110			
WG399031LFB	LFB	02/23/16 15:11	WI160201-3	10.01		10.5	mg/L	105	90	110			
L29021-01AS	AS	02/23/16 16:22	SO4TURB5X	10	80.5	94.3	mg/L	138	90	110			M3
L29019-05DUP	DUP	02/23/16 16:48			788	798	mg/L				1	20	
WG399034													
WG399034ICB	ICB	02/23/16 11:44				U	mg/L		-3	3			
WG399034ICV	ICV	02/23/16 11:44	WI160223-2	20		20.5	mg/L	103	90	110			
WG399034LFB	LFB	02/23/16 16:58	WI160201-3	10.01		10.5	mg/L	105	90	110			
L29021-09DUP	DUP	02/23/16 16:59			5.9	5.7	mg/L				3	20	RA
L29021-10AS	AS	02/23/16 17:04	SO4TURB5X	10	51.7	65.4	mg/L	137	90	110			M3

McClelland Laboratories, Inc. ACZ Project ID: ***L29021***

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399203													
WG399203ICV	ICV	02/25/16 19:47	MS151201-3	.05		.05273	mg/L	105	90	110			
WG399203ICB	ICB	02/25/16 19:50				U	mg/L		-0.0003	0.0003			
WG399203LFB	LFB	02/25/16 19:53	MS151223-2	.0501		.05044	mg/L	101	85	115			
L29021-10AS	AS	02/25/16 21:19	MS151223-2	.0501	.0012	.05307	mg/L	104	70	130			
L29021-10ASD	ASD	02/25/16 21:23	MS151223-2	.0501	.0012	.05263	mg/L	103	70	130	1	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.961	mg/L	98	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.12	0.12			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	1.001		.949	mg/L	95	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	1.001	U	.952	mg/L	95	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	1.001	U	.957	mg/L	96	85	115	1	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.9988	mg/L	100	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.015	0.015			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	1.003		1.008	mg/L	100	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	1.003	U	1.003	mg/L	100	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	1.003	U	.9948	mg/L	99	85	115	1	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG399203													
WG399203ICV	ICV	02/25/16 19:47	MS151201-3	.05		.05301	mg/L	106	90	110			
WG399203ICB	ICB	02/25/16 19:50				U	mg/L		-0.0003	0.0003			
WG399203LFB	LFB	02/25/16 19:53	MS151223-2	.05		.04995	mg/L	100	85	115			
L29021-10AS	AS	02/25/16 21:19	MS151223-2	.05	.0013	.05201	mg/L	101	70	130			
L29021-10ASD	ASD	02/25/16 21:23	MS151223-2	.05	.0013	.0521	mg/L	102	70	130	0	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.9668	mg/L	98	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.015	0.015			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	.501		.4929	mg/L	98	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	.501	U	.492	mg/L	98	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	.501	U	.4897	mg/L	98	85	115	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L29021***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG398919													
WG398919ICV	ICV	02/20/16 18:04	II160209-1	2		1.952	mg/L	98	95	105			
WG398919ICB	ICB	02/20/16 18:10				U	mg/L		-0.03	0.03			
WG398919LFB	LFB	02/20/16 18:23	II160220-2	.4995		.498	mg/L	100	85	115			
L29021-04AS	AS	02/20/16 18:39	II160220-2	.4995	.2	.696	mg/L	99	85	115			
L29021-04ASD	ASD	02/20/16 18:42	II160220-2	.4995	.2	.691	mg/L	98	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L29021***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29021-01	WG398919	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG398870	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399221	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
	WG398870	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399285	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	Q6	Sample was received above recommended temperature.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399275	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399111	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	Q6	Sample was received above recommended temperature.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
			SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG399102	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398963	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399031	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	Q6	Sample was received above recommended temperature.
	WG398870	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29021-02	WG398919	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG398870	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399221	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
	WG398870	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399285	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	Q6	Sample was received above recommended temperature.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399275	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399175	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	Q6	Sample was received above recommended temperature.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
			SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG399102	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398963	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399031	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	Q6	Sample was received above recommended temperature.
	WG398870	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29021-03	WG398919	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG398870	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399221	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
	WG398870	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399285	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	Q6	Sample was received above recommended temperature.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399275	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399175	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	Q6	Sample was received above recommended temperature.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
			SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG399102	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398963	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399031	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	Q6	Sample was received above recommended temperature.
	WG398870	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29021-04	WG398919	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG398870	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399221	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
	WG398870	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399285	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	Q6	Sample was received above recommended temperature.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399275	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399175	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	Q6	Sample was received above recommended temperature.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
			SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG399102	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398963	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399031	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	Q6	Sample was received above recommended temperature.
	WG398870	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29021-05	WG398919	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG398870	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399221	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399285	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	Q6	Sample was received above recommended temperature.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399275	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399175	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	Q6	Sample was received above recommended temperature.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
			SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG399102	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398963	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399031	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	Q6	Sample was received above recommended temperature.
	WG398870	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29021-06	WG398919	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG398870	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399221	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399285	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	Q6	Sample was received above recommended temperature.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399275	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399175	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	Q6	Sample was received above recommended temperature.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
			SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG399102	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398963	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399031	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	Q6	Sample was received above recommended temperature.
	WG398870	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L29021***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29021-07	WG398919	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG398870	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399221	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399285	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	Q6	Sample was received above recommended temperature.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399275	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399175	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	Q6	Sample was received above recommended temperature.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
			SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG399102	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398963	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399031	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	Q6	Sample was received above recommended temperature.
	WG398870	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L29021***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29021-08	WG398919	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubillty in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG398870	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399221	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399285	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	Q6	Sample was received above recommended temperature.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399275	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399175	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	Q6	Sample was received above recommended temperature.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
			SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG399102	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398998	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399031	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	Q6	Sample was received above recommended temperature.
	WG398870	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L29021***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29021-09	WG398919	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG398870	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399221	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399171	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	Q6	Sample was received above recommended temperature.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399275	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399175	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	Q6	Sample was received above recommended temperature.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
			SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG399102	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398998	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399034	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	Q6	Sample was received above recommended temperature.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	QA	Sample container with preservation type specified by the

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					method was not available for analysis. Alternate sample container was used.

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29021-10	WG398919	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG398870	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399221	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Conductivity @25C	SM2510B	Q6	Sample was received above recommended temperature.
			SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399226	Cyanide, total	M335.4 - Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399225	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	Q6	Sample was received above recommended temperature.
			SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399171	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	Q6	Sample was received above recommended temperature.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG399275	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	Q6	Sample was received above recommended temperature.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG399175	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	Q6	Sample was received above recommended temperature.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	pH	SM4500H+ B	Q6	Sample was received above recommended temperature.
			SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		pH measured at	SM4500H+ B	Q6	Sample was received above recommended temperature.
	WG399102	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M365.1 - Auto Ascorbic Acid (digest)	Q6	Sample was received above recommended temperature.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398998	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG399034	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	Q6	Sample was received above recommended temperature.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG398870	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L29021
Date Received: 02/18/2016 09:42
Received By: ddp
Date Printed: 2/18/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L29021-01 : A Green, Yellow container not received and a new container created from the White .

L29021-02 : A Green, Yellow container not received and a new container created from the White .

L29021-03 : A Green, Yellow container not received and a new container created from the White .

L29021-04 : A Green, Yellow container not received and a new container created from the White .

L29021-05 : A Green, Yellow container not received and a new container created from the White .

L29021-06 : A Green, Yellow container not received and a new container created from the White .

L29021-07 : A Green, Yellow container not received and a new container created from the White .

L29021-08 : A Green, Yellow container not received and a new container created from the White .

L29021-09 : A Green, Yellow container not received and a new container created from the White .

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L29021
Date Received:	02/18/2016 09:42
Received By:	ddp
Date Printed:	2/18/2016

L29021-10 : A Green, Yellow, Purple container not received and a new container created from the White .

16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA23397	6.9	<=6.0	12	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L29021

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	2/17/16	WW	1	x							
CAL-004 (860-875)		WW	1	x							
CAL-003 (675-685)		WW	1	x							
GMC-012 (832-851)		WW	1	x							
CAL-004 (295-315)		WW	1	x							
CAL-001 (750-762)		WW	1	x							
GMC-014 (176-184)		WW	1	x							
CAL-001 (380-400)		WW	1	x							
CAL-002 (177-187)		WW	1	x							
Calico Leach Res. after CN Destruct		WW	1	x	x	x					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 8
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	2/17/16 9AM	[signature]	2/18/16 0940

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L29021 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

*****Gray out Analyses DOESN'T get done on all Samples just 1 of the Sample SEE COC*****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

April 05, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L29484

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 17, 2016. This project has been assigned to ACZ's project number, L29484. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L29484. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after May 05, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L29484-01***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/20/16 13:03	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	2.14			mg/L	0.03	0.2	03/22/16 22:15	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0160			mg/L	0.0004	0.002	03/23/16 3:24	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0416			mg/L	0.0002	0.001	03/23/16 3:24	msh
Barium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.003	0.02	03/22/16 22:15	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00067			mg/L	0.00005	0.0003	03/23/16 3:24	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/23/16 18:35	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:15	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	03/23/16 3:24	msh
Calcium, dissolved	M200.7 ICP	1	3.2			mg/L	0.1	0.5	03/22/16 22:15	aeb
Chromium, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	03/22/16 22:15	aeb
Cobalt, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	03/22/16 22:15	aeb
Copper, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	03/22/16 22:15	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:15	aeb
Iron, dissolved	M200.7 ICP	1	22.70		*	mg/L	0.02	0.05	03/22/16 22:15	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	03/23/16 3:24	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/22/16 22:15	aeb
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	03/22/16 22:15	aeb
Manganese, dissolved	M200.7 ICP	1	0.054			mg/L	0.005	0.03	03/22/16 22:15	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/30/16 13:07	pta
Mercury, total	M1631, Atomic Fluorescence	5	18		*	ng/L	1	3	03/22/16 12:03	mdm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/23/16 18:35	gss
Nickel, dissolved	M200.7 ICP	1	0.245			mg/L	0.008	0.04	03/22/16 22:15	aeb
Potassium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	03/22/16 22:15	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:15	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0003	03/23/16 3:24	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/22/16 22:15	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/22/16 22:15	aeb
Strontium, dissolved	M200.7 ICP	1	0.021	B		mg/L	0.005	0.03	03/22/16 22:15	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0094			mg/L	0.0001	0.0005	03/23/16 3:24	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/23/16 18:35	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/22/16 22:15	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0044			mg/L	0.0001	0.0005	03/23/16 3:24	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/22/16 22:15	aeb
Zinc, dissolved	M200.7 ICP	1	0.16			mg/L	0.01	0.05	03/22/16 22:15	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L29484-01***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	03/22/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			6.3			%			04/05/16 0:00	calc
Sum of Anions			1.5			meq/L			04/05/16 0:00	calc
Sum of Cations			1.7			meq/L			04/05/16 0:00	calc
Chloride	SM4500Cl-E	1	0.7	B	*	mg/L	0.5	2	03/25/16 14:46	mss2
Conductivity @25C	SM2510B	1	269		*	umhos/cm	1	10	03/22/16 19:30	abd
Fluoride	SM4500F-C	1	0.12	B	*	mg/L	0.05	0.3	03/19/16 14:38	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		9.2			mg/L	0.2	5	04/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	03/26/16 0:14	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	03/23/16 16:55	mss2
pH (lab)	SM4500H+ B									
pH		1	3.6	H	*	units	0.1	0.1	03/22/16 0:00	abd
pH measured at		1	22.6			C	0.1	0.1	03/22/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.02	0.05	03/25/16 11:54	enb
Residue, Filterable (TDS) @180C	SM2540C	1	100		*	mg/L	10	20	03/21/16 16:46	abd
Sulfate	D516-02/-07 - Turbidimetric	5	69.8			mg/L	5	25	03/28/16 10:58	mss2
TDS (calculated)	Calculation		100			mg/L			04/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.00						04/05/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L29484-02***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/20/16 13:10	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	03/22/16 22:24	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0098			mg/L	0.0004	0.002	03/23/16 5:46	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0084			mg/L	0.0002	0.001	03/23/16 5:46	msh
Barium, dissolved	M200.7 ICP	1	0.085			mg/L	0.003	0.02	03/22/16 22:24	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	03/23/16 5:46	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/23/16 18:45	gss
Boron, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	03/22/16 22:24	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/23/16 5:46	msh
Calcium, dissolved	M200.7 ICP	1	9.3			mg/L	0.1	0.5	03/22/16 22:24	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:24	aeb
Cobalt, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	03/22/16 22:24	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:24	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:24	aeb
Iron, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.02	0.05	03/22/16 22:24	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	03/29/16 14:30	enb
Lithium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.008	0.04	03/22/16 22:24	aeb
Magnesium, dissolved	M200.7 ICP	1	1.5			mg/L	0.2	1	03/22/16 22:24	aeb
Manganese, dissolved	M200.7 ICP	1	0.429			mg/L	0.005	0.03	03/22/16 22:24	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/30/16 13:13	pta
Mercury, total	M1631, Atomic Fluorescence	5	30		*	ng/L	1	3	04/01/16 15:46	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/23/16 18:45	gss
Nickel, dissolved	M200.7 ICP	1	0.033	B		mg/L	0.008	0.04	03/22/16 22:24	aeb
Potassium, dissolved	M200.7 ICP	1	11.7			mg/L	0.2	1	03/22/16 22:24	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:24	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0068			mg/L	0.0001	0.0003	03/23/16 5:46	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/22/16 22:24	aeb
Sodium, dissolved	M200.7 ICP	1	11.1			mg/L	0.2	1	03/22/16 22:24	aeb
Strontium, dissolved	M200.7 ICP	1	0.095			mg/L	0.005	0.03	03/22/16 22:24	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	03/23/16 5:46	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/23/16 18:45	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/22/16 22:24	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/23/16 5:46	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/22/16 22:24	aeb
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	03/22/16 22:24	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L29484-02***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	03/22/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.4			%			04/05/16 0:00	calc
Sum of Anions			1.5			meq/L			04/05/16 0:00	calc
Sum of Cations			1.4			meq/L			04/05/16 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	03/25/16 14:46	mss2
Conductivity @25C	SM2510B	1	178		*	umhos/cm	1	10	03/22/16 19:37	abd
Fluoride	SM4500F-C	1	0.08	B	*	mg/L	0.05	0.3	03/19/16 14:44	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		29			mg/L	0.2	5	04/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.15		*	mg/L	0.02	0.1	03/26/16 0:17	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	03/23/16 16:56	mss2
pH (lab)	SM4500H+ B									
pH		1	6.7	H	*	units	0.1	0.1	03/22/16 0:00	abd
pH measured at		1	22.5			C	0.1	0.1	03/22/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/25/16 11:55	enb
Residue, Filterable (TDS) @180C	SM2540C	1	110		*	mg/L	10	20	03/21/16 16:48	abd
Sulfate	D516-02/-07 - Turbidimetric	5	72.4			mg/L	5	25	03/28/16 11:01	mss2
TDS (calculated)	Calculation		107			mg/L			04/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.03						04/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L29484-03***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/20/16 13:16	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	26.40			mg/L	0.03	0.2	03/22/16 22:27	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0004	0.002	03/23/16 3:27	msh
Arsenic, dissolved	M200.8 ICP-MS	1	1.7900			mg/L	0.0002	0.001	03/23/16 3:27	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	03/22/16 22:27	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00755			mg/L	0.00005	0.0003	03/23/16 3:27	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/23/16 18:48	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:27	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0043			mg/L	0.0001	0.0005	03/23/16 3:27	msh
Calcium, dissolved	M200.7 ICP	1	48.1			mg/L	0.1	0.5	03/22/16 22:27	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:27	aeb
Cobalt, dissolved	M200.7 ICP	1	0.42			mg/L	0.01	0.05	03/22/16 22:27	aeb
Copper, dissolved	M200.7 ICP	1	0.81			mg/L	0.01	0.05	03/22/16 22:27	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:27	aeb
Iron, dissolved	M200.7 ICP	1	294		*	mg/L	0.02	0.05	03/22/16 22:27	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0001	0.0005	03/23/16 3:27	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/22/16 22:27	aeb
Magnesium, dissolved	M200.7 ICP	1	10.7			mg/L	0.2	1	03/22/16 22:27	aeb
Manganese, dissolved	M200.7 ICP	1	0.208			mg/L	0.005	0.03	03/22/16 22:27	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/30/16 13:15	pta
Mercury, total	M1631, Atomic Fluorescence	5	89		*	ng/L	1	3	04/01/16 15:51	scp
Molybdenum, dissolved	M200.7 ICP	1	0.25			mg/L	0.02	0.1	03/23/16 18:48	gss
Nickel, dissolved	M200.7 ICP	1	0.400			mg/L	0.008	0.04	03/22/16 22:27	aeb
Potassium, dissolved	M200.7 ICP	1	3.3			mg/L	0.2	1	03/22/16 22:27	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:27	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0038			mg/L	0.0001	0.0003	03/23/16 3:27	msh
Silver, dissolved	M200.7 ICP	1	0.01	B	*	mg/L	0.01	0.03	03/22/16 22:27	aeb
Sodium, dissolved	M200.7 ICP	1	2			mg/L	0.2	1	03/22/16 22:27	aeb
Strontium, dissolved	M200.7 ICP	1	0.668			mg/L	0.005	0.03	03/22/16 22:27	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0049			mg/L	0.0001	0.0005	03/23/16 3:27	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/23/16 18:48	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/22/16 22:27	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0144			mg/L	0.0001	0.0005	03/23/16 3:27	msh
Vanadium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.005	0.03	03/22/16 22:27	aeb
Zinc, dissolved	M200.7 ICP	1	0.57			mg/L	0.01	0.05	03/22/16 22:27	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L29484-03***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	03/22/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-6.4			%			04/05/16 0:00	calc
Sum of Anions			25			meq/L			04/05/16 0:00	calc
Sum of Cations			22			meq/L			04/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/25/16 14:46	mss2
Conductivity @25C	SM2510B	1	3210		*	umhos/cm	1	10	03/22/16 20:08	abd
Fluoride	SM4500F-C	200	10	B	*	mg/L	10	50	03/19/16 14:52	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		164			mg/L	0.2	5	04/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B	*	mg/L	0.02	0.1	03/26/16 0:19	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	03/23/16 16:58	mss2
pH (lab)	SM4500H+ B									
pH		1	2.3	H	*	units	0.1	0.1	03/22/16 0:00	abd
pH measured at		1	22.6			C	0.1	0.1	03/22/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	5	2.1		*	mg/L	0.1	0.3	03/25/16 11:56	enb
Residue, Filterable (TDS) @180C	SM2540C	1	1680		*	mg/L	10	20	03/21/16 16:50	abd
Sulfate	D516-02/-07 - Turbidimetric	50	1160			mg/L	50	250	03/28/16 11:23	mss2
TDS (calculated)	Calculation		1560			mg/L			04/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.08						04/05/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L29484-04***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/20/16 13:23	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	6.19			mg/L	0.03	0.2	03/22/16 22:30	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0004	0.002	03/23/16 3:30	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.1149			mg/L	0.0002	0.001	03/23/16 3:30	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	03/22/16 22:30	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00063			mg/L	0.00005	0.0003	03/23/16 3:30	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/23/16 18:51	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:30	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	03/23/16 3:30	msh
Calcium, dissolved	M200.7 ICP	1	22.3			mg/L	0.1	0.5	03/22/16 22:30	aeb
Chromium, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	03/22/16 22:30	aeb
Cobalt, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	03/22/16 22:30	aeb
Copper, dissolved	M200.7 ICP	1	0.26			mg/L	0.01	0.05	03/22/16 22:30	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:30	aeb
Iron, dissolved	M200.7 ICP	1	51.50		*	mg/L	0.02	0.05	03/22/16 22:30	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	03/23/16 3:30	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/22/16 22:30	aeb
Magnesium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	03/22/16 22:30	aeb
Manganese, dissolved	M200.7 ICP	1	0.142			mg/L	0.005	0.03	03/22/16 22:30	aeb
Mercury, dissolved	M245.1 CVAA	2		U	*	mg/L	0.0004	0.002	03/30/16 13:17	pta
Mercury, total	M1631, Atomic Fluorescence	5	26		*	ng/L	1	3	03/22/16 12:19	mdm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/23/16 18:51	gss
Nickel, dissolved	M200.7 ICP	1	0.082			mg/L	0.008	0.04	03/22/16 22:30	aeb
Potassium, dissolved	M200.7 ICP	1	2.1			mg/L	0.2	1	03/22/16 22:30	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:30	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0003	03/23/16 3:30	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/22/16 22:30	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/22/16 22:30	aeb
Strontium, dissolved	M200.7 ICP	1	0.021	B		mg/L	0.005	0.03	03/22/16 22:30	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	03/23/16 3:30	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/23/16 18:51	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/22/16 22:30	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0250			mg/L	0.0001	0.0005	03/23/16 3:30	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/22/16 22:30	aeb
Zinc, dissolved	M200.7 ICP	1	0.23			mg/L	0.01	0.05	03/22/16 22:30	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L29484-04***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	03/22/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-8.7			%			04/05/16 0:00	calc
Sum of Anions			5.6			meq/L			04/05/16 0:00	calc
Sum of Cations			4.7			meq/L			04/05/16 0:00	calc
Chloride	SM4500Cl-E	1	1.3	B	*	mg/L	0.5	2	03/25/16 14:47	mss2
Conductivity @25C	SM2510B	1	1390		*	umhos/cm	1	10	03/22/16 20:12	abd
Fluoride	SM4500F-C	1	0.18	B	*	mg/L	0.05	0.3	03/19/16 15:15	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		59			mg/L	0.2	5	04/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B	*	mg/L	0.02	0.1	03/26/16 0:21	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	03/23/16 16:59	mss2
pH (lab)	SM4500H+ B									
pH		1	2.6	H	*	units	0.1	0.1	03/22/16 0:00	abd
pH measured at		1	22.7			C	0.1	0.1	03/22/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.07		*	mg/L	0.02	0.05	03/25/16 11:44	enb
Residue, Filterable (TDS) @180C	SM2540C	1	342		*	mg/L	10	20	03/21/16 16:52	abd
Sulfate	D516-02/-07 - Turbidimetric	20	266			mg/L	20	100	03/28/16 11:22	mss2
TDS (calculated)	Calculation		351			mg/L			04/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.97						04/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L29484-05***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/20/16 13:30	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.73			mg/L	0.03	0.2	03/22/16 22:33	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0004	0.002	03/23/16 3:40	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0077			mg/L	0.0002	0.001	03/23/16 3:40	msh
Barium, dissolved	M200.7 ICP	1	0.019	B		mg/L	0.003	0.02	03/22/16 22:33	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00192			mg/L	0.00005	0.0003	03/23/16 3:40	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/23/16 18:54	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:33	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	03/23/16 3:40	msh
Calcium, dissolved	M200.7 ICP	1	19.7			mg/L	0.1	0.5	03/22/16 22:33	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:33	aeb
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/22/16 22:33	aeb
Copper, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	03/22/16 22:33	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:33	aeb
Iron, dissolved	M200.7 ICP	1	2.77		*	mg/L	0.02	0.05	03/22/16 22:33	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	03/23/16 3:40	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/22/16 22:33	aeb
Magnesium, dissolved	M200.7 ICP	1	3.9			mg/L	0.2	1	03/22/16 22:33	aeb
Manganese, dissolved	M200.7 ICP	1	0.275			mg/L	0.005	0.03	03/22/16 22:33	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/30/16 13:19	pta
Mercury, total	M1631, Atomic Fluorescence	2	1.6		*	ng/L	0.4	1	03/22/16 12:24	mdm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/23/16 18:54	gss
Nickel, dissolved	M200.7 ICP	1	0.043			mg/L	0.008	0.04	03/22/16 22:33	aeb
Potassium, dissolved	M200.7 ICP	1	3			mg/L	0.2	1	03/22/16 22:33	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:33	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0019			mg/L	0.0001	0.0003	03/23/16 3:40	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/22/16 22:33	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/22/16 22:33	aeb
Strontium, dissolved	M200.7 ICP	1	0.058			mg/L	0.005	0.03	03/22/16 22:33	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	03/23/16 3:40	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/23/16 18:54	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/22/16 22:33	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0034			mg/L	0.0001	0.0005	03/23/16 3:40	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/22/16 22:33	aeb
Zinc, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	03/22/16 22:33	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L29484-05***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	03/22/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-8.6			%			04/05/16 0:00	calc
Sum of Anions			1.9			meq/L			04/05/16 0:00	calc
Sum of Cations			1.6			meq/L			04/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/25/16 14:47	mss2
Conductivity @25C	SM2510B	1	248		*	umhos/cm	1	10	03/22/16 20:17	abd
Fluoride	SM4500F-C	1	0.46		*	mg/L	0.05	0.3	03/19/16 15:22	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		65			mg/L	0.2	5	04/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	03/26/16 0:22	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	03/23/16 17:02	mss2
pH (lab)	SM4500H+ B									
pH		1	3.9	H	*	units	0.1	0.1	03/22/16 0:00	abd
pH measured at		1	22.9			C	0.1	0.1	03/22/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/25/16 11:45	enb
Residue, Filterable (TDS) @180C	SM2540C	1	142		*	mg/L	10	20	03/22/16 10:37	sck
Sulfate	D516-02/-07 - Turbidimetric	5	90.6			mg/L	5	25	03/28/16 11:01	mss2
TDS (calculated)	Calculation		122			mg/L			04/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.16						04/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L29484-06***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/24/16 13:46	enb

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.03	0.2	03/22/16 22:42	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	03/23/16 3:49	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0055			mg/L	0.0002	0.001	03/23/16 3:49	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	03/22/16 22:42	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	03/23/16 3:49	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/23/16 18:57	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:42	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/23/16 3:49	msh
Calcium, dissolved	M200.7 ICP	1	3			mg/L	0.1	0.5	03/22/16 22:42	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:42	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:42	aeb
Copper, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	03/22/16 22:42	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:42	aeb
Iron, dissolved	M200.7 ICP	1	0.06		*	mg/L	0.02	0.05	03/22/16 22:42	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	03/23/16 3:49	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/22/16 22:42	aeb
Magnesium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	03/22/16 22:42	aeb
Manganese, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.005	0.03	03/22/16 22:42	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/30/16 13:25	pta
Mercury, total	M1631, Atomic Fluorescence	20	246		*	ng/L	4	10	04/01/16 15:56	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/23/16 18:57	gss
Nickel, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.008	0.04	03/22/16 22:42	aeb
Potassium, dissolved	M200.7 ICP	1	3.4			mg/L	0.2	1	03/22/16 22:42	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:42	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0083			mg/L	0.0001	0.0003	03/23/16 3:49	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/22/16 22:42	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/22/16 22:42	aeb
Strontium, dissolved	M200.7 ICP	1	0.031			mg/L	0.005	0.03	03/22/16 22:42	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	03/23/16 3:49	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/23/16 18:57	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/22/16 22:42	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	03/23/16 3:49	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/22/16 22:42	aeb
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/22/16 22:42	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L29484-06***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	03/22/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.1			%			04/05/16 0:00	calc
Sum of Anions			0.333	B		meq/L			04/05/16 0:00	calc
Sum of Cations			0.307	B		meq/L			04/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/25/16 14:47	mss2
Conductivity @25C	SM2510B	1	55.2		*	umhos/cm	1	10	03/22/16 20:22	abd
Fluoride	SM4500F-C	1	0.07	B	*	mg/L	0.05	0.3	03/19/16 15:27	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		10			mg/L	0.2	5	04/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	03/26/16 0:27	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.13	B	*	mg/L	0.05	0.2	03/23/16 17:05	mss2
pH (lab)	SM4500H+ B									
pH		1	4.8	H	*	units	0.1	0.1	03/22/16 0:00	abd
pH measured at		1	23.0			C	0.1	0.1	03/22/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/25/16 12:15	enb
Residue, Filterable (TDS) @180C	SM2540C	1	24		*	mg/L	10	20	03/22/16 10:40	sck
Sulfate	D516-02/-07 - Turbidimetric	1	15.7			mg/L	1	5	03/28/16 10:51	mss2
TDS (calculated)	Calculation		23.1			mg/L			04/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.04						04/05/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L29484-07***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/24/16 13:54	enb

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	6.58			mg/L	0.03	0.2	03/22/16 22:45	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0004	0.002	03/23/16 3:52	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.5720			mg/L	0.0002	0.001	03/23/16 3:52	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	03/22/16 22:45	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00359			mg/L	0.00005	0.0003	03/23/16 3:52	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/23/16 19:00	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:45	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0019			mg/L	0.0001	0.0005	03/23/16 3:52	msh
Calcium, dissolved	M200.7 ICP	1	14.1			mg/L	0.1	0.5	03/22/16 22:45	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:45	aeb
Cobalt, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	03/22/16 22:45	aeb
Copper, dissolved	M200.7 ICP	1	0.15			mg/L	0.01	0.05	03/22/16 22:45	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:45	aeb
Iron, dissolved	M200.7 ICP	1	59.50		*	mg/L	0.02	0.05	03/22/16 22:45	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0030			mg/L	0.0001	0.0005	03/23/16 3:52	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/22/16 22:45	aeb
Magnesium, dissolved	M200.7 ICP	1	2.1			mg/L	0.2	1	03/22/16 22:45	aeb
Manganese, dissolved	M200.7 ICP	1	0.169			mg/L	0.005	0.03	03/22/16 22:45	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/30/16 13:27	pta
Mercury, total	M1631, Atomic Fluorescence	5	7		*	ng/L	1	3	03/22/16 12:54	mdm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/23/16 19:00	gss
Nickel, dissolved	M200.7 ICP	1	0.108			mg/L	0.008	0.04	03/22/16 22:45	aeb
Potassium, dissolved	M200.7 ICP	1	6.7			mg/L	0.2	1	03/22/16 22:45	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:45	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	03/23/16 3:52	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/22/16 22:45	aeb
Sodium, dissolved	M200.7 ICP	1	1.2			mg/L	0.2	1	03/22/16 22:45	aeb
Strontium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	03/22/16 22:45	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0039			mg/L	0.0001	0.0005	03/23/16 3:52	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/23/16 19:00	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/22/16 22:45	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0001	0.0005	03/23/16 3:52	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/22/16 22:45	aeb
Zinc, dissolved	M200.7 ICP	1	0.78			mg/L	0.01	0.05	03/22/16 22:45	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L29484-07***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	03/22/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.0			%			04/05/16 0:00	calc
Sum of Anions			5.2			meq/L			04/05/16 0:00	calc
Sum of Cations			5.0			meq/L			04/05/16 0:00	calc
Chloride	SM4500Cl-E	1	1.1	B	*	mg/L	0.5	2	03/25/16 15:10	mss2
Conductivity @25C	SM2510B	1	887		*	umhos/cm	1	10	03/22/16 20:26	abd
Fluoride	SM4500F-C	1	0.20	B	*	mg/L	0.05	0.3	03/19/16 15:32	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		44			mg/L	0.2	5	04/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.08	B	*	mg/L	0.02	0.1	03/26/16 0:29	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.06	B	*	mg/L	0.05	0.2	03/23/16 17:06	mss2
pH (lab)	SM4500H+ B									
pH		1	2.9	H	*	units	0.1	0.1	03/22/16 0:00	abd
pH measured at		1	22.8			C	0.1	0.1	03/22/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.12		*	mg/L	0.02	0.05	03/25/16 12:16	enb
Residue, Filterable (TDS) @180C	SM2540C	1	396		*	mg/L	10	20	03/22/16 10:43	sck
Sulfate	D516-02/-07 - Turbidimetric	20	246			mg/L	20	100	03/28/16 11:23	mss2
TDS (calculated)	Calculation		339			mg/L			04/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.17						04/05/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L29484-08***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/24/16 14:02	enb

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	03/22/16 22:48	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0004	0.002	03/23/16 5:56	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0188			mg/L	0.0002	0.001	03/23/16 5:56	msh
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	03/22/16 22:48	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	03/23/16 5:56	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/23/16 19:10	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:48	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/23/16 5:56	msh
Calcium, dissolved	M200.7 ICP	1	2.5			mg/L	0.1	0.5	03/22/16 22:48	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:48	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:48	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:48	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:48	aeb
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.05	03/22/16 22:48	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	03/24/16 15:42	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/22/16 22:48	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/22/16 22:48	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/22/16 22:48	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/30/16 13:29	pta
Mercury, total	M1631, Atomic Fluorescence	5	64		*	ng/L	1	3	04/01/16 16:11	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/23/16 19:10	gss
Nickel, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.008	0.04	03/22/16 22:48	aeb
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/22/16 22:48	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:48	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	03/23/16 5:56	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/22/16 22:48	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/22/16 22:48	aeb
Strontium, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.005	0.03	03/22/16 22:48	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/23/16 5:56	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/23/16 19:10	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/22/16 22:48	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/23/16 5:56	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/22/16 22:48	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:48	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L29484-08***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	4.7	B		mg/L	2	20	03/22/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Total Alkalinity		1	4.7	B	*	mg/L	2	20	03/22/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			04/05/16 0:00	calc
Sum of Anions				U		meq/L			04/05/16 0:00	calc
Sum of Cations			0.125	B		meq/L			04/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/25/16 15:10	mss2
Conductivity @25C	SM2510B	1	18.5		*	umhos/cm	1	10	03/22/16 20:35	abd
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	03/19/16 15:37	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		6.2			mg/L	0.2	5	04/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B	*	mg/L	0.02	0.1	03/26/16 0:30	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	03/23/16 17:08	mss2
pH (lab)	SM4500H+ B									
pH		1	7.1	H	*	units	0.1	0.1	03/22/16 0:00	abd
pH measured at		1	22.7			C	0.1	0.1	03/22/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/25/16 12:18	enb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	03/22/16 10:45	sck
Sulfate	D516-02/-07 - Turbidimetric	1		U	*	mg/L	1	5	03/28/16 11:36	mss2
TDS (calculated)	Calculation		5.38			mg/L			04/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						04/05/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L29484-09***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/24/16 14:10	enb

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	03/22/16 22:51	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0010	B		mg/L	0.0004	0.002	03/23/16 3:55	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0002	0.001	03/23/16 3:55	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	03/22/16 22:51	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	03/23/16 3:55	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/23/16 19:13	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:51	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/23/16 3:55	msh
Calcium, dissolved	M200.7 ICP	1	1.4			mg/L	0.1	0.5	03/22/16 22:51	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:51	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:51	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:51	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:51	aeb
Iron, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.02	0.05	03/22/16 22:51	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	03/23/16 3:55	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/22/16 22:51	aeb
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	03/22/16 22:51	aeb
Manganese, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	03/22/16 22:51	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	03/30/16 13:31	pta
Mercury, total	M1631, Atomic Fluorescence	1	12.9		*	ng/L	0.2	0.5	03/22/16 13:04	mdm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/23/16 19:13	gss
Nickel, dissolved	M200.7 ICP	1	0.092			mg/L	0.008	0.04	03/22/16 22:51	aeb
Potassium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	03/22/16 22:51	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:51	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0033			mg/L	0.0001	0.0003	03/23/16 3:55	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/22/16 22:51	aeb
Sodium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	03/22/16 22:51	aeb
Strontium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	03/22/16 22:51	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	03/23/16 3:55	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/23/16 19:13	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/22/16 22:51	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/23/16 3:55	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/22/16 22:51	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:51	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L29484-09***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	03/22/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			04/05/16 0:00	calc
Sum of Anions			0.105	B		meq/L			04/05/16 0:00	calc
Sum of Cations			0.128	B		meq/L			04/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/25/16 15:10	mss2
Conductivity @25C	SM2510B	1	22.6		*	umhos/cm	1	10	03/22/16 20:41	abd
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	03/19/16 15:42	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4.7	B		mg/L	0.2	5	04/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	03/26/16 0:31	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	03/23/16 17:12	mss2
pH (lab)	SM4500H+ B									
pH		1	5.6	H	*	units	0.1	0.1	03/22/16 0:00	abd
pH measured at		1	22.7			C	0.1	0.1	03/22/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/25/16 12:19	enb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	03/22/16 10:48	sck
Sulfate	D516-02/-07 - Turbidimetric	1	5.0		*	mg/L	1	5	03/28/16 11:36	mss2
TDS (calculated)	Calculation		7.66			mg/L			04/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						04/05/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L29484-10***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								03/23/16 13:44	enb
Cyanide, WAD	SM4500-CN I- distillation				*				03/23/16 9:49	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/24/16 14:18	enb

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.16			mg/L	0.03	0.2	03/22/16 22:54	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	03/23/16 5:59	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0002	0.001	03/23/16 5:59	msh
Barium, dissolved	M200.7 ICP	1	0.074			mg/L	0.003	0.02	03/22/16 22:54	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00291			mg/L	0.00005	0.0003	03/23/16 5:59	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/23/16 19:16	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:54	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	03/23/16 5:59	msh
Calcium, dissolved	M200.7 ICP	1	10.8			mg/L	0.1	0.5	03/22/16 22:54	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/22/16 22:54	aeb
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/22/16 22:54	aeb
Copper, dissolved	M200.7 ICP	1	5.07			mg/L	0.01	0.05	03/22/16 22:54	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:54	aeb
Iron, dissolved	M200.7 ICP	1	4.04		*	mg/L	0.02	0.05	03/22/16 22:54	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	03/24/16 15:54	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/22/16 22:54	aeb
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	03/22/16 22:54	aeb
Manganese, dissolved	M200.7 ICP	1	0.300			mg/L	0.005	0.03	03/22/16 22:54	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	03/30/16 13:33	pta
Mercury, total	M1631, Atomic Fluorescence	1	1.5		*	ng/L	0.2	0.5	03/22/16 13:09	mdm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/23/16 19:16	gss
Nickel, dissolved	M200.7 ICP	1	0.051			mg/L	0.008	0.04	03/22/16 22:54	aeb
Potassium, dissolved	M200.7 ICP	1	3.4			mg/L	0.2	1	03/22/16 22:54	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/22/16 22:54	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0034			mg/L	0.0001	0.0003	03/23/16 5:59	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/22/16 22:54	aeb
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	03/22/16 22:54	aeb
Strontium, dissolved	M200.7 ICP	1	0.096			mg/L	0.005	0.03	03/22/16 22:54	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0019			mg/L	0.0001	0.0005	03/23/16 5:59	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/23/16 19:16	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/22/16 22:54	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0048			mg/L	0.0001	0.0005	03/23/16 5:59	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/22/16 22:54	aeb
Zinc, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	03/22/16 22:54	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L29484-10***
Date Sampled: *03/16/16 00:00*
Date Received: *03/17/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	03/22/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	03/22/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			4.3			%			04/05/16 0:00	calc
Sum of Anions			1.1			meq/L			04/05/16 0:00	calc
Sum of Cations			1.2			meq/L			04/05/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/25/16 15:10	mss2
Conductivity @25C	SM2510B	1	201		*	umhos/cm	1	10	03/22/16 20:46	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.011		*	mg/L	0.003	0.01	03/23/16 22:07	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	03/23/16 21:35	pjb
Fluoride	SM4500F-C	1	0.45		*	mg/L	0.05	0.3	03/19/16 15:47	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		28			mg/L	0.2	5	04/05/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	03/26/16 0:32	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.10	B	*	mg/L	0.05	0.2	03/23/16 17:14	mss2
pH (lab)	SM4500H+ B									
pH		1	3.8	H	*	units	0.1	0.1	03/22/16 0:00	abd
pH measured at		1	22.5			C	0.1	0.1	03/22/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/25/16 12:20	enb
Residue, Filterable (TDS) @180C	SM2540C	1	130		*	mg/L	10	20	03/22/16 10:50	sck
Sulfate	D516-02/-07 - Turbidimetric	5	49.0		*	mg/L	5	25	03/28/16 11:42	mss2
TDS (calculated)	Calculation		75.3			mg/L			04/05/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.73						04/05/16 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400347													
WG400347PBW1	PBW	03/22/16 12:41				U	mg/L		-20	20			
WG400347LCSW3	LCSW	03/22/16 13:00	WC160316-15	820.0001		781	mg/L	95	90	110			
WG400347LCSW6	LCSW	03/22/16 16:35	WC160316-15	820.0001		791	mg/L	96	90	110			
WG400347PBW2	PBW	03/22/16 16:44				U	mg/L		-20	20			
L29469-09DUP	DUP	03/22/16 19:26			111	110	mg/L				1	20	
WG400347LCSW9	LCSW	03/22/16 19:56	WC160316-15	820.0001		789	mg/L	96	90	110			
WG400347PBW3	PBW	03/22/16 20:04				U	mg/L		-20	20			
L29486-01DUP	DUP	03/22/16 21:04			199	201	mg/L				1	20	
WG400347LCSW12	LCSW	03/22/16 22:51	WC160316-15	820.0001		793	mg/L	97	90	110			
WG400347PBW4	PBW	03/22/16 22:59				U	mg/L		-20	20			
WG400347LCSW15	LCSW	03/23/16 1:58	WC160316-15	820.0001		803	mg/L	98	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		2.074	mg/L	104	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.09	0.09			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	1.0013		1.031	mg/L	103	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	1.0013	2.14	3.078	mg/L	94	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	1.0013	2.14	3.074	mg/L	93	85	115	0	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400372													
WG400372ICV	ICV	03/23/16 2:31	MS160302-3	.02		.01857	mg/L	93	90	110			
WG400372ICB	ICB	03/23/16 2:34				U	mg/L		-0.0012	0.0012			
WG400372LFB	LFB	03/23/16 2:37	MS160303-3	.01001		.0097	mg/L	97	85	115			
L29484-04AS	AS	03/23/16 3:34	MS160303-3	.01001	.0009	.01052	mg/L	96	70	130			
L29484-04ASD	ASD	03/23/16 3:37	MS160303-3	.01001	.0009	.01093	mg/L	100	70	130	4	20	
WG400378													
WG400378ICV	ICV	03/23/16 4:36	MS160302-3	.02		.01842	mg/L	92	90	110			
WG400378ICB	ICB	03/23/16 4:39				U	mg/L		-0.0012	0.0012			
WG400378LFB	LFB	03/23/16 4:43	MS160303-3	.01001		.00987	mg/L	99	85	115			
L29482-01AS	AS	03/23/16 5:37	MS160303-3	.01001	U	.00955	mg/L	95	70	130			
L29482-01ASD	ASD	03/23/16 5:40	MS160303-3	.01001	U	.00952	mg/L	95	70	130	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400372													
WG400372ICV	ICV	03/23/16 2:31	MS160302-3	.05		.05181	mg/L	104	90	110			
WG400372ICB	ICB	03/23/16 2:34				U	mg/L		-0.0006	0.0006			
WG400372LFB	LFB	03/23/16 2:37	MS160303-3	.0501		.05146	mg/L	103	85	115			
L29484-04AS	AS	03/23/16 3:34	MS160303-3	.0501	.1149	.1682	mg/L	106	70	130			
L29484-04ASD	ASD	03/23/16 3:37	MS160303-3	.0501	.1149	.1696	mg/L	109	70	130	1	20	
WG400378													
WG400378ICV	ICV	03/23/16 4:36	MS160302-3	.05		.05304	mg/L	106	90	110			
WG400378ICB	ICB	03/23/16 4:39				U	mg/L		-0.0006	0.0006			
WG400378LFB	LFB	03/23/16 4:43	MS160303-3	.0501		.05008	mg/L	100	85	115			
L29482-01AS	AS	03/23/16 5:37	MS160303-3	.0501	.0005	.05107	mg/L	101	70	130			
L29482-01ASD	ASD	03/23/16 5:40	MS160303-3	.0501	.0005	.05216	mg/L	103	70	130	2	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		2.0015	mg/L	100	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.009	0.009			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	.5005		.5039	mg/L	101	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	.5005	.009	.492	mg/L	97	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	.5005	.009	.5015	mg/L	98	85	115	2	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400372													
WG400372ICV	ICV	03/23/16 2:31	MS160302-3	.05		.05052	mg/L	101	90	110			
WG400372ICB	ICB	03/23/16 2:34				U	mg/L		-0.00015	0.00015			
WG400372LFB	LFB	03/23/16 2:37	MS160303-3	.0501		.05088	mg/L	102	85	115			
L29484-04AS	AS	03/23/16 3:34	MS160303-3	.0501	.00063	.05353	mg/L	106	70	130			
L29484-04ASD	ASD	03/23/16 3:37	MS160303-3	.0501	.00063	.0541	mg/L	107	70	130	1	20	
WG400378													
WG400378ICV	ICV	03/23/16 4:36	MS160302-3	.05		.04966	mg/L	99	90	110			
WG400378ICB	ICB	03/23/16 4:39				U	mg/L		-0.00015	0.00015			
WG400378LFB	LFB	03/23/16 4:43	MS160303-3	.0501		.05012	mg/L	100	85	115			
L29482-01AS	AS	03/23/16 5:37	MS160303-3	.0501	U	.05402	mg/L	108	70	130			
L29482-01ASD	ASD	03/23/16 5:40	MS160303-3	.0501	U	.05349	mg/L	107	70	130	1	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400422													
WG400422ICV	ICV	03/23/16 18:13	II160209-1	2		1.999	mg/L	100	95	105			
WG400422ICB	ICB	03/23/16 18:19				U	mg/L		-0.12	0.12			
WG400422LFB	LFB	03/23/16 18:32	II160319-2	1		1.034	mg/L	103	85	115			
L29484-01AS	AS	03/23/16 18:38	II160319-2	1	U	1.02	mg/L	102	85	115			
L29484-01ASD	ASD	03/23/16 18:41	II160319-2	1	U	1.032	mg/L	103	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		2.039	mg/L	102	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.03	0.03			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	.5005		.519	mg/L	104	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	.5005	U	.505	mg/L	101	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	.5005	U	.486	mg/L	97	85	115	4	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400372													
WG400372ICV	ICV	03/23/16 2:31	MS160302-3	.05		.05417	mg/L	108	90	110			
WG400372ICB	ICB	03/23/16 2:34				U	mg/L		-0.0003	0.0003			
WG400372LFB	LFB	03/23/16 2:37	MS160303-3	.05005		.05349	mg/L	107	85	115			
L29484-04AS	AS	03/23/16 3:34	MS160303-3	.05005	.0008	.05571	mg/L	110	70	130			
L29484-04ASD	ASD	03/23/16 3:37	MS160303-3	.05005	.0008	.05672	mg/L	112	70	130	2	20	
WG400378													
WG400378ICV	ICV	03/23/16 4:36	MS160302-3	.05		.0537	mg/L	107	90	110			
WG400378ICB	ICB	03/23/16 4:39				U	mg/L		-0.0003	0.0003			
WG400378LFB	LFB	03/23/16 4:43	MS160303-3	.05005		.05313	mg/L	106	85	115			
L29482-01AS	AS	03/23/16 5:37	MS160303-3	.05005	U	.05282	mg/L	106	70	130			
L29482-01ASD	ASD	03/23/16 5:40	MS160303-3	.05005	U	.0522	mg/L	104	70	130	1	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	100		102.85	mg/L	103	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.3	0.3			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	67.97118		70.9	mg/L	104	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	67.97118	3.2	77.05	mg/L	109	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	67.97118	3.2	74.19	mg/L	104	85	115	4	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400588													
WG400588ICB	ICB	03/25/16 8:08				U	mg/L		-1.5	1.5			
WG400588ICV	ICV	03/25/16 8:08	WI150701-4	55.055		57.27	mg/L	104	90	110			
WG400588LFB1	LFB	03/25/16 14:46	WI150826-7	29.97		31.33	mg/L	105	90	110			
L29469-01DUP	DUP	03/25/16 14:46			U	U	mg/L				0	20	RA
L29469-05AS	AS	03/25/16 15:02	10XCL	30	430	453.2	mg/L	77	90	110			M3
L29484-07DUP	DUP	03/25/16 15:10			1.1	1.19	mg/L				8	20	RA
L29484-08AS	AS	03/25/16 15:10	WI150826-7	29.97	U	31.95	mg/L	107	90	110			
WG400588LFB2	LFB	03/25/16 15:11	WI150826-7	29.97		31.62	mg/L	106	90	110			

McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		2.008	mg/L	100	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.03	0.03			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	.5005		.509	mg/L	102	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	.5005	.04	.522	mg/L	98	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	.5005	.04	.524	mg/L	99	85	115	0	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2.002		1.957	mg/L	98	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.03	0.03			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	.498		.523	mg/L	105	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	.498	.06	.543	mg/L	97	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	.498	.06	.558	mg/L	100	85	115	3	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400347													
WG400347LCSW2	LCSW	03/22/16 12:46	PCN48848	1408		1480	umhos/cm	105	90	110			
WG400347LCSW5	LCSW	03/22/16 16:23	PCN48848	1408		1450	umhos/cm	103	90	110			
L29469-09DUP	DUP	03/22/16 19:26			2290	2280	umhos/cm				0	20	
WG400347LCSW8	LCSW	03/22/16 19:42	PCN48848	1408		1440	umhos/cm	102	90	110			
L29486-01DUP	DUP	03/22/16 21:04			1190	1180	umhos/cm				1	20	
WG400347LCSW11	LCSW	03/22/16 22:38	PCN48848	1408		1420	umhos/cm	101	90	110			
WG400347LCSW14	LCSW	03/23/16 1:45	PCN48848	1408		1390	umhos/cm	99	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		1.985	mg/L	99	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.03	0.03			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	.501		.511	mg/L	102	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	.501	.1	.583	mg/L	96	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	.501	.1	.593	mg/L	98	85	115	2	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400461													
WG400461ICV	ICV	03/23/16 21:10	WI160310-5	.3003		.2833	mg/L	94	90	110			
WG400461ICB	ICB	03/23/16 21:11				U	mg/L		-0.003	0.003			
WG400462													
WG400418LRB	LRB	03/23/16 21:56				U	mg/L		-0.003	0.003			
WG400418LFB	LFB	03/23/16 21:57	WI160310-4	.2		.1934	mg/L	97	90	110			
L29464-02LFM	LFM	03/23/16 22:00	WI160310-4	.2	U	.1774	mg/L	89	90	110			M2
L29464-01DUP	DUP	03/23/16 22:23			1.72	1.707	mg/L				1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400461													
WG400461ICV	ICV	03/23/16 21:10	WI160310-5	.3003		.2833	mg/L	94	90	110			
WG400461ICB	ICB	03/23/16 21:11				U	mg/L		-0.003	0.003			
WG400393LRB	LRB	03/23/16 21:12				U	mg/L		-0.003	0.003			
WG400393LFB	LFB	03/23/16 21:13	WI160310-2	.2002		.1886	mg/L	94	90	110			
L29465-01DUP	DUP	03/23/16 21:27			.064	.0649	mg/L				1	20	
L29465-02LFM	LFM	03/23/16 21:28	WI160310-2	.2002	.022	.1996	mg/L	89	90	110			M2

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400242													
WG400242ICV	ICV	03/19/16 12:16	WC160311-7	2		1.913	mg/L	96	95	105			
WG400242ICB	ICB	03/19/16 12:20				.056	mg/L		-0.15	0.15			
WG400242LFB1	LFB	03/19/16 12:27	WC151103-7	5		4.929	mg/L	99	90	110			
L29455-02AS	AS	03/19/16 13:41	WC151103-7	5	.13	4.859	mg/L	95	90	110			
L29455-02DUP	DUP	03/19/16 13:46			.13	.14	mg/L				7	20	RA
WG400242LFB2	LFB	03/19/16 14:47	WC151103-7	5		4.769	mg/L	95	90	110			
L29484-03AS	AS	03/19/16 14:57	WC151103-7	1000	10	839	mg/L	83	90	110			M2
L29484-03DUP	DUP	03/19/16 15:02			10	16	mg/L				46	20	RA

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		2.05	mg/L	103	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.3	0.3			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	1		.98	mg/L	98	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	1	U	.99	mg/L	99	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	1	U	1.01	mg/L	101	85	115	2	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		1.961	mg/L	98	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.06	0.06			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	1.0001		1.059	mg/L	106	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	1.0001	22.7	21.95	mg/L	-75	85	115			M3
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	1.0001	22.7	22.18	mg/L	-52	85	115	1	20	M3

McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400372													
WG400372ICV	ICV	03/23/16 2:31	MS160302-3	.05		.05089	mg/L	102	90	110			
WG400372ICB	ICB	03/23/16 2:34				U	mg/L		-0.0003	0.0003			
WG400372LFB	LFB	03/23/16 2:37	MS160303-3	.05005		.04937	mg/L	99	85	115			
L29484-04AS	AS	03/23/16 3:34	MS160303-3	.05005	.0014	.05145	mg/L	100	70	130			
L29484-04ASD	ASD	03/23/16 3:37	MS160303-3	.05005	.0014	.05268	mg/L	102	70	130	2	20	
WG400506													
WG400506ICV	ICV	03/24/16 14:49	MS160302-3	.05		.04894	mg/L	98	90	110			
WG400506ICB	ICB	03/24/16 14:51				U	mg/L		-0.0003	0.0003			
WG400506LFB	LFB	03/24/16 14:54	MS160303-3	.05005		.04739	mg/L	95	85	115			
L29484-08AS	AS	03/24/16 15:44	MS160303-3	.05005	.0001	.04554	mg/L	91	70	130			
L29484-08ASD	ASD	03/24/16 15:47	MS160303-3	.05005	.0001	.04444	mg/L	89	70	130	2	20	
WG400685													
WG400685ICV	ICV	03/29/16 13:42	MS160302-3	.05		.05019	mg/L	100	90	110			
WG400685ICB	ICB	03/29/16 13:45				U	mg/L		-0.0003	0.0003			
WG400685LFB	LFB	03/29/16 13:49	MS160303-3	.05005		.04346	mg/L	87	85	115			
L29469-07AS	AS	03/29/16 14:08	MS160303-3	.05005	U	.0467	mg/L	93	70	130			
L29469-07ASD	ASD	03/29/16 14:11	MS160303-3	.05005	U	.04698	mg/L	94	70	130	1	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		2.0397	mg/L	102	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.024	0.024			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	1.002		.9827	mg/L	98	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	1.002	U	.9617	mg/L	96	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	1.002	U	.9802	mg/L	98	85	115	2	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	100		102.6	mg/L	103	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.6	0.6			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	50.00605		49.61	mg/L	99	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	50.00605	.3	52.11	mg/L	104	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	50.00605	.3	50.32	mg/L	100	85	115	3	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		1.9562	mg/L	98	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.015	0.015			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	.5		.5138	mg/L	103	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	.5	.054	.5415	mg/L	98	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	.5	.054	.5482	mg/L	99	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400693													
WG400693ICV	ICV	03/30/16 10:26	HG160307-3	.005		.00495	mg/L	99	95	105			
WG400693ICB	ICB	03/30/16 10:28				U	mg/L		-0.0002	0.0002			
WG400694													
WG400694LFB	LFB	03/30/16 13:00	HG160321-2	.002002		.00227	mg/L	113	85	115			
L29484-01LFM	LFM	03/30/16 13:09	HG160321-2	.002002	U	.00173	mg/L	86	85	115			
L29484-01LFMD	LFMD	03/30/16 13:11	HG160321-2	.002002	U	.00176	mg/L	88	85	115	2	20	
L29509-01LFM	LFM	03/30/16 13:43	HG160321-2	.002002	U	.00164	mg/L	82	85	115			MA
L29509-01LFMD	LFMD	03/30/16 13:49	HG160321-2	.002002	U	.00173	mg/L	86	85	115	5	20	

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386175													
WG386175ICV	ICV	07/01/15 13:07	HG150504-4	10		9.91	ng/L	99	79	121			
WG386175ICB	ICB	07/01/15 13:12				U	ng/L		-0.5	0.5			
WG400305													
WG400305CCV1	CCV	03/22/16 10:32	HG160223-4	10		8.44	ng/L	84	76.5	123.4			
WG400305CCB1	CCB	03/22/16 10:37				U	ng/L		-0.5	0.5			
WG400305PQV	PQV	03/22/16 10:43	HG160223-5	.5		.47	ng/L	94	70	130			
WG400305LFB	LFB	03/22/16 10:48	HG160223-6	2		1.76	ng/L	88	71	125			
WG400305CCV2	CCV	03/22/16 11:33	HG160223-4	10		8.63	ng/L	86	76.5	123.4			
WG400305CCB2	CCB	03/22/16 11:38				U	ng/L		-0.5	0.5			
L29484-05MS	MS	03/22/16 12:29	HG2XPREP	8	1.6	5.12	ng/L	88	71	125			
WG400305CCV3	CCV	03/22/16 12:34	HG160223-4	10		9.19	ng/L	92	76.5	123.4			
WG400305CCB3	CCB	03/22/16 12:39				U	ng/L		-0.5	0.5			
L29484-05MSD	MSD	03/22/16 12:44	HG2XPREP	8	1.6	5.12	ng/L	88	71	125	0	24	
WG400305CCV4	CCV	03/22/16 13:14	HG160223-4	10		9.76	ng/L	98	76.5	123.4			
WG400305CCB4	CCB	03/22/16 13:19				U	ng/L		-0.5	0.5			
WG400862													
WG400862CCV1	CCV	04/01/16 15:24	HG160223-4	10		9.92	ng/L	99	76.5	123.4			
WG400862CCB1	CCB	04/01/16 15:29				U	ng/L		-0.5	0.5			
WG400862PQV	PQV	04/01/16 15:36	HG160223-5	.5		.6	ng/L	120	70	130			
WG400862LFB	LFB	04/01/16 15:41	HG160223-6	2		2.13	ng/L	107	71	125			
L29484-06MS	MS	04/01/16 16:01	HG20XPREP	800	246	294	ng/L	120	71	125			
L29484-06MSD	MSD	04/01/16 16:06	HG20XPREP	800	246	290	ng/L	110	71	125	1	24	
WG400862CCV2	CCV	04/01/16 16:16	HG160223-4	10		9.69	ng/L	97	76.5	123.4			
WG400862CCB2	CCB	04/01/16 16:21				U	ng/L		-0.5	0.5			
WG400862CCV3	CCV	04/01/16 17:07	HG160223-4	10		10.3	ng/L	103	76.5	123.4			
WG400862CCB3	CCB	04/01/16 17:12				U	ng/L		-0.5	0.5			
WG400862CCV4	CCV	04/01/16 18:02	HG160223-4	10		10.3	ng/L	103	76.5	123.4			
WG400862CCB4	CCB	04/01/16 18:07				U	ng/L		-0.5	0.5			

McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400422													
WG400422ICV	ICV	03/23/16 18:13	II160209-1	2		1.998	mg/L	100	95	105			
WG400422ICB	ICB	03/23/16 18:19				U	mg/L		-0.06	0.06			
WG400422LFB	LFB	03/23/16 18:32	II160319-2	.4995		.516	mg/L	103	85	115			
L29484-01AS	AS	03/23/16 18:38	II160319-2	.4995	U	.538	mg/L	108	85	115			
L29484-01ASD	ASD	03/23/16 18:41	II160319-2	.4995	U	.522	mg/L	105	85	115	3	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		2.0027	mg/L	100	95	105			
WG400412ICB	ICB	03/22/16 21:17				.0088	mg/L		-0.024	0.024			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	.501		.5213	mg/L	104	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	.501	.245	.7342	mg/L	98	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	.501	.245	.7385	mg/L	99	85	115	1	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400590													
WG400590ICV	ICV	03/25/16 20:07	WI160304-5	2.416		2.523	mg/L	104	90	110			
WG400590ICB	ICB	03/25/16 20:08				U	mg/L		-0.02	0.02			
WG400595													
WG400595LFB1	LFB	03/25/16 23:54	WI151215-9	2		1.856	mg/L	93	90	110			
L29484-01AS	AS	03/26/16 0:15	WI151215-9	2	.03	2.046	mg/L	101	90	110			
L29484-02DUP	DUP	03/26/16 0:18			.15	.154	mg/L				3	20	RA
WG400595LFB2	LFB	03/26/16 0:34	WI151215-9	2		1.854	mg/L	93	90	110			

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400450													
WG400450ICV	ICV	03/23/16 16:01	WI160317-2	11.988		12.253	mg/L	102	90	110			
WG400450ICB	ICB	03/23/16 16:03				U	mg/L		-0.05	0.05			
WG400450LFB	LFB	03/23/16 16:04	WI160121-1	10		9.594	mg/L	96	90	110			
L29377-02DUP	DUP	03/23/16 16:07			U	U	mg/L				0	20	RA
L29377-05AS	AS	03/23/16 16:10	WI160121-1	10	.16	9.719	mg/L	96	90	110			
L29484-04DUP	DUP	03/23/16 17:01			U	U	mg/L				0	20	RA
L29484-05AS	AS	03/23/16 17:04	WI160121-1	10	U	9.771	mg/L	98	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400347													
WG400347LCSW1	LCSW	03/22/16 12:45	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG400347LCSW4	LCSW	03/22/16 16:21	PCN48559	6.01		6.1	units	101	5.9	6.1			
L29469-09DUP	DUP	03/22/16 19:26			7.7	7.7	units				0	20	
WG400347LCSW7	LCSW	03/22/16 19:41	PCN48559	6.01		6.1	units	101	5.9	6.1			
L29486-01DUP	DUP	03/22/16 21:04			8.2	8.3	units				1	20	
WG400347LCSW10	LCSW	03/22/16 22:37	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG400347LCSW13	LCSW	03/23/16 1:43	PCN48559	6.01		6.1	units	101	5.9	6.1			

McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400545													
WG400545ICV	ICV	03/25/16 10:00	WI160308-3	.65228		.687	mg/L	105	90	110			
WG400545ICB	ICB	03/25/16 10:02				U	mg/L		-0.02	0.02			
WG400546													
WG400250LRB	LRB	03/25/16 11:12				U	mg/L		-0.02	0.02			
WG400250LFB	LFB	03/25/16 11:13	WI160317-5	.5		.508	mg/L	102	90	110			
L29474-07DUP	DUP	03/25/16 11:34			U	U	mg/L				0	20	RA
L29474-06LFM	LFM	03/25/16 11:50	WI160317-5	.5	1.3	1.76	mg/L	92	90	110			
WG400547													
WG400510LRB	LRB	03/25/16 12:13				U	mg/L		-0.02	0.02			
WG400510LFB	LFB	03/25/16 12:14	WI160317-5	.5		.483	mg/L	97	90	110			
L29489-01DUP	DUP	03/25/16 12:22			.02	.022	mg/L				10	20	RA
L29490-01LFM	LFM	03/25/16 12:27	WI160317-5	.5	U	.483	mg/L	97	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	20		20.53	mg/L	103	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.6	0.6			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	100.0377		99.27	mg/L	99	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	100.0377	.8	104.5	mg/L	104	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	100.0377	.8	101.2	mg/L	100	85	115	3	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400306													
WG400306PBW	PBW	03/21/16 16:15				U	mg/L		-20	20			
WG400306LCSW	LCSW	03/21/16 16:16	PCN50245	260		250	mg/L	96	80	120			
L29517-02DUP	DUP	03/21/16 16:59			136	130	mg/L				5	10	
WG400329													
WG400329PBW	PBW	03/22/16 10:30				U	mg/L		-20	20			
WG400329LCSW	LCSW	03/22/16 10:32	PCN50245	260		258	mg/L	99	80	120			
L29509-01DUP	DUP	03/22/16 11:04			2140	2040	mg/L				5	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		1.99	mg/L	100	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.3	0.3			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	1.0009		1	mg/L	100	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	1.0009	U	.99	mg/L	99	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	1.0009	U	1	mg/L	100	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L29484***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400372													
WG400372ICV	ICV	03/23/16 2:31	MS160302-3	.05		.04983	mg/L	100	90	110			
WG400372ICB	ICB	03/23/16 2:34				U	mg/L		-0.0003	0.0003			
WG400372LFB	LFB	03/23/16 2:37	MS160303-3	.0501		.05292	mg/L	106	85	115			
L29484-04AS	AS	03/23/16 3:34	MS160303-3	.0501	.0024	.05678	mg/L	109	70	130			
L29484-04ASD	ASD	03/23/16 3:37	MS160303-3	.0501	.0024	.05785	mg/L	111	70	130	2	20	
WG400378													
WG400378ICV	ICV	03/23/16 4:36	MS160302-3	.05		.04989	mg/L	100	90	110			
WG400378ICB	ICB	03/23/16 4:39				U	mg/L		-0.0003	0.0003			
WG400378LFB	LFB	03/23/16 4:43	MS160303-3	.0501		.04906	mg/L	98	85	115			
L29482-01AS	AS	03/23/16 5:37	MS160303-3	.0501	.0118	.06329	mg/L	103	70	130			
L29482-01ASD	ASD	03/23/16 5:40	MS160303-3	.0501	.0118	.06352	mg/L	103	70	130	0	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	1.001		1.026	mg/L	102	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.03	0.03			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	.5015		.497	mg/L	99	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	.5015	U	.351	mg/L	70	85	115			M2 ZA
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	.5015	U	.33	mg/L	66	85	115	6	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	100		100.78	mg/L	101	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.6	0.6			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	100.0235		96.11	mg/L	96	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	100.0235	U	100.3	mg/L	100	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	100.0235	U	97.71	mg/L	98	85	115	3	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		1.9745	mg/L	99	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.015	0.015			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	.5		.4916	mg/L	98	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	.5	.021	.531	mg/L	102	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	.5	.021	.5155	mg/L	99	85	115	3	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400624													
WG400624ICB	ICB	03/28/16 9:51				U	mg/L		-3	3			
WG400624ICV	ICV	03/28/16 9:51	WI160328-2	20		20.9	mg/L	105	90	110			
WG400624LFB	LFB	03/28/16 10:47	WI160201-3	10.01		10.2	mg/L	102	90	110			
L29479-08DUP	DUP	03/28/16 10:58			3050	3040	mg/L				0	20	
L29484-01AS	AS	03/28/16 10:58	SO4TURB5X	10	69.8	80.3	mg/L	105	90	110			
WG400627													
WG400627ICB	ICB	03/28/16 9:51				U	mg/L		-3	3			
WG400627ICV	ICV	03/28/16 9:51	WI160328-2	20		20.9	mg/L	105	90	110			
WG400627LFB	LFB	03/28/16 11:36	WI160201-3	10.01		9.8	mg/L	98	90	110			
L29484-08DUP	DUP	03/28/16 11:36			U	U	mg/L				0	20	RA
L29484-09AS	AS	03/28/16 11:36	WI160201-3	10.01	5	16.4	mg/L	114	90	110			M1

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400372													
WG400372ICV	ICV	03/23/16 2:31	MS160302-3	.05		.05316	mg/L	106	90	110			
WG400372ICB	ICB	03/23/16 2:34				U	mg/L		-0.0003	0.0003			
WG400372LFB	LFB	03/23/16 2:37	MS160303-3	.0501		.05129	mg/L	102	85	115			
L29484-04AS	AS	03/23/16 3:34	MS160303-3	.0501	.0013	.05365	mg/L	104	70	130			
L29484-04ASD	ASD	03/23/16 3:37	MS160303-3	.0501	.0013	.05513	mg/L	107	70	130	3	20	
WG400378													
WG400378ICV	ICV	03/23/16 4:36	MS160302-3	.05		.05214	mg/L	104	90	110			
WG400378ICB	ICB	03/23/16 4:39				U	mg/L		-0.0003	0.0003			
WG400378LFB	LFB	03/23/16 4:43	MS160303-3	.0501		.05032	mg/L	100	85	115			
L29482-01AS	AS	03/23/16 5:37	MS160303-3	.0501	U	.05467	mg/L	109	70	130			
L29482-01ASD	ASD	03/23/16 5:40	MS160303-3	.0501	U	.05403	mg/L	108	70	130	1	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400422													
WG400422ICV	ICV	03/23/16 18:13	II160209-1	2		2.045	mg/L	102	95	105			
WG400422ICB	ICB	03/23/16 18:19				U	mg/L		-0.12	0.12			
WG400422LFB	LFB	03/23/16 18:32	II160319-2	1.001		1.047	mg/L	105	85	115			
L29484-01AS	AS	03/23/16 18:38	II160319-2	1.001	U	1.031	mg/L	103	85	115			
L29484-01ASD	ASD	03/23/16 18:41	II160319-2	1.001	U	1.031	mg/L	103	85	115	0	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		2.0355	mg/L	102	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.015	0.015			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	1.003		1.009	mg/L	101	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	1.003	U	.9875	mg/L	98	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	1.003	U	1.001	mg/L	100	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L29484***

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400372													
WG400372ICV	ICV	03/23/16 2:31	MS160302-3	.05		.05285	mg/L	106	90	110			
WG400372ICB	ICB	03/23/16 2:34				U	mg/L		-0.0003	0.0003			
WG400372LFB	LFB	03/23/16 2:37	MS160303-3	.05		.0519	mg/L	104	85	115			
L29484-04AS	AS	03/23/16 3:34	MS160303-3	.05	.025	.07497	mg/L	100	70	130			
L29484-04ASD	ASD	03/23/16 3:37	MS160303-3	.05	.025	.07652	mg/L	103	70	130	2	20	
WG400378													
WG400378ICV	ICV	03/23/16 4:36	MS160302-3	.05		.05193	mg/L	104	90	110			
WG400378ICB	ICB	03/23/16 4:39				U	mg/L		-0.0003	0.0003			
WG400378LFB	LFB	03/23/16 4:43	MS160303-3	.05		.05053	mg/L	101	85	115			
L29482-01AS	AS	03/23/16 5:37	MS160303-3	.05	.0394	.09374	mg/L	109	70	130			
L29482-01ASD	ASD	03/23/16 5:40	MS160303-3	.05	.0394	.09227	mg/L	106	70	130	2	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		2.0112	mg/L	101	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.015	0.015			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	.501		.5016	mg/L	100	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	.501	U	.5236	mg/L	105	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	.501	U	.5037	mg/L	101	85	115	4	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG400412													
WG400412ICV	ICV	03/22/16 21:11	II160305-1	2		2.001	mg/L	100	95	105			
WG400412ICB	ICB	03/22/16 21:17				U	mg/L		-0.03	0.03			
WG400412LFB	LFB	03/22/16 21:29	II160319-2	.4995		.568	mg/L	114	85	115			
L29484-01AS	AS	03/22/16 22:18	II160319-2	.4995	.16	.687	mg/L	106	85	115			
L29484-01ASD	ASD	03/22/16 22:21	II160319-2	.4995	.16	.666	mg/L	101	85	115	3	20	

ACZ Laboratories, Inc.
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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L29484***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29484-01	WG400412	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG400305	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG400412	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG400588	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400242	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400595	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400450	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400546	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400306	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400347	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29484-02	WG400412	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG400862	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG400412	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG400588	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400242	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400595	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400450	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400546	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400306	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400347	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29484-03	WG400412	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG400862	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG400412	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG400588	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400242	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400595	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400450	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400546	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400306	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400347	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29484-04	WG400412	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG400694	Mercury, dissolved	M245.1 CVAA	DJ	Sample dilution required due to insufficient sample.
	WG400305	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG400412	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG400588	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400242	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400595	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400450	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400546	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400306	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400347	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29484-05	WG400412	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG400305	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG400412	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG400588	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400242	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400595	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400450	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400546	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400329	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400347	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29484-06	WG400412	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG400862	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG400412	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG400588	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400242	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400595	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400450	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400547	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400329	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400347	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L29484***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29484-07	WG400412	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG400305	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG400412	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG400588	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400242	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400595	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400450	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400547	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400329	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400347	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29484-08	WG400412	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG400862	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG400412	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG400588	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400242	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400595	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400450	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400547	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400329	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400627	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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ACZ Project ID: ***L29484***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29484-09	WG400412	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG400694	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG400305	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG400412	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG400588	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400242	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400595	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400450	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400547	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400329	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400627	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29484-10	WG400412	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG400694	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG400305	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG400412	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG400588	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400462	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG400461	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG400242	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400595	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400450	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400547	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400329	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG400627	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG400347	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

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Sample Receipt

McClelland Laboratories, Inc.
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ACZ Project ID: L29484
Date Received: 03/17/2016 09:56
Received By: ddp
Date Printed: 3/17/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L29484-01 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L29484-02 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L29484-03 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L29484-04 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L29484-05 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L29484-06 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L29484-07 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L29484-08 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L29484-09 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

McClelland Laboratories, Inc.
3981

ACZ Project ID: L29484
Date Received: 03/17/2016 09:56
Received By: ddp
Date Printed: 3/17/2016

L29484-10 : A Purple, Green, Yellow and HG-1631 container not received and a new container created from the White .

16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA23553	3.7	<=6.0	14	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc.

L29484

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:

Project/PO #: 3981

Reporting state for compliance testing:

Sampler's Name: Robert

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500	Mercury by 1631E				
CAL-002 (86-95)	3/16/16	WW	1	x			x				
CAL-004 (860-875)	↓	WW	1	x			X				
CAL-003 (675-685)		WW	1	x			x				
GMC-012 (832-851)		WW	1	x			x				
CAL-004 (295-315)		WW	1	x			x				
CAL-001 (750-762)		WW	1	x			x				
GMC-014 (176-184)		WW	1	x			x				
CAL-001 (380-400)		WW	1	x			x				
CAL-002 (177-187)		WW	1	x			x				
Calico Leach Res. after CN Destruct		WW	1	x	x	x	x				

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 16
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	3/16/16 9AM	[signature]	3/17/16 0950

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L29484 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

****Gray out Analyses DOESN'T get done on all Samples, just 1 of the Sample SEE COC****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

April 27, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L29914

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on April 14, 2016. This project has been assigned to ACZ's project number, L29914. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L29914. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after May 27, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L29914-01***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/19/16 17:15	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.54			mg/L	0.03	0.2	04/20/16 21:58	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0184			mg/L	0.0004	0.002	04/26/16 18:11	scp
Arsenic, dissolved	M200.8 ICP-MS	1	0.0760			mg/L	0.0002	0.001	04/26/16 18:11	scp
Barium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.003	0.02	04/20/16 21:58	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00053			mg/L	0.00005	0.0003	04/26/16 18:11	scp
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/20/16 21:58	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 21:58	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	04/26/16 18:11	scp
Calcium, dissolved	M200.7 ICP	1	2.3			mg/L	0.1	0.5	04/20/16 21:58	gss
Chromium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	04/20/16 21:58	gss
Cobalt, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	04/20/16 21:58	gss
Copper, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	04/20/16 21:58	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 21:58	gss
Iron, dissolved	M200.7 ICP	1	20.40			mg/L	0.02	0.05	04/20/16 21:58	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0001	0.0005	04/26/16 18:11	scp
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/20/16 21:58	gss
Magnesium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	04/20/16 21:58	gss
Manganese, dissolved	M200.7 ICP	1	0.028	B		mg/L	0.005	0.03	04/20/16 21:58	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/25/16 16:32	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/20/16 21:58	gss
Nickel, dissolved	M200.7 ICP	1	0.140			mg/L	0.008	0.04	04/20/16 21:58	gss
Potassium, dissolved	M200.7 ICP	1	1			mg/L	0.2	1	04/20/16 21:58	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 21:58	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0003	04/26/16 18:11	scp
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/20/16 21:58	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/20/16 21:58	gss
Strontium, dissolved	M200.7 ICP	1	0.019	B		mg/L	0.005	0.03	04/20/16 21:58	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0091			mg/L	0.0001	0.0005	04/26/16 18:11	scp
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/20/16 21:58	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/20/16 21:58	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0001	0.0005	04/26/16 18:11	scp
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/20/16 21:58	gss
Zinc, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	04/20/16 21:58	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L29914-01***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			7.7			%			04/27/16 0:00	calc
Sum of Anions			1.2			meq/L			04/27/16 0:00	calc
Sum of Cations			1.4			meq/L			04/27/16 0:00	calc
Chloride	SM4500Cl-E	1	0.8	B		mg/L	0.5	2	04/18/16 17:19	spl
Conductivity @25C	SM2510B	1	261		*	umhos/cm	1	10	04/15/16 4:01	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/21/16 11:23	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		6.6			mg/L	0.2	5	04/27/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.10			mg/L	0.02	0.1	04/21/16 12:02	enb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/27/16 9:33	spl
pH (lab)	SM4500H+ B									
pH		1	3.5	H	*	units	0.1	0.1	04/15/16 0:00	abd
pH measured at		1	22.3			C	0.1	0.1	04/15/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.02	0.05	04/20/16 12:14	spl
Residue, Filterable (TDS) @180C	SM2540C	1	94		*	mg/L	10	20	04/18/16 12:05	sck
Sulfate	D516-02/-07 - Turbidimetric	5	54.6		*	mg/L	5	25	04/25/16 11:43	mss2
TDS (calculated)	Calculation		81.1			mg/L			04/27/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.16						04/27/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L29914-02***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/19/16 17:21	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.07	B		mg/L	0.03	0.2	04/20/16 22:01	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0053			mg/L	0.0004	0.002	04/26/16 18:17	scp
Arsenic, dissolved	M200.8 ICP-MS	1	0.0081			mg/L	0.0002	0.001	04/26/16 18:17	scp
Barium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.003	0.02	04/20/16 22:01	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00138			mg/L	0.00005	0.0003	04/26/16 18:17	scp
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/20/16 22:01	gss
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	04/20/16 22:01	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	04/26/16 18:17	scp
Calcium, dissolved	M200.7 ICP	1	15.5			mg/L	0.1	0.5	04/20/16 22:01	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:01	gss
Cobalt, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	04/20/16 22:01	gss
Copper, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	04/20/16 22:01	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:01	gss
Iron, dissolved	M200.7 ICP	1	0.81			mg/L	0.02	0.05	04/20/16 22:01	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	04/26/16 18:17	scp
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/20/16 22:01	gss
Magnesium, dissolved	M200.7 ICP	1	2.3			mg/L	0.2	1	04/20/16 22:01	gss
Manganese, dissolved	M200.7 ICP	1	1.050			mg/L	0.005	0.03	04/20/16 22:01	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/25/16 16:34	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/20/16 22:01	gss
Nickel, dissolved	M200.7 ICP	1	0.073			mg/L	0.008	0.04	04/20/16 22:01	gss
Potassium, dissolved	M200.7 ICP	1	9.5			mg/L	0.2	1	04/20/16 22:01	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:01	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0049			mg/L	0.0001	0.0003	04/26/16 18:17	scp
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/20/16 22:01	gss
Sodium, dissolved	M200.7 ICP	1	1.2			mg/L	0.2	1	04/20/16 22:01	gss
Strontium, dissolved	M200.7 ICP	1	0.172			mg/L	0.005	0.03	04/20/16 22:01	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0001	0.0005	04/26/16 18:17	scp
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/20/16 22:01	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/20/16 22:01	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	04/26/16 18:17	scp
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/20/16 22:01	gss
Zinc, dissolved	M200.7 ICP	1	0.18			mg/L	0.01	0.05	04/20/16 22:01	gss

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L29914-02***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			3.7			%			04/27/16 0:00	calc
Sum of Anions			1.3			meq/L			04/27/16 0:00	calc
Sum of Cations			1.4			meq/L			04/27/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	04/18/16 17:19	spl
Conductivity @25C	SM2510B	1	178		*	umhos/cm	1	10	04/15/16 4:06	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/21/16 11:47	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		48			mg/L	0.2	5	04/27/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	04/21/16 12:07	enb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/27/16 9:38	spl
pH (lab)	SM4500H+ B									
pH		1	4.5	H	*	units	0.1	0.1	04/15/16 0:00	abd
pH measured at		1	22.3			C	0.1	0.1	04/15/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	04/20/16 12:17	spl
Residue, Filterable (TDS) @180C	SM2540C	1	116		*	mg/L	10	20	04/18/16 12:07	sck
Sulfate	D516-02/-07 - Turbidimetric	5	64.0		*	mg/L	5	25	04/25/16 11:43	mss2
TDS (calculated)	Calculation		94.9			mg/L			04/27/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.22						04/27/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L29914-03***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/19/16 17:27	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	12.70			mg/L	0.03	0.2	04/20/16 22:11	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0010	B		mg/L	0.0004	0.002	04/26/16 18:20	scp
Arsenic, dissolved	M200.8 ICP-MS	1	1.6500			mg/L	0.0002	0.001	04/26/16 18:20	scp
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	04/20/16 22:11	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00230			mg/L	0.00005	0.0003	04/26/16 18:20	scp
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/20/16 22:11	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:11	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	04/26/16 18:20	scp
Calcium, dissolved	M200.7 ICP	1	13.7			mg/L	0.1	0.5	04/20/16 22:11	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:11	gss
Cobalt, dissolved	M200.7 ICP	1	0.17			mg/L	0.01	0.05	04/20/16 22:11	gss
Copper, dissolved	M200.7 ICP	1	0.36			mg/L	0.01	0.05	04/20/16 22:11	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:11	gss
Iron, dissolved	M200.7 ICP	1	178			mg/L	0.02	0.05	04/20/16 22:11	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0029			mg/L	0.0001	0.0005	04/26/16 18:20	scp
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/20/16 22:11	gss
Magnesium, dissolved	M200.7 ICP	1	3.9			mg/L	0.2	1	04/20/16 22:11	gss
Manganese, dissolved	M200.7 ICP	1	0.109			mg/L	0.005	0.03	04/20/16 22:11	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/25/16 16:35	pta
Molybdenum, dissolved	M200.7 ICP	1	0.16			mg/L	0.02	0.1	04/20/16 22:11	gss
Nickel, dissolved	M200.7 ICP	1	0.168			mg/L	0.008	0.04	04/20/16 22:11	gss
Potassium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	04/20/16 22:11	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:11	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0033			mg/L	0.0001	0.0003	04/26/16 18:20	scp
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/20/16 22:11	gss
Sodium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	04/20/16 22:11	gss
Strontium, dissolved	M200.7 ICP	1	0.197			mg/L	0.005	0.03	04/20/16 22:11	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	04/26/16 18:20	scp
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/20/16 22:11	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/20/16 22:11	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0043			mg/L	0.0001	0.0005	04/26/16 18:20	scp
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/20/16 22:11	gss
Zinc, dissolved	M200.7 ICP	1	0.24			mg/L	0.01	0.05	04/20/16 22:11	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L29914-03***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			10.6			%			04/27/16 0:00	calc
Sum of Anions			9.7			meq/L			04/27/16 0:00	calc
Sum of Cations			12			meq/L			04/27/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	04/18/16 17:19	spl
Conductivity @25C	SM2510B	1	2030		*	umhos/cm	1	10	04/15/16 4:10	abd
Fluoride	SM4500F-C	400		U	*	mg/L	20	100	04/21/16 11:59	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		50			mg/L	0.2	5	04/27/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	04/21/16 12:08	enb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/27/16 9:39	spl
pH (lab)	SM4500H+ B									
pH		1	2.4	H	*	units	0.1	0.1	04/15/16 0:00	abd
pH measured at		1	22.3			C	0.1	0.1	04/15/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	2	1.64		*	mg/L	0.04	0.1	04/20/16 12:19	spl
Residue, Filterable (TDS) @180C	SM2540C	2	824		*	mg/L	20	40	04/18/16 12:10	sck
Sulfate	D516-02/-07 - Turbidimetric	50	464		*	mg/L	50	250	04/25/16 11:54	mss2
TDS (calculated)	Calculation		675			mg/L			04/27/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.22						04/27/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L29914-04***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/19/16 17:30	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	18.60			mg/L	0.03	0.2	04/20/16 22:14	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0013	B		mg/L	0.0004	0.002	04/26/16 18:22	scp
Arsenic, dissolved	M200.8 ICP-MS	1	0.2144			mg/L	0.0002	0.001	04/26/16 18:22	scp
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	04/20/16 22:14	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00106			mg/L	0.00005	0.0003	04/26/16 18:22	scp
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/20/16 22:14	gss
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	04/20/16 22:14	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	04/26/16 18:22	scp
Calcium, dissolved	M200.7 ICP	1	22.9			mg/L	0.1	0.5	04/20/16 22:14	gss
Chromium, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	04/20/16 22:14	gss
Cobalt, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	04/20/16 22:14	gss
Copper, dissolved	M200.7 ICP	1	0.54			mg/L	0.01	0.05	04/20/16 22:14	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:14	gss
Iron, dissolved	M200.7 ICP	1	124			mg/L	0.02	0.05	04/20/16 22:14	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0038			mg/L	0.0001	0.0005	04/26/16 18:22	scp
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/20/16 22:14	gss
Magnesium, dissolved	M200.7 ICP	1	0.9	B		mg/L	0.2	1	04/20/16 22:14	gss
Manganese, dissolved	M200.7 ICP	1	0.369			mg/L	0.005	0.03	04/20/16 22:14	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/25/16 16:37	pta
Molybdenum, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.02	0.1	04/20/16 22:14	gss
Nickel, dissolved	M200.7 ICP	1	0.169			mg/L	0.008	0.04	04/20/16 22:14	gss
Potassium, dissolved	M200.7 ICP	1	1.7			mg/L	0.2	1	04/20/16 22:14	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:14	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0001	0.0003	04/26/16 18:22	scp
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/20/16 22:14	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/20/16 22:14	gss
Strontium, dissolved	M200.7 ICP	1	0.024	B		mg/L	0.005	0.03	04/20/16 22:14	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0005	04/26/16 18:22	scp
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/20/16 22:14	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/20/16 22:14	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0453			mg/L	0.0001	0.0005	04/26/16 18:22	scp
Vanadium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	04/20/16 22:14	gss
Zinc, dissolved	M200.7 ICP	1	0.42			mg/L	0.01	0.05	04/20/16 22:14	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L29914-04***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-9.1			%			04/27/16 0:00	calc
Sum of Anions			12			meq/L			04/27/16 0:00	calc
Sum of Cations			10			meq/L			04/27/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	04/18/16 17:20	spl
Conductivity @25C	SM2510B	1	2780		*	umhos/cm	1	10	04/15/16 4:15	abd
Fluoride	SM4500F-C	400		U	*	mg/L	20	100	04/21/16 12:08	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		61			mg/L	0.2	5	04/27/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B		mg/L	0.02	0.1	04/21/16 12:09	enb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/27/16 9:41	spl
pH (lab)	SM4500H+ B									
pH		1	2.3	H	*	units	0.1	0.1	04/15/16 0:00	abd
pH measured at		1	22.3			C	0.1	0.1	04/15/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.22		*	mg/L	0.02	0.05	04/20/16 11:57	spl
Residue, Filterable (TDS) @180C	SM2540C	1	708		*	mg/L	10	20	04/18/16 12:13	sck
Sulfate	D516-02/-07 - Turbidimetric	50	581		*	mg/L	50	250	04/25/16 11:54	mss2
TDS (calculated)	Calculation		750			mg/L			04/27/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.94						04/27/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L29914-05***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/19/16 16:40	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.27			mg/L	0.03	0.2	04/20/16 22:17	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0013	B		mg/L	0.0004	0.002	04/26/16 18:24	scp
Arsenic, dissolved	M200.8 ICP-MS	1	0.0282			mg/L	0.0002	0.001	04/26/16 18:24	scp
Barium, dissolved	M200.7 ICP	1	0.021			mg/L	0.003	0.02	04/20/16 22:17	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00307			mg/L	0.00005	0.0003	04/26/16 18:24	scp
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/20/16 22:17	gss
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	04/20/16 22:17	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	04/26/16 18:24	scp
Calcium, dissolved	M200.7 ICP	1	29.6			mg/L	0.1	0.5	04/20/16 22:17	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:17	gss
Cobalt, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	04/20/16 22:17	gss
Copper, dissolved	M200.7 ICP	1	0.13			mg/L	0.01	0.05	04/20/16 22:17	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:17	gss
Iron, dissolved	M200.7 ICP	1	6.18			mg/L	0.02	0.05	04/20/16 22:17	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	04/26/16 18:24	scp
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/20/16 22:17	gss
Magnesium, dissolved	M200.7 ICP	1	5.7			mg/L	0.2	1	04/20/16 22:17	gss
Manganese, dissolved	M200.7 ICP	1	0.454			mg/L	0.005	0.03	04/20/16 22:17	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/25/16 16:39	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/20/16 22:17	gss
Nickel, dissolved	M200.7 ICP	1	0.063			mg/L	0.008	0.04	04/20/16 22:17	gss
Potassium, dissolved	M200.7 ICP	1	3.3			mg/L	0.2	1	04/20/16 22:17	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:17	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0003	04/26/16 18:24	scp
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/20/16 22:17	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/20/16 22:17	gss
Strontium, dissolved	M200.7 ICP	1	0.087			mg/L	0.005	0.03	04/20/16 22:17	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	04/26/16 18:24	scp
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/20/16 22:17	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/20/16 22:17	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0067			mg/L	0.0001	0.0005	04/26/16 18:24	scp
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/20/16 22:17	gss
Zinc, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	04/20/16 22:17	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L29914-05***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			04/27/16 0:00	calc
Sum of Anions			2.5			meq/L			04/27/16 0:00	calc
Sum of Cations			2.5			meq/L			04/27/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	04/18/16 17:20	spl
Conductivity @25C	SM2510B	1	2170		*	umhos/cm	1	10	04/15/16 4:19	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/21/16 12:18	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		97			mg/L	0.2	5	04/27/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B		mg/L	0.02	0.1	04/21/16 12:11	enb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/27/16 9:42	spl
pH (lab)	SM4500H+ B									
pH		1	2.4	H	*	units	0.1	0.1	04/15/16 0:00	abd
pH measured at		1	22.4			C	0.1	0.1	04/15/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	04/20/16 13:11	spl
Residue, Filterable (TDS) @180C	SM2540C	1	208		*	mg/L	10	20	04/18/16 12:15	sck
Sulfate	D516-02/-07 - Turbidimetric	5	119		*	mg/L	5	25	04/25/16 11:45	mss2
TDS (calculated)	Calculation		166			mg/L			04/27/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.25						04/27/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L29914-06***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/19/16 16:47	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	04/20/16 22:20	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	04/26/16 18:26	scp
Arsenic, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0002	0.001	04/26/16 18:26	scp
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	04/20/16 22:20	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	04/26/16 18:26	scp
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/20/16 22:20	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:20	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/26/16 18:26	scp
Calcium, dissolved	M200.7 ICP	1	4			mg/L	0.1	0.5	04/20/16 22:20	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:20	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:20	gss
Copper, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	04/20/16 22:20	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:20	gss
Iron, dissolved	M200.7 ICP	1	0.09			mg/L	0.02	0.05	04/20/16 22:20	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	04/26/16 18:26	scp
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/20/16 22:20	gss
Magnesium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	04/20/16 22:20	gss
Manganese, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.005	0.03	04/20/16 22:20	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/25/16 16:41	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/20/16 22:20	gss
Nickel, dissolved	M200.7 ICP	1	0.023	B		mg/L	0.008	0.04	04/20/16 22:20	gss
Potassium, dissolved	M200.7 ICP	1	3.7			mg/L	0.2	1	04/20/16 22:20	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:20	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0078			mg/L	0.0001	0.0003	04/26/16 18:26	scp
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/20/16 22:20	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/20/16 22:20	gss
Strontium, dissolved	M200.7 ICP	1	0.044			mg/L	0.005	0.03	04/20/16 22:20	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	04/26/16 18:26	scp
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/20/16 22:20	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/20/16 22:20	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	04/26/16 18:26	scp
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/20/16 22:20	gss
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	04/20/16 22:20	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L29914-06***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-9.4			%			04/27/16 0:00	calc
Sum of Anions			0.483	B		meq/L			04/27/16 0:00	calc
Sum of Cations			0.4	B		meq/L			04/27/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	04/18/16 17:20	spl
Conductivity @25C	SM2510B	1	77.9		*	umhos/cm	1	10	04/15/16 4:24	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/21/16 12:27	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		13			mg/L	0.2	5	04/27/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B		mg/L	0.02	0.1	04/21/16 12:12	enb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.09	B	*	mg/L	0.05	0.2	04/27/16 9:44	spl
pH (lab)	SM4500H+ B									
pH		1	4.5	H	*	units	0.1	0.1	04/15/16 0:00	abd
pH measured at		1	22.5			C	0.1	0.1	04/15/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	04/20/16 12:46	spl
Residue, Filterable (TDS) @180C	SM2540C	1	26		*	mg/L	10	20	04/18/16 12:18	sck
Sulfate	D516-02/-07 - Turbidimetric	1	23.0		*	mg/L	1	5	04/25/16 11:37	mss2
TDS (calculated)	Calculation		31.7			mg/L			04/27/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.82						04/27/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L29914-07***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/19/16 17:33	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	13.90			mg/L	0.03	0.2	04/20/16 22:24	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0004	0.002	04/26/16 18:29	scp
Arsenic, dissolved	M200.8 ICP-MS	1	0.7720			mg/L	0.0002	0.001	04/26/16 18:29	scp
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	04/20/16 22:24	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00503			mg/L	0.00005	0.0003	04/26/16 18:29	scp
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/20/16 22:24	gss
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	04/20/16 22:24	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0001	0.0005	04/26/16 18:29	scp
Calcium, dissolved	M200.7 ICP	1	18.5			mg/L	0.1	0.5	04/20/16 22:24	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:24	gss
Cobalt, dissolved	M200.7 ICP	1	0.13			mg/L	0.01	0.05	04/20/16 22:24	gss
Copper, dissolved	M200.7 ICP	1	0.23			mg/L	0.01	0.05	04/20/16 22:24	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:24	gss
Iron, dissolved	M200.7 ICP	1	107			mg/L	0.02	0.05	04/20/16 22:24	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0019			mg/L	0.0001	0.0005	04/26/16 18:29	scp
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/20/16 22:24	gss
Magnesium, dissolved	M200.7 ICP	1	2.6			mg/L	0.2	1	04/20/16 22:24	gss
Manganese, dissolved	M200.7 ICP	1	0.220			mg/L	0.005	0.03	04/20/16 22:24	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/25/16 16:43	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/20/16 22:24	gss
Nickel, dissolved	M200.7 ICP	1	0.139			mg/L	0.008	0.04	04/20/16 22:24	gss
Potassium, dissolved	M200.7 ICP	1	7.8			mg/L	0.2	1	04/20/16 22:24	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:24	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0003	04/26/16 18:29	scp
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/20/16 22:24	gss
Sodium, dissolved	M200.7 ICP	1	1.5			mg/L	0.2	1	04/20/16 22:24	gss
Strontium, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.005	0.03	04/20/16 22:24	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0001	0.0005	04/26/16 18:29	scp
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/20/16 22:24	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/20/16 22:24	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0030			mg/L	0.0001	0.0005	04/26/16 18:29	scp
Vanadium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	04/20/16 22:24	gss
Zinc, dissolved	M200.7 ICP	1	1.21			mg/L	0.01	0.05	04/20/16 22:24	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L29914-07***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			8.8			%			04/27/16 0:00	calc
Sum of Anions			7.3			meq/L			04/27/16 0:00	calc
Sum of Cations			8.7			meq/L			04/27/16 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B		mg/L	0.5	2	04/18/16 17:20	spl
Conductivity @25C	SM2510B	1	1210		*	umhos/cm	1	10	04/15/16 4:28	abd
Fluoride	SM4500F-C	400		U	*	mg/L	20	100	04/21/16 12:38	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		57			mg/L	0.2	5	04/27/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	04/21/16 12:14	enb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/27/16 9:47	spl
pH (lab)	SM4500H+ B									
pH		1	2.8	H	*	units	0.1	0.1	04/15/16 0:00	abd
pH measured at		1	22.5			C	0.1	0.1	04/15/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.21		*	mg/L	0.02	0.05	04/20/16 12:29	spl
Residue, Filterable (TDS) @180C	SM2540C	2	596		*	mg/L	20	40	04/18/16 12:20	sck
Sulfate	D516-02/-07 - Turbidimetric	20	345		*	mg/L	20	100	04/25/16 11:57	mss2
TDS (calculated)	Calculation		498			mg/L			04/27/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.20						04/27/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L29914-08***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/19/16 17:36	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	04/20/16 22:33	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0004	0.002	04/26/16 18:35	scp
Arsenic, dissolved	M200.8 ICP-MS	1	0.0198			mg/L	0.0002	0.001	04/26/16 18:35	scp
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	04/20/16 22:33	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	04/26/16 18:35	scp
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/20/16 22:33	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:33	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/26/16 18:35	scp
Calcium, dissolved	M200.7 ICP	1	2.4			mg/L	0.1	0.5	04/20/16 22:33	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:33	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:33	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:33	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:33	gss
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	04/20/16 22:33	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	04/26/16 18:35	scp
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/20/16 22:33	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/20/16 22:33	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/20/16 22:33	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/25/16 16:52	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/20/16 22:33	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/20/16 22:33	gss
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/20/16 22:33	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:33	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	04/26/16 18:35	scp
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/20/16 22:33	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/20/16 22:33	gss
Strontium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.005	0.03	04/20/16 22:33	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/26/16 18:35	scp
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/20/16 22:33	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/20/16 22:33	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/26/16 18:35	scp
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/20/16 22:33	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:33	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L29914-08***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	4.3	B		mg/L	2	20	04/15/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Total Alkalinity		1	4.3	B	*	mg/L	2	20	04/15/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			04/27/16 0:00	calc
Sum of Anions			0.2	B		meq/L			04/27/16 0:00	calc
Sum of Cations			0.1	B		meq/L			04/27/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	04/18/16 17:20	spl
Conductivity @25C	SM2510B	1	19.4		*	umhos/cm	1	10	04/15/16 4:37	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/21/16 12:58	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		6			mg/L	0.2	5	04/27/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B	*	mg/L	0.02	0.1	04/21/16 12:17	enb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/27/16 9:48	spl
pH (lab)	SM4500H+ B									
pH		1	7.1	H	*	units	0.1	0.1	04/15/16 0:00	abd
pH measured at		1	22.4			C	0.1	0.1	04/15/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	04/20/16 12:00	spl
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	04/18/16 12:23	sck
Sulfate	D516-02/-07 - Turbidimetric	1	5.9		*	mg/L	1	5	04/25/16 11:37	mss2
TDS (calculated)	Calculation		10.9			mg/L			04/27/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						04/27/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L29914-09***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/19/16 16:54	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	04/20/16 22:36	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0004	0.002	04/26/16 18:38	scp
Arsenic, dissolved	M200.8 ICP-MS	1	0.0042			mg/L	0.0002	0.001	04/26/16 18:38	scp
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	04/20/16 22:36	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	04/26/16 18:38	scp
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/20/16 22:36	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:36	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/26/16 18:38	scp
Calcium, dissolved	M200.7 ICP	1	1.3			mg/L	0.1	0.5	04/20/16 22:36	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:36	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:36	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:36	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:36	gss
Iron, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.02	0.05	04/20/16 22:36	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	04/26/16 18:38	scp
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/20/16 22:36	gss
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	04/20/16 22:36	gss
Manganese, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	04/20/16 22:36	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/25/16 16:54	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/20/16 22:36	gss
Nickel, dissolved	M200.7 ICP	1	0.098			mg/L	0.008	0.04	04/20/16 22:36	gss
Potassium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	04/20/16 22:36	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:36	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0003	04/26/16 18:38	scp
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/20/16 22:36	gss
Sodium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	04/20/16 22:36	gss
Strontium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	04/20/16 22:36	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	04/26/16 18:38	scp
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/20/16 22:36	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/20/16 22:36	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/26/16 18:38	scp
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/20/16 22:36	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:36	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L29914-09***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			04/27/16 0:00	calc
Sum of Anions			0.134	B		meq/L			04/27/16 0:00	calc
Sum of Cations			0.123	B		meq/L			04/27/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	04/18/16 18:00	spl
Conductivity @25C	SM2510B	1	24.0		*	umhos/cm	1	10	04/15/16 4:44	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/21/16 13:09	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4.5	B		mg/L	0.2	5	04/27/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	04/21/16 12:23	enb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/27/16 9:51	spl
pH (lab)	SM4500H+ B									
pH		1	5.5	H	*	units	0.1	0.1	04/15/16 0:00	abd
pH measured at		1	22.5			C	0.1	0.1	04/15/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	04/20/16 12:48	spl
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	04/18/16 12:26	sck
Sulfate	D516-02/-07 - Turbidimetric	1	6.4		*	mg/L	1	5	04/25/16 11:37	mss2
TDS (calculated)	Calculation		9.05			mg/L			04/27/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						04/27/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L29914-10***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation				*				04/19/16 14:07	enb
Cyanide, WAD	SM4500-CN I- distillation				*				04/21/16 17:36	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/19/16 16:58	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	3.28			mg/L	0.03	0.2	04/20/16 22:40	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	04/26/16 18:40	scp
Arsenic, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0002	0.001	04/26/16 18:40	scp
Barium, dissolved	M200.7 ICP	1	0.070			mg/L	0.003	0.02	04/20/16 22:40	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00206			mg/L	0.00005	0.0003	04/26/16 18:40	scp
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/20/16 22:40	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:40	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	04/26/16 18:40	scp
Calcium, dissolved	M200.7 ICP	1	3.1			mg/L	0.1	0.5	04/20/16 22:40	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/20/16 22:40	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	04/20/16 22:40	gss
Copper, dissolved	M200.7 ICP	1	3.28			mg/L	0.01	0.05	04/20/16 22:40	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:40	gss
Iron, dissolved	M200.7 ICP	1	13.90			mg/L	0.02	0.05	04/20/16 22:40	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	04/26/16 18:40	scp
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/20/16 22:40	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/20/16 22:40	gss
Manganese, dissolved	M200.7 ICP	1	0.177			mg/L	0.005	0.03	04/20/16 22:40	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/25/16 16:56	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/20/16 22:40	gss
Nickel, dissolved	M200.7 ICP	1	0.029	B		mg/L	0.008	0.04	04/20/16 22:40	gss
Potassium, dissolved	M200.7 ICP	1	3.7			mg/L	0.2	1	04/20/16 22:40	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/20/16 22:40	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0034			mg/L	0.0001	0.0003	04/26/16 18:40	scp
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/20/16 22:40	gss
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	04/20/16 22:40	gss
Strontium, dissolved	M200.7 ICP	1	0.056			mg/L	0.005	0.03	04/20/16 22:40	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0020			mg/L	0.0001	0.0005	04/26/16 18:40	scp
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/20/16 22:40	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/20/16 22:40	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0091			mg/L	0.0001	0.0005	04/26/16 18:40	scp
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/20/16 22:40	gss
Zinc, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	04/20/16 22:40	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L29914-10***
Date Sampled: *04/13/16 00:00*
Date Received: *04/14/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/16 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/16 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.2			%			04/27/16 0:00	calc
Sum of Anions			1.6			meq/L			04/27/16 0:00	calc
Sum of Cations			1.5			meq/L			04/27/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	04/18/16 18:00	spl
Conductivity @25C	SM2510B	1	275		*	umhos/cm	1	10	04/15/16 4:48	abd
Cyanide, total	M335.4 - Colonmetric w/ distillation	1		U		mg/L	0.006	0.02	04/20/16 16:19	enb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	04/22/16 13:49	mss2
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/21/16 13:21	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		7.7			mg/L	0.2	5	04/27/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	04/21/16 12:25	enb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/27/16 9:55	spl
pH (lab)	SM4500H+ B									
pH		1	3.5	H	*	units	0.1	0.1	04/15/16 0:00	abd
pH measured at		1	22.4			C	0.1	0.1	04/15/16 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	04/20/16 12:49	spl
Residue, Filterable (TDS) @180C	SM2540C	1	152		*	mg/L	10	20	04/18/16 12:28	sck
Sulfate	D516-02/-07 - Turbidimetric	5	76.7		*	mg/L	5	25	04/25/16 11:46	mss2
TDS (calculated)	Calculation		105			mg/L			04/27/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.45						04/27/16 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L29914***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401432													
WG401432PBW1	PBW	04/14/16 15:33				U	mg/L		-20	20			
WG401432LCSW3	LCSW	04/14/16 15:51	WC160405-1	820.0001		788	mg/L	96	90	110			
WG401432LCSW6	LCSW	04/14/16 18:55	WC160405-1	820.0001		798	mg/L	97	90	110			
WG401432PBW2	PBW	04/14/16 19:03				U	mg/L		-20	20			
WG401432LCSW9	LCSW	04/14/16 22:50	WC160405-1	820.0001		792	mg/L	97	90	110			
WG401432PBW3	PBW	04/14/16 22:58				U	mg/L		-20	20			
WG401432LCSW12	LCSW	04/15/16 2:39	WC160405-1	820.0001		796	mg/L	97	90	110			
WG401432PBW4	PBW	04/15/16 2:46				U	mg/L		-20	20			
L29914-10DUP	DUP	04/15/16 4:53			U	U	mg/L				0	20	RA

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		2.032	mg/L	102	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.09	0.09			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	1.0013		1.022	mg/L	102	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	1.0013	.07	1.112	mg/L	104	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	1.0013	.07	1.096	mg/L	102	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG402012													
WG402012ICV	ICV	04/26/16 18:04	MS160419-12	.02		.02032	mg/L	102	90	110			
WG402012ICB	ICB	04/26/16 18:06				U	mg/L		-0.0012	0.0012			
WG402012LFB	LFB	04/26/16 18:08	MS160419-4	.009980001		.01096	mg/L	110	85	115			
L29914-01AS	AS	04/26/16 18:13	MS160419-4	.009980001	.0184	.02798	mg/L	96	70	130			
L29914-01ASD	ASD	04/26/16 18:15	MS160419-4	.009980001	.0184	.02935	mg/L	110	70	130	5	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG402012													
WG402012ICV	ICV	04/26/16 18:04	MS160419-12	.05		.05357	mg/L	107	90	110			
WG402012ICB	ICB	04/26/16 18:06				U	mg/L		-0.0006	0.0006			
WG402012LFB	LFB	04/26/16 18:08	MS160419-4	.0501		.04937	mg/L	99	85	115			
L29914-01AS	AS	04/26/16 18:13	MS160419-4	.0501	.076	.12166	mg/L	91	70	130			
L29914-01ASD	ASD	04/26/16 18:15	MS160419-4	.0501	.076	.1332	mg/L	114	70	130	9	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		2.0275	mg/L	101	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.009	0.009			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	.5005		.5167	mg/L	103	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	.5005	.015	.534	mg/L	104	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	.5005	.015	.5265	mg/L	102	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L29914***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG402012													
WG402012ICV	ICV	04/26/16 18:04	MS160419-12	.05		.054518	mg/L	109	90	110			
WG402012ICB	ICB	04/26/16 18:06				U	mg/L		-0.00015	0.00015			
WG402012LFB	LFB	04/26/16 18:08	MS160419-4	.0501		.054285	mg/L	108	85	115			
L29914-01AS	AS	04/26/16 18:13	MS160419-4	.0501	.00053	.052587	mg/L	104	70	130			
L29914-01ASD	ASD	04/26/16 18:15	MS160419-4	.0501	.00053	.054944	mg/L	109	70	130	4	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		1.984	mg/L	99	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.12	0.12			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	1		.955	mg/L	96	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	1	U	.977	mg/L	98	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	1	U	.962	mg/L	96	85	115	2	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		2.018	mg/L	101	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.03	0.03			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	.5005		.533	mg/L	106	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	.5005	.02	.538	mg/L	103	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	.5005	.02	.533	mg/L	102	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG402012													
WG402012ICV	ICV	04/26/16 18:04	MS160419-12	.05		.05384	mg/L	108	90	110			
WG402012ICB	ICB	04/26/16 18:06				U	mg/L		-0.0003	0.0003			
WG402012LFB	LFB	04/26/16 18:08	MS160419-4	.05005		.05217	mg/L	104	85	115			
L29914-01AS	AS	04/26/16 18:13	MS160419-4	.05005	.0007	.05162	mg/L	102	70	130			
L29914-01ASD	ASD	04/26/16 18:15	MS160419-4	.05005	.0007	.05489	mg/L	108	70	130	6	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	100		100.8	mg/L	101	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.3	0.3			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	67.97118		70.49	mg/L	104	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	67.97118	15.5	85.01	mg/L	102	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	67.97118	15.5	84.54	mg/L	102	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L29914***

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401587													
WG401587ICB	ICB	04/18/16 12:23				U	mg/L		-1.5	1.5			
WG401587ICV	ICV	04/18/16 12:23	WI150701-4	55.055		57.54	mg/L	105	90	110			
WG401587LFB1	LFB	04/18/16 17:19	WI150826-7	29.97		31.92	mg/L	107	90	110			
L29908-02DUP	DUP	04/18/16 17:19			58.8	58.99	mg/L				0	20	
L29908-01AS	AS	04/18/16 17:34	10XCL	30	75	104	mg/L	97	90	110			
L29914-09AS	AS	04/18/16 18:00	WI150826-7	29.97	U	32.61	mg/L	109	90	110			
L29914-10DUP	DUP	04/18/16 18:00			U	U	mg/L				0	20	RA
WG401587LFB2	LFB	04/18/16 18:01	WI150826-7	29.97		31.66	mg/L	106	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		1.972	mg/L	99	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.03	0.03			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	.5005		.517	mg/L	103	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	.5005	U	.516	mg/L	103	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	.5005	U	.506	mg/L	101	85	115	2	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2.002		1.932	mg/L	97	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.03	0.03			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	.498		.511	mg/L	103	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	.498	.1	.594	mg/L	99	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	.498	.1	.59	mg/L	98	85	115	1	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401432													
WG401432LCSW2	LCSW	04/14/16 15:37	PCN48848	1408		1470	umhos/cm	104	90	110			
WG401432LCSW5	LCSW	04/14/16 18:42	PCN48848	1408		1450	umhos/cm	103	90	110			
WG401432LCSW8	LCSW	04/14/16 22:38	PCN48848	1408		1430	umhos/cm	102	90	110			
WG401432LCSW11	LCSW	04/15/16 2:27	PCN48848	1408		1430	umhos/cm	102	90	110			
L29914-10DUP	DUP	04/15/16 4:53			275	286	umhos/cm				4	20	
WG401432LCSW14	LCSW	04/15/16 4:57	PCN48848	1408		1430	umhos/cm	102	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		1.995	mg/L	100	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.03	0.03			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	.501		.512	mg/L	102	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	.501	.09	.596	mg/L	101	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	.501	.09	.585	mg/L	99	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L29914***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401699													
WG401699ICV	ICV	04/20/16 16:10	WI160413-5	.3003		.2943	mg/L	98	90	110			
WG401699ICB	ICB	04/20/16 16:10				U	mg/L		-0.003	0.003			
WG401622LRB	LRB	04/20/16 16:12				U	mg/L		-0.003	0.003			
WG401622LFB	LFB	04/20/16 16:13	WI160413-2	.2		.1856	mg/L	93	90	110			
L29910-01LFM	LFM	04/20/16 16:18	WI160413-2	.2	U	.197	mg/L	99	90	110			
L29895-02DUP	DUP	04/20/16 16:39			1.1	1.046	mg/L				5	20	

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401723													
WG401723ICV	ICV	04/22/16 11:08	WI160413-5	.3003		.2881	mg/L	96	90	110			
WG401723ICB	ICB	04/22/16 11:08				U	mg/L		-0.003	0.003			
WG401820													
WG401790LRB	LRB	04/22/16 13:33				U	mg/L		-0.003	0.003			
WG401790LFB	LFB	04/22/16 13:34	WI160413-4	.2002		.1857	mg/L	93	90	110			
L29910-01DUP	DUP	04/22/16 13:48			U	U	mg/L				0	20	RA
L29920-01LFM	LFM	04/22/16 13:51	WI160413-4	.2002	U	.1768	mg/L	88	90	110			M2

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401737													
WG401737ICV	ICV	04/21/16 11:07	WC160419-7	2		1.931	mg/L	97	95	105			
WG401737ICB	ICB	04/21/16 11:11				U	mg/L		-0.15	0.15			
WG401737LFB	LFB	04/21/16 11:18	WC160419-8	4.995		4.826	mg/L	97	90	110			
L29914-01AS	AS	04/21/16 11:31	WC160419-8	199.8	U	188.8	mg/L	94	90	110			
L29914-01DUP	DUP	04/21/16 11:39			U	U	mg/L				0	20	RA

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		1.94	mg/L	97	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.3	0.3			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	1		.98	mg/L	98	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	1	U	.98	mg/L	98	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	1	U	.97	mg/L	97	85	115	1	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		1.939	mg/L	97	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.06	0.06			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	1.0001		1.049	mg/L	105	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	1.0001	.81	1.819	mg/L	101	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	1.0001	.81	1.78	mg/L	97	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L29914***

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG402012													
WG402012ICV	ICV	04/26/16 18:04	MS160419-12	.05		.05456	mg/L	109	90	110			
WG402012ICB	ICB	04/26/16 18:06				U	mg/L		-0.0003	0.0003			
WG402012LFB	LFB	04/26/16 18:08	MS160419-4	.05005		.05201	mg/L	104	85	115			
L29914-01AS	AS	04/26/16 18:13	MS160419-4	.05005	.0025	.05369	mg/L	102	70	130			
L29914-01ASD	ASD	04/26/16 18:15	MS160419-4	.05005	.0025	.05498	mg/L	105	70	130	2	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		2.0043	mg/L	100	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.024	0.024			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	1.002		.9803	mg/L	98	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	1.002	U	.9831	mg/L	98	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	1.002	U	.9865	mg/L	98	85	115	0	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	100		100.28	mg/L	100	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.6	0.6			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	50.00605		50.07	mg/L	100	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	50.00605	2.3	52.15	mg/L	100	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	50.00605	2.3	51.98	mg/L	99	85	115	0	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		1.9562	mg/L	98	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.015	0.015			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	.5		.5148	mg/L	103	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	.5	1.05	1.496	mg/L	89	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	.5	1.05	1.485	mg/L	87	85	115	1	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401891													
WG401891ICV	ICV	04/25/16 15:59	HG160307-3	.005		.00507	mg/L	101	95	105			
WG401891ICB	ICB	04/25/16 16:01				U	mg/L		-0.0002	0.0002			
WG401891LRB	LRB	04/25/16 16:03				U	mg/L		-0.00044	0.00044			
WG401891LFB	LFB	04/25/16 16:05	HG160425-2	.002002		.00173	mg/L	86	85	115			
L29896-06LFM	LFM	04/25/16 16:12	HG160425-2	.002002	U	.00178	mg/L	89	85	115			
L29896-06LFMD	LFMD	04/25/16 16:14	HG160425-2	.002002	U	.00175	mg/L	87	85	115	2	20	
L29914-07LFM	LFM	04/25/16 16:48	HG160425-2	.002002	U	.00185	mg/L	92	85	115			
L29914-07LFMD	LFMD	04/25/16 16:50	HG160425-2	.002002	U	.00187	mg/L	93	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L29914***

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		2.002	mg/L	100	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.06	0.06			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	.4995		.506	mg/L	101	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	.4995	U	.5	mg/L	100	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	.4995	U	.503	mg/L	101	85	115	1	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		1.975	mg/L	99	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.024	0.024			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	.501		.5058	mg/L	101	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	.501	.073	.5748	mg/L	100	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	.501	.073	.5632	mg/L	98	85	115	2	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401748													
WG401748LFB1	LFB	04/21/16 11:34	WI151215-9	2		1.941	mg/L	97	90	110			
WG401748LFB2	LFB	04/21/16 12:13	WI151215-9	2		1.962	mg/L	98	90	110			
L29914-07DUP	DUP	04/21/16 12:16			.03	.035	mg/L				15	20	RA
L29914-08AS	AS	04/21/16 12:18	WI151215-9	2	.04	2.009	mg/L	98	90	110			
L29901-09AS	AS	04/21/16 12:40	WI151215-9	2	.3	2.261	mg/L	98	90	110			
L29901-08DUP	DUP	04/21/16 12:59			4.19	4.209	mg/L				0	20	

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401949													
WG401949ICV	ICV	04/27/16 9:00	WI160426-2	11.988		11.932	mg/L	100	90	110			
WG401949ICB	ICB	04/27/16 9:01				U	mg/L		-0.05	0.05			
WG401949LFB1	LFB	04/27/16 9:03	WI160121-1	10		10.177	mg/L	102	90	110			
L29909-03AS	AS	04/27/16 9:26	WI160121-1	10	U	10.536	mg/L	105	90	110			
L29909-04DUP	DUP	04/27/16 9:29			U	U	mg/L				0	20	RA
WG401949LFB2	LFB	04/27/16 9:45	WI160121-1	10		10.347	mg/L	103	90	110			
L29914-08DUP	DUP	04/27/16 9:49			U	U	mg/L				0	20	RA
L29931-01AS	AS	04/27/16 10:29	WI160121-1	10	1.56	12.322	mg/L	108	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401432													
WG401432LCSW1	LCSW	04/14/16 15:36	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG401432LCSW4	LCSW	04/14/16 18:40	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG401432LCSW7	LCSW	04/14/16 22:36	PCN48559	6.01		6.1	units	101	5.9	6.1			
WG401432LCSW10	LCSW	04/15/16 2:26	PCN48559	6.01		6.1	units	101	5.9	6.1			
L29914-10DUP	DUP	04/15/16 4:53			3.5	3.5	units				0	20	
WG401432LCSW13	LCSW	04/15/16 4:56	PCN48559	6.01		6.1	units	101	5.9	6.1			

McClelland Laboratories, Inc. ACZ Project ID: ***L29914***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401683													
WG401683ICV	ICV	04/20/16 11:27	WI160308-3	.65228		.669	mg/L	103	90	110			
WG401683ICB	ICB	04/20/16 11:29				U	mg/L		-0.02	0.02			
WG401631LRB	LRB	04/20/16 11:30				U	mg/L		-0.02	0.02			
WG401631LFB	LFB	04/20/16 11:31	WI160419-3	.5		.514	mg/L	103	90	110			
L29914-01DUP	DUP	04/20/16 12:16			.03	.023	mg/L				26	20	RA
L29914-02LFM	LFM	04/20/16 12:18	WI160419-3	.5	U	.521	mg/L	104	90	110			
WG401692													
WG401635LRB	LRB	04/20/16 12:39				U	mg/L		-0.02	0.02			
WG401635LFB	LFB	04/20/16 12:42	WI160419-3	.5		.499	mg/L	100	90	110			
L29914-06LFM	LFM	04/20/16 12:47	WI160419-3	.5	U	.513	mg/L	103	90	110			
L29914-05DUP	DUP	04/20/16 13:12			U	U	mg/L				0	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	20		20.08	mg/L	100	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.6	0.6			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	100.0377		99.23	mg/L	99	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	100.0377	9.5	107.8	mg/L	98	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	100.0377	9.5	108.3	mg/L	99	85	115	0	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401550													
WG401550PBW	PBW	04/18/16 12:00				U	mg/L		-20	20			
WG401550LCSW	LCSW	04/18/16 12:02	PCN50249	260		272	mg/L	105	80	120			
L29914-10DUP	DUP	04/18/16 12:31			152	156	mg/L				3	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		2.01	mg/L	101	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.3	0.3			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	1.0009		1.02	mg/L	102	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	1.0009	U	1.02	mg/L	102	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	1.0009	U	1.02	mg/L	102	85	115	0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG402012													
WG402012ICV	ICV	04/26/16 18:04	MS160419-12	.05		.05017	mg/L	100	90	110			
WG402012ICB	ICB	04/26/16 18:06				U	mg/L		-0.0003	0.0003			
WG402012LFB	LFB	04/26/16 18:08	MS160419-4	.0501		.04848	mg/L	97	85	115			
L29914-01AS	AS	04/26/16 18:13	MS160419-4	.0501	.0015	.0495	mg/L	96	70	130			
L29914-01ASD	ASD	04/26/16 18:15	MS160419-4	.0501	.0015	.05107	mg/L	99	70	130	3	20	

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Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	1.001		1.009	mg/L	101	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.03	0.03			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	.5015		.488	mg/L	97	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	.5015	U	.382	mg/L	76	85	115			M2 ZA
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	.5015	U	.385	mg/L	77	85	115	1	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	100		96.95	mg/L	97	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.6	0.6			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	100.0235		94.77	mg/L	95	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	100.0235	1.2	95.68	mg/L	94	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	100.0235	1.2	95.73	mg/L	95	85	115	0	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		1.9838	mg/L	99	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.015	0.015			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	.5		.5008	mg/L	100	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	.5	.172	.6613	mg/L	98	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	.5	.172	.6621	mg/L	98	85	115	0	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401890													
WG401890ICB	ICB	04/25/16 10:29				U	mg/L		-3	3			
WG401890ICV	ICV	04/25/16 10:29	WI160412-2	20		19.8	mg/L	99	90	110			
WG401890LFB	LFB	04/25/16 11:35	WI160201-3	10.01		10	mg/L	100	90	110			
L29914-08AS	AS	04/25/16 11:37	WI160201-3	10.01	5.9	13.4	mg/L	75	90	110			M2
L29909-05DUP	DUP	04/25/16 11:42			130	125	mg/L				4	20	
L29909-06AS	AS	04/25/16 11:56	SO4TURB20X	10	201	199	mg/L	-20	90	110			M3
L29914-07DUP	DUP	04/25/16 11:57			345	370	mg/L				7	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG402012													
WG402012ICV	ICV	04/26/16 18:04	MS160419-12	.05		.05432	mg/L	109	90	110			
WG402012ICB	ICB	04/26/16 18:06				U	mg/L		-0.0003	0.0003			
WG402012LFB	LFB	04/26/16 18:08	MS160419-4	.0501		.05187	mg/L	104	85	115			
L29914-01AS	AS	04/26/16 18:13	MS160419-4	.0501	.0091	.06044	mg/L	102	70	130			
L29914-01ASD	ASD	04/26/16 18:15	MS160419-4	.0501	.0091	.06155	mg/L	105	70	130	2	20	

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ACZ Project ID: ***L29914***

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		2.045	mg/L	102	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.12	0.12			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	1.001		.985	mg/L	98	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	1.001	U	.992	mg/L	99	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	1.001	U	.973	mg/L	97	85	115	2	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		2.0163	mg/L	101	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.015	0.015			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	1.003		1	mg/L	100	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	1.003	U	1.002	mg/L	100	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	1.003	U	.9971	mg/L	99	85	115	0	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG402012													
WG402012ICV	ICV	04/26/16 18:04	MS160419-12	.05		.05111	mg/L	102	90	110			
WG402012ICB	ICB	04/26/16 18:06				U	mg/L		-0.0003	0.0003			
WG402012LFB	LFB	04/26/16 18:08	MS160419-4	.05		.04915	mg/L	98	85	115			
L29914-01AS	AS	04/26/16 18:13	MS160419-4	.05	.0025	.04979	mg/L	95	70	130			
L29914-01ASD	ASD	04/26/16 18:15	MS160419-4	.05	.0025	.05094	mg/L	97	70	130	2	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		2.0085	mg/L	100	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.015	0.015			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	.501		.5015	mg/L	100	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	.501	U	.4993	mg/L	100	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	.501	U	.5041	mg/L	101	85	115	1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG401691													
WG401691ICV	ICV	04/20/16 21:36	II160419-1	2		2.014	mg/L	101	95	105			
WG401691ICB	ICB	04/20/16 21:42				U	mg/L		-0.03	0.03			
WG401691LFB	LFB	04/20/16 21:55	II160419-3	.4995		.512	mg/L	103	85	115			
L29914-02AS	AS	04/20/16 22:05	II160419-3	.4995	.18	.714	mg/L	107	85	115			
L29914-02ASD	ASD	04/20/16 22:08	II160419-3	.4995	.18	.682	mg/L	101	85	115	5	20	

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29914-01	WG401691	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG401432	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401737	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401949	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401432	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401683	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401550	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401890	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG401432	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L29914***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29914-02	WG401691	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG401432	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401737	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401949	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401432	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401683	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401550	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401890	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG401432	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L29914***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29914-03	WG401691	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG401432	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401737	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401949	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401432	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401683	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401550	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401890	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG401432	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29914-04	WG401691	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG401432	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401737	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401949	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401432	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401683	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401550	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401890	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG401432	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L29914***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29914-05	WG401691	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG401432	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401737	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401949	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401432	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401692	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401550	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401890	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG401432	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L29914***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29914-06	WG401691	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG401432	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401737	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401949	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401432	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401692	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401550	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401890	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG401432	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L29914***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29914-07	WG401691	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG401432	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401737	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401748	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401949	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401432	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401683	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401550	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401890	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG401432	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L29914***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29914-08	WG401691	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG401587	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401432	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401737	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401748	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401949	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401432	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401683	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401550	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401890	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG401432	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L29914***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29914-09	WG401691	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG401587	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401432	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401737	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401748	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401949	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401432	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401692	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401550	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401890	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG401432	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

ACZ Laboratories, Inc. 29914

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	4/13/16	WW	1	x							
CAL-004 (860-875)		WW	1	x							
CAL-003 (675-685)		WW	1	x							
GMC-012 (832-851)		WW	1	x							
CAL-004 (295-315)		WW	1	x							
CAL-001 (750-762)		WW	1	x							
GMC-014 (176-184)		WW	1	x							
CAL-001 (380-400)		WW	1	x							
CAL-002 (177-187)		WW	1	x							
Calico Leach Res. after CN Destruct		WW	1	x	x	x					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 20
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	4/13/16 9AM	[signature]	4/14/16 9:30

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L29914 Chain of Custody

McClelland Laboratories, Inc. ACZ Project ID: ***L29914***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L29914-10	WG401622	Cyanide, total	M335.4 - Manual Distillation	DJ	Sample dilution required due to insufficient sample.
	WG401691	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG401587	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401432	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401820	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401737	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401748	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401949	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401432	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401692	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG401550	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG401890	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG401432	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L29914
Date Received: 04/14/2016 09:39
Received By: ddp
Date Printed: 4/14/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

A green and yellow container were poured off of the white for samples 1 thru 9. A green, purple and yellow container were poured off of the white for sample 10.

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA23709	1.6	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L29914
Date Received:	04/14/2016 09:39
Received By:	ddp
Date Printed:	4/14/2016

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

****Gray out Analyses DOESNT get done on all Samples, Just 1 of the Sample SEE COC****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

May 25, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L30419

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on May 12, 2016. This project has been assigned to ACZ's project number, L30419. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L30419. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after June 24, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber

Sue Webber has reviewed and approved this report.

ACCREDITED IN ACCORDANCE WITH nelac

ACIL

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L30419-01***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/16 14:40	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	2.11			mg/L	0.03	0.2	05/17/16 14:06	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0218			mg/L	0.0004	0.002	05/17/16 22:24	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0497			mg/L	0.0002	0.001	05/17/16 22:24	enb
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	05/18/16 15:21	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00032			mg/L	0.00005	0.0003	05/17/16 22:24	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/17/16 14:06	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/17/16 14:06	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	05/17/16 22:24	enb
Calcium, dissolved	M200.7 ICP	1	1.9			mg/L	0.1	0.5	05/17/16 14:06	gss
Chromium, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	05/17/16 14:06	gss
Cobalt, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	05/17/16 14:06	gss
Copper, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	05/17/16 14:06	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:06	gss
Iron, dissolved	M200.7 ICP	1	22.30			mg/L	0.02	0.05	05/17/16 14:06	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	05/17/16 22:24	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/17/16 14:06	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/17/16 14:06	gss
Manganese, dissolved	M200.7 ICP	1	0.032			mg/L	0.005	0.03	05/17/16 14:06	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/23/16 15:53	pta
Mercury, total	M1631, Atomic Fluorescence	2	21.2		*	ng/L	0.4	1	05/23/16 10:27	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/17/16 14:06	gss
Nickel, dissolved	M200.7 ICP	1	0.078			mg/L	0.008	0.04	05/17/16 14:06	gss
Potassium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	05/17/16 14:06	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:06	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0003	05/17/16 22:24	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/17/16 14:06	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/17/16 14:06	gss
Strontium, dissolved	M200.7 ICP	1	0.018	B	*	mg/L	0.005	0.03	05/17/16 14:06	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0083			mg/L	0.0001	0.0005	05/17/16 22:24	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/17/16 14:06	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/17/16 14:06	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0001	0.0005	05/17/16 22:24	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/17/16 14:06	gss
Zinc, dissolved	M200.7 ICP	1	0.17			mg/L	0.01	0.05	05/17/16 14:06	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L30419-01***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/14/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-9.1			%			05/25/16 0:00	calc
Sum of Anions			1.8			meq/L			05/25/16 0:00	calc
Sum of Cations			1.5			meq/L			05/25/16 0:00	calc
Chloride	SM4500Cl-E	1	0.8	B	*	mg/L	0.5	2	05/16/16 15:07	spl
Conductivity @25C	SM2510B	1	319		*	umhos/cm	1	10	05/14/16 19:23	sck
Fluoride	SM4500F-C	200	10	B	*	mg/L	10	50	05/18/16 10:25	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4.7	B		mg/L	0.2	5	05/25/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	05/21/16 0:06	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	05/20/16 12:46	mss2
pH (lab)	SM4500H+ B									
pH		1	3.4	H	*	units	0.1	0.1	05/14/16 0:00	sck
pH measured at		1	22.5			C	0.1	0.1	05/14/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B		mg/L	0.02	0.05	05/17/16 22:47	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	118		*	mg/L	10	20	05/13/16 13:18	sck
Sulfate	D516-02/-07 - Turbidimetric	5	58.6		*	mg/L	5	25	05/23/16 17:06	krh
TDS (calculated)	Calculation		96.7			mg/L			05/25/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.22						05/25/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L30419-02***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/16 11:19	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.35			mg/L	0.03	0.2	05/17/16 14:09	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0016	B		mg/L	0.0004	0.002	05/17/16 22:27	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0100			mg/L	0.0002	0.001	05/17/16 22:27	enb
Barium, dissolved	M200.7 ICP	1	0.023			mg/L	0.003	0.02	05/18/16 15:24	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00326			mg/L	0.00005	0.0003	05/17/16 22:27	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/17/16 14:09	gss
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	05/17/16 14:09	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	05/17/16 22:27	enb
Calcium, dissolved	M200.7 ICP	1	17.1			mg/L	0.1	0.5	05/17/16 14:09	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/17/16 14:09	gss
Cobalt, dissolved	M200.7 ICP	1	0.15			mg/L	0.01	0.05	05/17/16 14:09	gss
Copper, dissolved	M200.7 ICP	1	0.19			mg/L	0.01	0.05	05/17/16 14:09	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:09	gss
Iron, dissolved	M200.7 ICP	1	0.50			mg/L	0.02	0.05	05/17/16 14:09	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	05/17/16 22:27	enb
Lithium, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.008	0.04	05/17/16 14:09	gss
Magnesium, dissolved	M200.7 ICP	1	2.3			mg/L	0.2	1	05/17/16 14:09	gss
Manganese, dissolved	M200.7 ICP	1	1.370			mg/L	0.005	0.03	05/17/16 14:09	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/23/16 15:55	pta
Mercury, total	M1631, Atomic Fluorescence	1	8.7		*	ng/L	0.2	0.5	05/23/16 10:43	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/17/16 14:09	gss
Nickel, dissolved	M200.7 ICP	1	0.111			mg/L	0.008	0.04	05/17/16 14:09	gss
Potassium, dissolved	M200.7 ICP	1	5.9			mg/L	0.2	1	05/17/16 14:09	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:09	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0039			mg/L	0.0001	0.0003	05/17/16 22:27	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/17/16 14:09	gss
Sodium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	05/17/16 14:09	gss
Strontium, dissolved	M200.7 ICP	1	0.203		*	mg/L	0.005	0.03	05/17/16 14:09	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0005	05/17/16 22:27	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/17/16 14:09	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/17/16 14:09	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0001	0.0005	05/17/16 22:27	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/17/16 14:09	gss
Zinc, dissolved	M200.7 ICP	1	0.30			mg/L	0.01	0.05	05/17/16 14:09	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L30419-02***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/14/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			05/25/16 0:00	calc
Sum of Anions			1.4			meq/L			05/25/16 0:00	calc
Sum of Cations			1.4			meq/L			05/25/16 0:00	calc
Chloride	SM4500Cl-E	1	0.7	B	*	mg/L	0.5	2	05/16/16 15:07	spl
Conductivity @25C	SM2510B	1	244		*	umhos/cm	1	10	05/14/16 19:27	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	05/18/16 10:39	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		52			mg/L	0.2	5	05/25/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	05/21/16 0:07	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	05/20/16 12:48	mss2
pH (lab)	SM4500H+ B									
pH		1	3.7	H	*	units	0.1	0.1	05/14/16 0:00	sck
pH measured at		1	22.5			C	0.1	0.1	05/14/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	05/17/16 23:05	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	142		*	mg/L	10	20	05/13/16 13:20	sck
Sulfate	D516-02/-07 - Turbidimetric	5	67.5		*	mg/L	5	25	05/23/16 18:03	krh
TDS (calculated)	Calculation		97.1			mg/L			05/25/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.46						05/25/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L30419-03***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/16 11:38	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	2	41.90			mg/L	0.06	0.3	05/17/16 14:12	gss
Antimony, dissolved	M200.8 ICP-MS	2	0.0042			mg/L	0.0008	0.004	05/17/16 22:30	enb
Arsenic, dissolved	M200.8 ICP-MS	50	7.19			mg/L	0.01	0.05	05/18/16 15:47	enb
Barium, dissolved	M200.7 ICP	2		U		mg/L	0.006	0.03	05/18/16 15:27	aeb
Beryllium, dissolved	M200.8 ICP-MS	2	0.0077			mg/L	0.0001	0.0005	05/17/16 22:30	enb
Bismuth, dissolved	M200.7 ICP	2		U	*	mg/L	0.08	0.4	05/17/16 14:12	gss
Boron, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	05/17/16 14:12	gss
Cadmium, dissolved	M200.8 ICP-MS	2	0.0053			mg/L	0.0002	0.001	05/17/16 22:30	enb
Calcium, dissolved	M200.7 ICP	2	55.1			mg/L	0.2	1	05/17/16 14:12	gss
Chromium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	05/17/16 14:12	gss
Cobalt, dissolved	M200.7 ICP	2	0.50			mg/L	0.02	0.1	05/17/16 14:12	gss
Copper, dissolved	M200.7 ICP	2	1.21			mg/L	0.02	0.1	05/17/16 14:12	gss
Gallium, dissolved	M200.7 ICP	2	0.2	B	*	mg/L	0.2	1	05/17/16 14:12	gss
Iron, dissolved	M200.7 ICP	2	749			mg/L	0.04	0.1	05/17/16 14:12	gss
Lead, dissolved	M200.8 ICP-MS	2	0.0024			mg/L	0.0002	0.001	05/17/16 22:30	enb
Lithium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.08	05/17/16 14:12	gss
Magnesium, dissolved	M200.7 ICP	2	10.6			mg/L	0.4	2	05/17/16 14:12	gss
Manganese, dissolved	M200.7 ICP	2	0.42			mg/L	0.01	0.05	05/17/16 14:12	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/23/16 15:57	pta
Mercury, total	M1631, Atomic Fluorescence	5	88		*	ng/L	1	3	05/23/16 12:18	mfm
Molybdenum, dissolved	M200.7 ICP	2	0.62			mg/L	0.04	0.2	05/17/16 14:12	gss
Nickel, dissolved	M200.7 ICP	2	0.53			mg/L	0.02	0.08	05/17/16 14:12	gss
Potassium, dissolved	M200.7 ICP	2	0.9	B		mg/L	0.4	2	05/17/16 14:12	gss
Scandium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	05/17/16 14:12	gss
Selenium, dissolved	M200.8 ICP-MS	2	0.0162			mg/L	0.0002	0.0005	05/17/16 22:30	enb
Silver, dissolved	M200.7 ICP	2		U	*	mg/L	0.02	0.05	05/17/16 14:12	gss
Sodium, dissolved	M200.7 ICP	2	1.5	B		mg/L	0.4	2	05/17/16 14:12	gss
Strontium, dissolved	M200.7 ICP	2	0.63		*	mg/L	0.01	0.05	05/17/16 14:12	gss
Thallium, dissolved	M200.8 ICP-MS	2	0.0026			mg/L	0.0002	0.001	05/17/16 22:30	enb
Tin, dissolved	M200.7 ICP	2		U		mg/L	0.08	0.4	05/17/16 14:12	gss
Titanium, dissolved	M200.7 ICP	2		U	*	mg/L	0.01	0.05	05/17/16 14:12	gss
Uranium, dissolved	M200.8 ICP-MS	2	0.0136			mg/L	0.0002	0.001	05/17/16 22:30	enb
Vanadium, dissolved	M200.7 ICP	2	0.02	B		mg/L	0.01	0.05	05/17/16 14:12	gss
Zinc, dissolved	M200.7 ICP	2	0.74			mg/L	0.02	0.1	05/17/16 14:12	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L30419-03***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/14/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			5.5			%			05/25/16 0:00	calc
Sum of Anions			43			meq/L			05/25/16 0:00	calc
Sum of Cations			48			meq/L			05/25/16 0:00	calc
Chloride	SM4500Cl-E	1	1	B	*	mg/L	0.5	2	05/16/16 15:08	spl
Conductivity @25C	SM2510B	1	5540		*	umhos/cm	1	10	05/14/16 19:31	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	05/18/16 10:45	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		181			mg/L	0.5	10	05/25/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.10		*	mg/L	0.02	0.1	05/21/16 0:08	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	05/20/16 12:49	mss2
pH (lab)	SM4500H+ B									
pH		1	2.0	H	*	units	0.1	0.1	05/14/16 0:00	sck
pH measured at		1	22.2			C	0.1	0.1	05/14/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	20	6.3			mg/L	0.4	1	05/17/16 23:37	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	3770		*	mg/L	10	20	05/13/16 13:23	sck
Sulfate	D516-02/-07 - Turbidimetric	100	2040		*	mg/L	100	500	05/23/16 18:11	krh
TDS (calculated)	Calculation		2900			mg/L			05/25/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.30						05/25/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L30419-04***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/16 11:57	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	19.70			mg/L	0.03	0.2	05/17/16 14:15	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0014	B		mg/L	0.0004	0.002	05/17/16 22:33	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.3191			mg/L	0.0002	0.001	05/17/16 22:33	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	05/18/16 15:30	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00132			mg/L	0.00005	0.0003	05/17/16 22:33	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/17/16 14:15	gss
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	05/17/16 14:15	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	05/17/16 22:33	enb
Calcium, dissolved	M200.7 ICP	1	9.5			mg/L	0.1	0.5	05/17/16 14:15	gss
Chromium, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	05/17/16 14:15	gss
Cobalt, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	05/17/16 14:15	gss
Copper, dissolved	M200.7 ICP	1	0.46			mg/L	0.01	0.05	05/17/16 14:15	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:15	gss
Iron, dissolved	M200.7 ICP	1	166			mg/L	0.02	0.05	05/17/16 14:15	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0001	0.0005	05/17/16 22:33	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/17/16 14:15	gss
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	05/17/16 14:15	gss
Manganese, dissolved	M200.7 ICP	1	0.460			mg/L	0.005	0.03	05/17/16 14:15	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/23/16 15:59	pta
Mercury, total	M1631, Atomic Fluorescence	20	256		*	ng/L	4	10	05/25/16 10:01	mfm
Molybdenum, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.02	0.1	05/17/16 14:15	gss
Nickel, dissolved	M200.7 ICP	1	0.163			mg/L	0.008	0.04	05/17/16 14:15	gss
Potassium, dissolved	M200.7 ICP	1	1			mg/L	0.2	1	05/17/16 14:15	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:15	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0030			mg/L	0.0001	0.0003	05/17/16 22:33	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/17/16 14:15	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/17/16 14:15	gss
Strontium, dissolved	M200.7 ICP	1	0.020	B	*	mg/L	0.005	0.03	05/17/16 14:15	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	05/17/16 22:33	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/17/16 14:15	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/17/16 14:15	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0295			mg/L	0.0001	0.0005	05/17/16 22:33	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/17/16 14:15	gss
Zinc, dissolved	M200.7 ICP	1	0.35			mg/L	0.01	0.05	05/17/16 14:15	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L30419-04***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/14/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-7.7			%			05/25/16 0:00	calc
Sum of Anions			14			meq/L			05/25/16 0:00	calc
Sum of Cations			12			meq/L			05/25/16 0:00	calc
Chloride	SM4500Cl-E	1	0.7	B	*	mg/L	0.5	2	05/16/16 15:08	spl
Conductivity @25C	SM2510B	1	3180		*	umhos/cm	1	10	05/14/16 19:35	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	05/18/16 10:50	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		25			mg/L	0.2	5	05/25/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B	*	mg/L	0.02	0.1	05/21/16 0:14	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	05/20/16 12:50	mss2
pH (lab)	SM4500H+ B									
pH		1	2.2	H	*	units	0.1	0.1	05/14/16 0:00	sck
pH measured at		1	22.0			C	0.1	0.1	05/14/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.43			mg/L	0.02	0.05	05/18/16 0:18	pjb
Residue, Filterable (TDS) @180C	SM2540C	10	1160		*	mg/L	100	200	05/13/16 13:26	sck
Sulfate	D516-02/-07 - Turbidimetric	50	652		*	mg/L	50	250	05/23/16 18:12	krh
TDS (calculated)	Calculation		850			mg/L			05/25/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.36						05/25/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L30419-05***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/16 12:07	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.80			mg/L	0.03	0.2	05/17/16 14:25	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0013	B		mg/L	0.0004	0.002	05/17/16 22:37	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0759			mg/L	0.0002	0.001	05/17/16 22:37	enb
Barium, dissolved	M200.7 ICP	1	0.023			mg/L	0.003	0.02	05/18/16 15:33	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00413			mg/L	0.00005	0.0003	05/17/16 22:37	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/17/16 14:25	gss
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	05/17/16 14:25	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	05/17/16 22:37	enb
Calcium, dissolved	M200.7 ICP	1	34.9			mg/L	0.1	0.5	05/17/16 14:25	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/17/16 14:25	gss
Cobalt, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	05/17/16 14:25	gss
Copper, dissolved	M200.7 ICP	1	0.19			mg/L	0.01	0.05	05/17/16 14:25	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:25	gss
Iron, dissolved	M200.7 ICP	1	7.67			mg/L	0.02	0.05	05/17/16 14:25	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	05/17/16 22:37	enb
Lithium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.008	0.04	05/17/16 14:25	gss
Magnesium, dissolved	M200.7 ICP	1	6.5			mg/L	0.2	1	05/17/16 14:25	gss
Manganese, dissolved	M200.7 ICP	1	0.616			mg/L	0.005	0.03	05/17/16 14:25	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/23/16 16:05	pta
Mercury, total	M1631, Atomic Fluorescence	1	7.1		*	ng/L	0.2	0.5	05/23/16 10:59	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/17/16 14:25	gss
Nickel, dissolved	M200.7 ICP	1	0.082			mg/L	0.008	0.04	05/17/16 14:25	gss
Potassium, dissolved	M200.7 ICP	1	2.9			mg/L	0.2	1	05/17/16 14:25	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:25	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0003	05/17/16 22:37	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/17/16 14:25	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/17/16 14:25	gss
Strontium, dissolved	M200.7 ICP	1	0.105		*	mg/L	0.005	0.03	05/17/16 14:25	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	05/17/16 22:37	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/17/16 14:25	gss
Titanium, dissolved	M200.7 ICP	1	0.005	B	*	mg/L	0.005	0.03	05/17/16 14:25	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0142			mg/L	0.0001	0.0005	05/17/16 22:37	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/17/16 14:25	gss
Zinc, dissolved	M200.7 ICP	1	0.13			mg/L	0.01	0.05	05/17/16 14:25	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L30419-05***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/14/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-1.6			%			05/25/16 0:00	calc
Sum of Anions			3.1			meq/L			05/25/16 0:00	calc
Sum of Cations			3.0			meq/L			05/25/16 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	05/16/16 15:08	spl
Conductivity @25C	SM2510B	1	567		*	umhos/cm	1	10	05/14/16 19:40	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	05/18/16 10:55	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		114			mg/L	0.2	5	05/25/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B	*	mg/L	0.02	0.1	05/21/16 0:15	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/20/16 16:26	mss2
pH (lab)	SM4500H+ B									
pH		1	3.2	H	*	units	0.1	0.1	05/14/16 0:00	sck
pH measured at		1	21.5			C	0.1	0.1	05/14/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	05/17/16 23:10	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	286		*	mg/L	10	20	05/13/16 13:28	sck
Sulfate	D516-02/-07 - Turbidimetric	5	148		*	mg/L	5	25	05/23/16 18:03	krh
TDS (calculated)	Calculation		203			mg/L			05/25/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.41						05/25/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L30419-06***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/16 12:16	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.05	B		mg/L	0.03	0.2	05/17/16 14:28	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0004	0.002	05/17/16 22:52	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0002	0.001	05/17/16 22:52	enb
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	05/18/16 15:36	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00009	B		mg/L	0.00005	0.0003	05/17/16 22:52	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/17/16 14:28	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/17/16 14:28	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/17/16 22:52	enb
Calcium, dissolved	M200.7 ICP	1	4.8			mg/L	0.1	0.5	05/17/16 14:28	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/17/16 14:28	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/17/16 14:28	gss
Copper, dissolved	M200.7 ICP	1	0.13			mg/L	0.01	0.05	05/17/16 14:28	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:28	gss
Iron, dissolved	M200.7 ICP	1	0.13			mg/L	0.02	0.05	05/17/16 14:28	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	05/17/16 22:52	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/17/16 14:28	gss
Magnesium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	05/17/16 14:28	gss
Manganese, dissolved	M200.7 ICP	1	0.024	B		mg/L	0.005	0.03	05/17/16 14:28	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/23/16 16:07	pta
Mercury, total	M1631, Atomic Fluorescence	5	76		*	ng/L	1	3	05/23/16 12:29	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/17/16 14:28	gss
Nickel, dissolved	M200.7 ICP	1	0.036	B		mg/L	0.008	0.04	05/17/16 14:28	gss
Potassium, dissolved	M200.7 ICP	1	3.5			mg/L	0.2	1	05/17/16 14:28	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:28	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0064			mg/L	0.0001	0.0003	05/17/16 22:52	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/17/16 14:28	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/17/16 14:28	gss
Strontium, dissolved	M200.7 ICP	1	0.058		*	mg/L	0.005	0.03	05/17/16 14:28	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	05/17/16 22:52	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/17/16 14:28	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/17/16 14:28	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	05/17/16 22:52	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/17/16 14:28	gss
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	05/17/16 14:28	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L30419-06***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/14/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-15.9			%			05/25/16 0:00	calc
Sum of Anions			0.575			meq/L			05/25/16 0:00	calc
Sum of Cations			0.417	B		meq/L			05/25/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	05/16/16 15:28	spl
Conductivity @25C	SM2510B	1	77.9		*	umhos/cm	1	10	05/14/16 19:45	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	05/18/16 10:59	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		15			mg/L	0.2	5	05/25/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	05/21/16 0:16	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/20/16 15:19	mss2
pH (lab)	SM4500H+ B									
pH		1	4.5	H	*	units	0.1	0.1	05/14/16 0:00	sck
pH measured at		1	21.3			C	0.1	0.1	05/14/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	05/17/16 23:11	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	44		*	mg/L	10	20	05/13/16 13:34	sck
Sulfate	D516-02/-07 - Turbidimetric	1	27.4		*	mg/L	1	5	05/23/16 17:57	krh
TDS (calculated)	Calculation		36.9			mg/L			05/25/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.19						05/25/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L30419-07***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/16 12:26	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	9.57			mg/L	0.03	0.2	05/17/16 14:31	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0004	0.002	05/17/16 22:55	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.4052			mg/L	0.0002	0.001	05/17/16 22:55	enb
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	05/18/16 15:45	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00400			mg/L	0.00005	0.0003	05/17/16 22:55	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/17/16 14:31	gss
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	05/17/16 14:31	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	05/17/16 22:55	enb
Calcium, dissolved	M200.7 ICP	1	10.2			mg/L	0.1	0.5	05/17/16 14:31	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/17/16 14:31	gss
Cobalt, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	05/17/16 14:31	gss
Copper, dissolved	M200.7 ICP	1	0.26			mg/L	0.01	0.05	05/17/16 14:31	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:31	gss
Iron, dissolved	M200.7 ICP	1	57.50			mg/L	0.02	0.05	05/17/16 14:31	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	05/17/16 22:55	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/17/16 14:31	gss
Magnesium, dissolved	M200.7 ICP	1	1.3			mg/L	0.2	1	05/17/16 14:31	gss
Manganese, dissolved	M200.7 ICP	1	0.128			mg/L	0.005	0.03	05/17/16 14:31	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/23/16 16:08	pta
Mercury, total	M1631, Atomic Fluorescence	5	54		*	ng/L	1	3	05/23/16 12:34	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/17/16 14:31	gss
Nickel, dissolved	M200.7 ICP	1	0.082			mg/L	0.008	0.04	05/17/16 14:31	gss
Potassium, dissolved	M200.7 ICP	1	4.1			mg/L	0.2	1	05/17/16 14:31	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:31	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0003	05/17/16 22:55	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/17/16 14:31	gss
Sodium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	05/17/16 14:31	gss
Strontium, dissolved	M200.7 ICP	1	0.012	B	*	mg/L	0.005	0.03	05/17/16 14:31	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0005	05/17/16 22:55	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/17/16 14:31	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/17/16 14:31	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0041			mg/L	0.0001	0.0005	05/17/16 22:55	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/17/16 14:31	gss
Zinc, dissolved	M200.7 ICP	1	0.81			mg/L	0.01	0.05	05/17/16 14:31	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L30419-07***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/14/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			05/25/16 0:00	calc
Sum of Anions			4.9			meq/L			05/25/16 0:00	calc
Sum of Cations			4.9			meq/L			05/25/16 0:00	calc
Chloride	SM4500Cl-E	1	1.9	B	*	mg/L	0.5	2	05/16/16 15:28	spl
Conductivity @25C	SM2510B	1	1040		*	umhos/cm	1	10	05/14/16 19:49	sck
Fluoride	SM4500F-C	400		U	*	mg/L	20	100	05/18/16 11:04	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		31			mg/L	0.2	5	05/25/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	05/21/16 0:17	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/20/16 15:20	mss2
pH (lab)	SM4500H+ B									
pH		1	2.7	H	*	units	0.1	0.1	05/14/16 0:00	sck
pH measured at		1	21.6			C	0.1	0.1	05/14/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.09			mg/L	0.02	0.05	05/17/16 23:13	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	404		*	mg/L	10	20	05/13/16 13:36	sck
Sulfate	D516-02/-07 - Turbidimetric	10	230		*	mg/L	10	50	05/23/16 18:09	krh
TDS (calculated)	Calculation		317			mg/L			05/25/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.27						05/25/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L30419-08***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/16 12:36	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.2	05/17/16 14:34	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0004	0.002	05/17/16 22:58	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0156			mg/L	0.0002	0.001	05/17/16 22:58	enb
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	05/18/16 15:48	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	05/17/16 22:58	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/17/16 14:34	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/17/16 14:34	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/17/16 22:58	enb
Calcium, dissolved	M200.7 ICP	1	2			mg/L	0.1	0.5	05/17/16 14:34	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/17/16 14:34	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/17/16 14:34	gss
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	05/17/16 14:34	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:34	gss
Iron, dissolved	M200.7 ICP	1	0.02	B	*	mg/L	0.02	0.05	05/17/16 14:34	gss
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/17/16 22:58	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/17/16 14:34	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/17/16 14:34	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/17/16 14:34	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/23/16 16:10	pta
Mercury, total	M1631, Atomic Fluorescence	5	58		*	ng/L	1	3	05/23/16 12:39	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/17/16 14:34	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/17/16 14:34	gss
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/17/16 14:34	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:34	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	05/17/16 22:58	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/17/16 14:34	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/17/16 14:34	gss
Strontium, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.005	0.03	05/17/16 14:34	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/17/16 22:58	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/17/16 14:34	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/17/16 14:34	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/17/16 22:58	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/17/16 14:34	gss
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	05/17/16 14:34	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L30419-08***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	3.4	B		mg/L	2	20	05/14/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Total Alkalinity		1	3.4	B	*	mg/L	2	20	05/14/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			05/25/16 0:00	calc
Sum of Anions			0.218	B		meq/L			05/25/16 0:00	calc
Sum of Cations			0.102	B		meq/L			05/25/16 0:00	calc
Chloride	SM4500Cl-E	1	0.8	B	*	mg/L	0.5	2	05/16/16 15:28	spl
Conductivity @25C	SM2510B	1	16.2		*	umhos/cm	1	10	05/14/16 19:57	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	05/18/16 11:19	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		5			mg/L	0.2	5	05/25/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	05/21/16 0:20	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/20/16 15:22	mss2
pH (lab)	SM4500H+ B									
pH		1	7.0	H	*	units	0.1	0.1	05/14/16 0:00	sck
pH measured at		1	21.9			C	0.1	0.1	05/14/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	05/17/16 23:16	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	22		*	mg/L	10	20	05/13/16 13:39	sck
Sulfate	D516-02/-07 - Turbidimetric	1	6.1		*	mg/L	1	5	05/23/16 17:57	krh
TDS (calculated)	Calculation		11			mg/L			05/25/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.00						05/25/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L30419-09***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/16 12:45	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.2	05/17/16 14:38	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0004	0.002	05/17/16 23:01	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0002	0.001	05/17/16 23:01	enb
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	05/18/16 15:51	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	05/17/16 23:01	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/17/16 14:38	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/17/16 14:38	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/17/16 23:01	enb
Calcium, dissolved	M200.7 ICP	1	1.4			mg/L	0.1	0.5	05/17/16 14:38	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/17/16 14:38	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/17/16 14:38	gss
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	05/17/16 14:38	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:38	gss
Iron, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.02	0.05	05/17/16 14:38	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	05/17/16 23:01	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/17/16 14:38	gss
Magnesium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	05/17/16 14:38	gss
Manganese, dissolved	M200.7 ICP	1	0.019	B		mg/L	0.005	0.03	05/17/16 14:38	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/23/16 16:12	pta
Mercury, total	M1631, Atomic Fluorescence	1	10.3		*	ng/L	0.2	0.5	05/23/16 11:30	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/17/16 14:38	gss
Nickel, dissolved	M200.7 ICP	1	0.144			mg/L	0.008	0.04	05/17/16 14:38	gss
Potassium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	05/17/16 14:38	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:38	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0003	05/17/16 23:01	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/17/16 14:38	gss
Sodium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	05/17/16 14:38	gss
Strontium, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.005	0.03	05/17/16 14:38	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	05/17/16 23:01	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/17/16 14:38	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/17/16 14:38	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/17/16 23:01	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/17/16 14:38	gss
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	05/17/16 14:38	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L30419-09***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/14/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			05/25/16 0:00	calc
Sum of Anions			0.184	B		meq/L			05/25/16 0:00	calc
Sum of Cations			0.116	B		meq/L			05/25/16 0:00	calc
Chloride	SM4500Cl-E	1	0.8	B	*	mg/L	0.5	2	05/16/16 15:28	spl
Conductivity @25C	SM2510B	1	25.9		*	umhos/cm	1	10	05/14/16 20:03	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	05/18/16 11:25	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4.3	B		mg/L	0.2	5	05/25/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	05/21/16 0:22	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/20/16 15:23	mss2
pH (lab)	SM4500H+ B									
pH		1	5.3	H	*	units	0.1	0.1	05/14/16 0:00	sck
pH measured at		1	22.3			C	0.1	0.1	05/14/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	05/17/16 23:17	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	22		*	mg/L	10	20	05/13/16 13:41	sck
Sulfate	D516-02/-07 - Turbidimetric	1	7.7		*	mg/L	1	5	05/23/16 17:57	krh
TDS (calculated)	Calculation		11			mg/L			05/25/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.00						05/25/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L30419-10***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								05/19/16 14:28	mss2
Cyanide, WAD	SM4500-CN I- distillation				*				05/18/16 14:21	spl
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/16 12:55	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	4.22		*	mg/L	0.03	0.2	05/17/16 14:41	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	05/17/16 23:04	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0057			mg/L	0.0002	0.001	05/17/16 23:04	enb
Barium, dissolved	M200.7 ICP	1	0.049			mg/L	0.003	0.02	05/18/16 15:54	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00101			mg/L	0.00005	0.0003	05/17/16 23:04	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/17/16 14:41	gss
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	05/17/16 14:41	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	05/17/16 23:04	enb
Calcium, dissolved	M200.7 ICP	1	1.1			mg/L	0.1	0.5	05/17/16 14:41	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/17/16 14:41	gss
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	05/17/16 14:41	gss
Copper, dissolved	M200.7 ICP	1	1.50		*	mg/L	0.01	0.05	05/17/16 14:41	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:41	gss
Iron, dissolved	M200.7 ICP	1	17.60		*	mg/L	0.02	0.05	05/17/16 14:41	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0005	05/17/16 23:04	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/17/16 14:41	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/17/16 14:41	gss
Manganese, dissolved	M200.7 ICP	1	0.129			mg/L	0.005	0.03	05/17/16 14:41	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/23/16 16:14	pta
Mercury, total	M1631, Atomic Fluorescence	1	2.3		*	ng/L	0.2	0.5	05/23/16 11:35	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/17/16 14:41	gss
Nickel, dissolved	M200.7 ICP	1	0.022	B		mg/L	0.008	0.04	05/17/16 14:41	gss
Potassium, dissolved	M200.7 ICP	1	3.1			mg/L	0.2	1	05/17/16 14:41	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/17/16 14:41	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0038			mg/L	0.0001	0.0003	05/17/16 23:04	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/17/16 14:41	gss
Sodium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	05/17/16 14:41	gss
Strontium, dissolved	M200.7 ICP	1	0.035			mg/L	0.005	0.03	05/17/16 14:41	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0005	05/17/16 23:04	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/17/16 14:41	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/17/16 14:41	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0092			mg/L	0.0001	0.0005	05/17/16 23:04	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/17/16 14:41	gss
Zinc, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	05/17/16 14:41	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L30419-10***
Date Sampled: *05/11/16 00:00*
Date Received: *05/12/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/14/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/14/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			6.7			%			05/25/16 0:00	calc
Sum of Anions			1.4			meq/L			05/25/16 0:00	calc
Sum of Cations			1.6			meq/L			05/25/16 0:00	calc
Chloride	SM4500Cl-E	1	0.7	B	*	mg/L	0.5	2	05/16/16 15:28	spl
Conductivity @25C	SM2510B	1	308		*	umhos/cm	1	10	05/14/16 20:07	sck
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.003	B	*	mg/L	0.003	0.01	05/19/16 23:25	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	05/19/16 22:53	pjb
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	05/18/16 11:31	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.8	B		mg/L	0.2	5	05/25/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	05/21/16 0:24	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/20/16 15:25	mss2
pH (lab)	SM4500H+ B									
pH		1	3.4	H	*	units	0.1	0.1	05/14/16 0:00	sck
pH measured at		1	22.6			C	0.1	0.1	05/14/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	05/17/16 23:18	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	188		*	mg/L	10	20	05/13/16 13:44	sck
Sulfate	D516-02/-07 - Turbidimetric	5	67.0		*	mg/L	5	25	05/23/16 18:05	krh
TDS (calculated)	Calculation		95.8			mg/L			05/25/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.96						05/25/16 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L30419***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG402986													
WG402986PBW1	PBW	05/14/16 15:22				U	mg/L		-20	20			
WG402986LCSW3	LCSW	05/14/16 15:38	WC160512-7	820.0001		774	mg/L	94	90	110			
WG402986LCSW6	LCSW	05/14/16 18:54	WC160512-7	820.0001		803	mg/L	98	90	110			
WG402986PBW2	PBW	05/14/16 19:02				U	mg/L		-20	20			
L30427-01DUP	DUP	05/14/16 20:26			75.7	92.1	mg/L				20	20	
L30430-02DUP	DUP	05/14/16 21:36			540	561	mg/L				4	20	
WG402986LCSW9	LCSW	05/14/16 21:53	WC160512-7	820.0001		805	mg/L	98	90	110			
WG402986PBW3	PBW	05/14/16 22:01				U	mg/L		-20	20			
WG402986LCSW12	LCSW	05/15/16 0:50	WC160512-7	820.0001		810	mg/L	99	90	110			
WG402986PBW4	PBW	05/15/16 0:58				U	mg/L		-20	20			
WG402986LCSW15	LCSW	05/15/16 2:46	WC160512-7	820.0001		811	mg/L	99	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		2.003	mg/L	100	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.09	0.09			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	1.0013		.986	mg/L	98	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	1.0013	U	.979	mg/L	98	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	1.0013	U	1.009	mg/L	101	85	115	3	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	1.0013	4.22	5.066	mg/L	84	85	115			M3
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	1.0013	4.22	5.08	mg/L	86	85	115	0	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403111													
WG403111ICV	ICV	05/17/16 21:31	MS160419-12	.02		.01898	mg/L	95	90	110			
WG403111ICB	ICB	05/17/16 21:34				U	mg/L		-0.0012	0.0012			
WG403111LFB	LFB	05/17/16 21:37	MS160510-5	.009980001		.00982	mg/L	98	85	115			
L30419-05AS	AS	05/17/16 22:40	MS160510-5	.009980001	.0013	.01007	mg/L	88	70	130			
L30419-05ASD	ASD	05/17/16 22:49	MS160510-5	.009980001	.0013	.01031	mg/L	90	70	130	2	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403111													
WG403111ICV	ICV	05/17/16 21:31	MS160419-12	.05		.05245	mg/L	105	90	110			
WG403111ICB	ICB	05/17/16 21:34				U	mg/L		-0.0006	0.0006			
WG403111LFB	LFB	05/17/16 21:37	MS160510-5	.0501		.04852	mg/L	97	85	115			
L30419-05AS	AS	05/17/16 22:40	MS160510-5	.0501	.0759	.1261	mg/L	100	70	130			
L30419-05ASD	ASD	05/17/16 22:49	MS160510-5	.0501	.0759	.1258	mg/L	100	70	130	0	20	
WG403215													
WG403215ICV	ICV	05/18/16 14:57	MS160419-12	.05		.0535	mg/L	107	90	110			
WG403215ICB	ICB	05/18/16 15:00				U	mg/L		-0.0006	0.0006			
WG403215LFB	LFB	05/18/16 15:03	MS160510-5	.0501		.04302	mg/L	86	85	115			
L30299-04AS	AS	05/18/16 15:22	MS160510-5	.0501	U	.04817	mg/L	96	70	130			
L30299-04ASD	ASD	05/18/16 15:25	MS160510-5	.0501	U	.04856	mg/L	97	70	130	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L30419***

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403190													
WG403190ICV	ICV	05/18/16 14:52	II160512-1	2		1.98	mg/L	99	95	105			
WG403190ICB	ICB	05/18/16 14:57				U	mg/L		-0.009	0.009			
WG403190LFB	LFB	05/18/16 15:09	II160516-4	.5005		.4845	mg/L	97	85	115			
L30414-01AS	AS	05/18/16 15:15	II160516-4	.5005	.027	.5087	mg/L	96	85	115			
L30414-01ASD	ASD	05/18/16 15:18	II160516-4	.5005	.027	.5089	mg/L	96	85	115	0	20	
L30419-10AS	AS	05/18/16 15:57	II160516-4	.5005	.049	.5285	mg/L	96	85	115			
L30419-10ASD	ASD	05/18/16 16:00	II160516-4	.5005	.049	.5265	mg/L	95	85	115	0	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403111													
WG403111ICV	ICV	05/17/16 21:31	MS160419-12	.05		.0458	mg/L	92	90	110			
WG403111ICB	ICB	05/17/16 21:34				U	mg/L		-0.00015	0.00015			
WG403111LFB	LFB	05/17/16 21:37	MS160510-5	.0501		.04463	mg/L	89	85	115			
L30419-05AS	AS	05/17/16 22:40	MS160510-5	.0501	.00413	.05176	mg/L	95	70	130			
L30419-05ASD	ASD	05/17/16 22:49	MS160510-5	.0501	.00413	.05178	mg/L	95	70	130	0	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		1.984	mg/L	99	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.12	0.12			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	1		.976	mg/L	98	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	1	U	.989	mg/L	99	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	1	U	1.005	mg/L	101	85	115	2	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	1	U	.955	mg/L	96	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	1	U	.982	mg/L	98	85	115	3	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		1.98	mg/L	99	95	105			
WG403077ICB	ICB	05/17/16 13:34				.014	mg/L		-0.03	0.03			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	.5005		.491	mg/L	98	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	.5005	.02	.497	mg/L	95	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	.5005	.02	.505	mg/L	97	85	115	2	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	.5005	.01	.489	mg/L	96	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	.5005	.01	.483	mg/L	95	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403111													
WG403111ICV	ICV	05/17/16 21:31	MS160419-12	.05		.04796	mg/L	96	90	110			
WG403111ICB	ICB	05/17/16 21:34				U	mg/L		-0.0003	0.0003			
WG403111LFB	LFB	05/17/16 21:37	MS160510-5	.05005		.04638	mg/L	93	85	115			
L30419-05AS	AS	05/17/16 22:40	MS160510-5	.05005	.0017	.04959	mg/L	96	70	130			
L30419-05ASD	ASD	05/17/16 22:49	MS160510-5	.05005	.0017	.04939	mg/L	95	70	130	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L30419***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	100		100.37	mg/L	100	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.3	0.3			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	68.01588		66.86	mg/L	98	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	68.01588	26.1	92.09	mg/L	97	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	68.01588	26.1	94.05	mg/L	100	85	115	2	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	68.01588	1.1	68	mg/L	98	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	68.01588	1.1	68.2	mg/L	99	85	115	0	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403043													
WG403043ICB	ICB	05/16/16 11:11				U	mg/L		-1.5	1.5			
WG403043ICV	ICV	05/16/16 11:11	WI150701-4	55.055		58.45	mg/L	106	90	110			
WG403043LFB1	LFB	05/16/16 14:55	WI160415-1	29.97		32.16	mg/L	107	90	110			
L30413-12AS	AS	05/16/16 15:07	WI160415-1	29.97	8.1	42.37	mg/L	114	90	110			M1
L30414-01DUP	DUP	05/16/16 15:07			1.3	1.31	mg/L				1	20	RA
WG403043LFB2	LFB	05/16/16 15:08	WI160415-1	29.97		32.64	mg/L	109	90	110			
L30446-02AS	AS	05/16/16 15:28	WI160415-1	29.97	1.7	34.47	mg/L	109	90	110			
L30448-01DUP	DUP	05/16/16 15:28			1.2	1.05	mg/L				13	20	RA

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		1.929	mg/L	96	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.03	0.03			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	.5005		.479	mg/L	96	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	.5005	U	.476	mg/L	95	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	.5005	U	.477	mg/L	95	85	115	0	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	.5005	U	.479	mg/L	96	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	.5005	U	.474	mg/L	95	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2.002		1.903	mg/L	95	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.03	0.03			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	.498		.469	mg/L	94	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	.498	U	.475	mg/L	95	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	.498	U	.471	mg/L	95	85	115	1	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	.498	.01	.484	mg/L	95	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	.498	.01	.475	mg/L	93	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L30419***

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG402986													
WG402986LCSW2	LCSW	05/14/16 15:27	PCN48848	1408		1490	umhos/cm	106	90	110			
WG402986LCSW5	LCSW	05/14/16 18:41	PCN48848	1408		1440	umhos/cm	102	90	110			
L30427-01DUP	DUP	05/14/16 20:26			283	277	umhos/cm				2	20	
L30430-02DUP	DUP	05/14/16 21:36			2150	2130	umhos/cm				1	20	
WG402986LCSW8	LCSW	05/14/16 21:41	PCN48848	1408		1420	umhos/cm	101	90	110			
WG402986LCSW11	LCSW	05/15/16 0:38	PCN48848	1408		1400	umhos/cm	99	90	110			
WG402986LCSW14	LCSW	05/15/16 2:34	PCN48848	1408		1390	umhos/cm	99	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		1.939	mg/L	97	95	105			
WG403077ICB	ICB	05/17/16 13:34				.011	mg/L		-0.03	0.03			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	.501		.475	mg/L	95	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	.501	U	.471	mg/L	94	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	.501	U	.473	mg/L	94	85	115	0	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	.501	1.5	1.864	mg/L	73	85	115			M3
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	.501	1.5	1.852	mg/L	70	85	115	1	20	M3

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403314													
WG403314ICV	ICV	05/19/16 22:46	WI160514-6	.3003		.3056	mg/L	102	90	110			
WG403314ICB	ICB	05/19/16 22:46				U	mg/L		-0.003	0.003			
WG403317													
WG403287LRB	LRB	05/19/16 23:22				U	mg/L		-0.003	0.003			
WG403287LFB	LFB	05/19/16 23:23	WI160514-2	.2		.1977	mg/L	99	90	110			
L30414-01DUP	DUP	05/19/16 23:24			U	U	mg/L				0	20	RA
L30435-02LFM	LFM	05/19/16 23:27	WI160514-2	.2	U	.1687	mg/L	84	90	110			M2

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403314													
WG403314ICV	ICV	05/19/16 22:46	WI160514-6	.3003		.3056	mg/L	102	90	110			
WG403314ICB	ICB	05/19/16 22:46				U	mg/L		-0.003	0.003			
WG403218LRB	LRB	05/19/16 22:47				U	mg/L		-0.003	0.003			
WG403218LFB	LFB	05/19/16 22:48	WI160514-4	.2002		.1961	mg/L	98	90	110			
L30409-01DUP	DUP	05/19/16 22:50			U	U	mg/L				0	20	RA
L30414-01LFM	LFM	05/19/16 22:52	WI160514-4	.2002	U	.1913	mg/L	96	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403168													
WG403168ICV	ICV	05/18/16 10:08	WC160509-7	2		1.9	mg/L	95	95	105			
WG403168ICB	ICB	05/18/16 10:13				.062	mg/L		-0.15	0.15			
WG403168LFB	LFB	05/18/16 10:20	WC160419-8	4.995		4.493	mg/L	90	90	110			
L30419-01AS	AS	05/18/16 10:29	WC160419-8	999	10	886	mg/L	88	90	110			M2
L30419-01DUP	DUP	05/18/16 10:33			10	15	mg/L				40	20	RA

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		1.95	mg/L	98	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.3	0.3			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	1		.95	mg/L	95	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	1	U	.94	mg/L	94	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	1	U	.98	mg/L	98	85	115	4	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	1	U	.94	mg/L	94	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	1	U	1	mg/L	100	85	115	6	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		1.961	mg/L	98	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.06	0.06			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	1.0001		.953	mg/L	95	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	1.0001	.1	1.037	mg/L	95	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	1.0001	.1	1.037	mg/L	95	85	115	0	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	1.0001	17.7	17.81	mg/L	21	85	115			M3
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	1.0001	17.7	17.66	mg/L	6	85	115	1	20	M3

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403111													
WG403111ICV	ICV	05/17/16 21:31	MS160419-12	.05		.05159	mg/L	103	90	110			
WG403111ICB	ICB	05/17/16 21:34				U	mg/L		-0.0003	0.0003			
WG403111LFB	LFB	05/17/16 21:37	MS160510-5	.05005		.04938	mg/L	99	85	115			
L30419-05AS	AS	05/17/16 22:40	MS160510-5	.05005	.0014	.05084	mg/L	99	70	130			
L30419-05ASD	ASD	05/17/16 22:49	MS160510-5	.05005	.0014	.05113	mg/L	99	70	130	1	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		1.9332	mg/L	97	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.024	0.024			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	1.002		.947	mg/L	95	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	1.002	.062	.99	mg/L	93	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	1.002	.062	.9947	mg/L	93	85	115	0	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	1.002	U	.9377	mg/L	94	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	1.002	U	.9441	mg/L	94	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L30419***

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	100		99.2	mg/L	99	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.6	0.6			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	49.99998		46.37	mg/L	93	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	49.99998	18.1	64.23	mg/L	92	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	49.99998	18.1	65.56	mg/L	95	85	115	2	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	49.99998	U	46.39	mg/L	93	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	49.99998	U	46.62	mg/L	93	85	115	0	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		1.9062	mg/L	95	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.015	0.015			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	.5		.4873	mg/L	97	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	.5	.014	.4901	mg/L	95	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	.5	.014	.4946	mg/L	96	85	115	1	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	.5	.129	.6024	mg/L	95	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	.5	.129	.5965	mg/L	94	85	115	1	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403396													
WG403396ICV	ICV	05/23/16 13:13	HG160510-2	.005		.005	mg/L	100	90	110			
WG403396ICB	ICB	05/23/16 13:15				U	mg/L		-0.0006	0.0006			
WG403399													
WG403399LRB	LRB	05/23/16 15:42				U	mg/L		-0.00044	0.00044			
WG403399LFB	LFB	05/23/16 15:44	HG160518-2	.002002		.0018	mg/L	90	85	115			
L30403-06LFM	LFM	05/23/16 15:49	HG160518-2	.002002	U	.00186	mg/L	93	85	115			
L30403-06LFMD	LFMD	05/23/16 15:51	HG160518-2	.002002	U	.00183	mg/L	91	85	115	2	20	
L30429-02LFM	LFM	05/23/16 16:20	HG160518-2	.002002	U	.00183	mg/L	91	85	115			
L30429-02LFMD	LFMD	05/23/16 16:22	HG160518-2	.002002	U	.00193	mg/L	96	85	115	5	20	

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ACZ Project ID: ***L30419***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403091													
WG403091ICV	ICV	05/17/16 10:13	HG160223-4	10		10.3	ng/L	103	79	121			
WG403091ICB	ICB	05/17/16 10:19				U	ng/L		-0.5	0.5			
WG403392													
WG403392CCV1	CCV	05/23/16 10:07	HG160223-4	10		9.74	ng/L	97	76.5	123.4			
WG403392CCB1	CCB	05/23/16 10:12				U	ng/L		-0.5	0.5			
WG403392PQV	PQV	05/23/16 10:17	HG160223-5	.5		.64	ng/L	128	70	130			
WG403392LFB	LFB	05/23/16 10:22	HG160223-6	2		1.96	ng/L	98	71	125			
L30419-01MS	MS	05/23/16 10:33	HG2XPREP	8	21.2	25.4	ng/L	105	71	125			
L30419-01MSD	MSD	05/23/16 10:38	HG2XPREP	8	21.2	26.4	ng/L	130	71	125	4	24	M3
WG403392CCV2	CCV	05/23/16 11:09	HG160223-4	10		10.2	ng/L	102	76.5	123.4			
WG403392CCB2	CCB	05/23/16 11:15				U	ng/L		-0.5	0.5			
WG403392CCV3	CCV	05/23/16 11:41	HG160223-4	10		9.21	ng/L	92	76.5	123.4			
WG403392CCB3	CCB	05/23/16 11:46				U	ng/L		-0.5	0.5			
WG403392CCV4	CCV	05/23/16 12:44	HG160223-4	10		10	ng/L	100	76.5	123.4			
WG403392CCB4	CCB	05/23/16 12:50				U	ng/L		-0.5	0.5			
WG403538													
WG403538CCV1	CCV	05/25/16 9:41	HG160525-4	10		11	ng/L	110	76.5	123.4			
WG403538CCB1	CCB	05/25/16 9:46				.37	ng/L		-0.5	0.5			
WG403538LFB	LFB	05/25/16 9:56	HG160525-6	2		2.28	ng/L	114	71	125			
L30551-04MS	MS	05/25/16 10:24	HG160525-6	2	6.5	7.62	ng/L	56	71	125			MA
L30551-04MSD	MSD	05/25/16 10:29	HG160525-6	2	6.5	8.31	ng/L	91	71	125	9	24	
WG403538CCV2	CCV	05/25/16 10:44	HG160525-4	10		10.2	ng/L	102	76.5	123.4			
WG403538CCB2	CCB	05/25/16 10:50				.3	ng/L		-0.5	0.5			
WG403538CCV3	CCV	05/25/16 11:47	HG160525-4	10		10.1	ng/L	101	76.5	123.4			
WG403538CCB3	CCB	05/25/16 11:52				.32	ng/L		-0.5	0.5			
WG403538PQV1	PQV	05/25/16 12:29	HG160525-5	.5		.64	ng/L	128	70	130			
WG403538CCV4	CCV	05/25/16 12:34	HG160525-4	10		11.1	ng/L	111	76.5	123.4			
WG403538CCB4	CCB	05/25/16 12:39				.27	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		1.964	mg/L	98	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.06	0.06			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	.4995		.457	mg/L	91	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	.4995	.04	.484	mg/L	89	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	.4995	.04	.498	mg/L	92	85	115	3	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	.4995	U	.455	mg/L	91	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	.4995	U	.455	mg/L	91	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L30419***

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		2.0188	mg/L	101	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.024	0.024			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	.501		.4856	mg/L	97	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	.501	U	.4811	mg/L	96	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	.501	U	.4868	mg/L	97	85	115	1	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	.501	.022	.5117	mg/L	98	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	.501	.022	.5019	mg/L	96	85	115	2	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403368													
WG403368ICV	ICV	05/20/16 20:01	WI160304-5	2.416		2.501	mg/L	104	90	110			
WG403368ICB	ICB	05/20/16 20:02				U	mg/L		-0.02	0.02			
WG403372													
WG403372LFB	LFB	05/20/16 23:57	WI151215-9	2		1.88	mg/L	94	90	110			
L30258-01AS	AS	05/21/16 0:00	WI151215-9	2	U	1.494	mg/L	75	90	110			M2
L30258-02DUP	DUP	05/21/16 0:02			1.54	1.527	mg/L				1	20	
L30419-07AS	AS	05/21/16 0:19	WI151215-9	2	.03	1.974	mg/L	97	90	110			
L30419-08DUP	DUP	05/21/16 0:21			U	U	mg/L				0	20	RA

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403333													
WG403333ICV	ICV	05/20/16 11:18	WI160426-2	11.988		12.278	mg/L	102	90	110			
WG403333ICB	ICB	05/20/16 11:20				U	mg/L		-0.05	0.05			
WG403333LFB1	LFB	05/20/16 11:21	WI160121-1	10		10.118	mg/L	101	90	110			
WG403333LFB2	LFB	05/20/16 12:03	WI160121-1	10		10.363	mg/L	104	90	110			
L30413-07DUP	DUP	05/20/16 12:06			1.03	1.052	mg/L				2	20	
L30413-08AS	AS	05/20/16 12:09	WI160121-1	10	.31	11.044	mg/L	107	90	110			
WG403345													
WG403345ICV	ICV	05/20/16 14:33	WI160426-2	11.988		12.126	mg/L	101	90	110			
WG403345ICB	ICB	05/20/16 14:35				U	mg/L		-0.05	0.05			
WG403345LFB1	LFB	05/20/16 15:16	WI160121-1	10		9.858	mg/L	99	90	110			
L30427-02AS	AS	05/20/16 15:33	WI160121-1	10	U	10.239	mg/L	102	90	110			
WG403345LFB2	LFB	05/20/16 15:58	WI160121-1	10		9.991	mg/L	100	90	110			
L30427-01DUP	DUP	05/20/16 16:22			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG402986													
WG402986LCSW1	LCSW	05/14/16 15:25	PCN48559	6.01		6	units	100	5.9	6.1			
WG402986LCSW4	LCSW	05/14/16 18:40	PCN48559	6.01		6	units	100	5.9	6.1			
L30427-01DUP	DUP	05/14/16 20:26			8.2	8.3	units				1	20	
L30430-02DUP	DUP	05/14/16 21:36			8.2	8.2	units				0	20	
WG402986LCSW7	LCSW	05/14/16 21:39	PCN48559	6.01		6	units	100	5.9	6.1			
WG402986LCSW10	LCSW	05/15/16 0:36	PCN48559	6.01		6	units	100	5.9	6.1			
WG402986LCSW13	LCSW	05/15/16 2:32	PCN48559	6.01		6	units	100	5.9	6.1			

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ACZ Project ID: ***L30419***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403147													
WG403147ICV	ICV	05/17/16 21:18	WI160502-3	.65228		.668	mg/L	102	90	110			
WG403147ICB	ICB	05/17/16 21:21				U	mg/L		-0.02	0.02			
WG403103LRB	LRB	05/17/16 21:47				U	mg/L		-0.02	0.02			
WG403103LFB	LFB	05/17/16 21:48	WI160504-4	.5		.535	mg/L	107	90	110			
L30386-07LFM	LFM	05/17/16 22:36	WI160504-4	.5	.03	.554	mg/L	105	90	110			
L30386-08DUP	DUP	05/17/16 22:38			.31	.316	mg/L				2	20	
WG403149													
WG403104LRB	LRB	05/17/16 23:02				U	mg/L		-0.02	0.02			
WG403104LFB	LFB	05/17/16 23:03	WI160504-4	.5		.529	mg/L	106	90	110			
L30419-02LFM	LFM	05/17/16 23:06	WI160504-4	.5	U	.531	mg/L	106	90	110			
L30419-03DUP	DUP	05/17/16 23:38			6.3	6.48	mg/L				3	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	20		19.89	mg/L	99	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.6	0.6			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	99.96008		95.78	mg/L	96	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	99.96008	1.7	97.67	mg/L	96	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	99.96008	1.7	100.1	mg/L	98	85	115	2	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	99.96008	3.1	98.31	mg/L	95	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	99.96008	3.1	99.14	mg/L	96	85	115	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG402954													
WG402954PBW	PBW	05/13/16 13:00				16	mg/L		-20	20			
WG402954LCSW	LCSW	05/13/16 13:02	PCN51021	260		272	mg/L	105	80	120			
L30419-05DUP	DUP	05/13/16 13:31			286	288	mg/L				1	10	
L30427-05DUP	DUP	05/13/16 14:00			104	106	mg/L				2	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		1.95	mg/L	98	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.3	0.3			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	1.0009		.99	mg/L	99	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	1.0009	U	.99	mg/L	99	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	1.0009	U	.99	mg/L	99	85	115	0	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	1.0009	U	.99	mg/L	99	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	1.0009	U	.99	mg/L	99	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L30419***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403111													
WG403111ICV	ICV	05/17/16 21:31	MS160419-12	.05		.05106	mg/L	102	90	110			
WG403111ICB	ICB	05/17/16 21:34				U	mg/L		-0.0003	0.0003			
WG403111LFB	LFB	05/17/16 21:37	MS160510-5	.0501		.04838	mg/L	97	85	115			
L30419-05AS	AS	05/17/16 22:40	MS160510-5	.0501	.0012	.05306	mg/L	104	70	130			
L30419-05ASD	ASD	05/17/16 22:49	MS160510-5	.0501	.0012	.05321	mg/L	104	70	130	0	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	1.001		1.004	mg/L	100	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.03	0.03			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	.5015		.484	mg/L	97	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	.5015	U	.418	mg/L	83	85	115			M2 ZA
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	.5015	U	.404	mg/L	81	85	115	3	20	M2 ZA
L30419-10AS	AS	05/17/16 14:44	II160429-3	.5015	U	.393	mg/L	78	85	115			M2 ZA
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	.5015	U	.397	mg/L	79	85	115	1	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	100		96.2	mg/L	96	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.6	0.6			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	100.0149		91.87	mg/L	92	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	100.0149	24.2	116.1	mg/L	92	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	100.0149	24.2	118	mg/L	94	85	115	2	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	100.0149	.4	91.96	mg/L	92	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	100.0149	.4	92.7	mg/L	92	85	115	1	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		1.932	mg/L	97	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.015	0.015			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	.501		.463	mg/L	92	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	.501	1.55	1.951	mg/L	80	85	115			M3
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	.501	1.55	1.969	mg/L	84	85	115	1	20	M3
L30419-10AS	AS	05/17/16 14:44	II160429-3	.501	.035	.4906	mg/L	91	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	.501	.035	.4935	mg/L	92	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403452													
WG403452ICB	ICB	05/23/16 16:37				U	mg/L		-3	3			
WG403452ICV	ICV	05/23/16 16:37	WI160513-2	20		19.4	mg/L	97	90	110			
WG403452LFB	LFB	05/23/16 16:59	WI160201-3	10.01		9.1	mg/L	91	90	110			
L30419-02DUP	DUP	05/23/16 18:03			67.5	66	mg/L				2	20	
L30419-03AS	AS	05/23/16 18:11	SO4TURB	10	2040	2240	mg/L	2000	90	110			M3

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Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403111													
WG403111ICV	ICV	05/17/16 21:31	MS160419-12	.05		.05307	mg/L	106	90	110			
WG403111ICB	ICB	05/17/16 21:34				U	mg/L		-0.0003	0.0003			
WG403111LFB	LFB	05/17/16 21:37	MS160510-5	.0501		.05004	mg/L	100	85	115			
L30419-05AS	AS	05/17/16 22:40	MS160510-5	.0501	.0005	.05121	mg/L	101	70	130			
L30419-05ASD	ASD	05/17/16 22:49	MS160510-5	.0501	.0005	.05205	mg/L	103	70	130	2	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		2.029	mg/L	101	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.12	0.12			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	1.001		.96	mg/L	96	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	1.001	U	.971	mg/L	97	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	1.001	U	.969	mg/L	97	85	115	0	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	1.001	U	.953	mg/L	95	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	1.001	U	.949	mg/L	95	85	115	0	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		1.994	mg/L	100	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.015	0.015			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	1.003		.9714	mg/L	97	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	1.003	U	.9686	mg/L	97	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	1.003	U	.9782	mg/L	98	85	115	1	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	1.003	U	.9725	mg/L	97	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	1.003	U	.9682	mg/L	97	85	115	0	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403111													
WG403111ICV	ICV	05/17/16 21:31	MS160419-12	.05		.05203	mg/L	104	90	110			
WG403111ICB	ICB	05/17/16 21:34				U	mg/L		-0.0003	0.0003			
WG403111LFB	LFB	05/17/16 21:37	MS160510-5	.05		.05057	mg/L	101	85	115			
L30419-05AS	AS	05/17/16 22:40	MS160510-5	.05	.0142	.06351	mg/L	99	70	130			
L30419-05ASD	ASD	05/17/16 22:49	MS160510-5	.05	.0142	.06417	mg/L	100	70	130	1	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		1.9828	mg/L	99	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.015	0.015			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	.501		.4782	mg/L	95	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	.501	U	.472	mg/L	94	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	.501	U	.4858	mg/L	97	85	115	3	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	.501	U	.4674	mg/L	93	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	.501	U	.4763	mg/L	95	85	115	2	20	

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ACZ Project ID: ***L30419***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403077													
WG403077ICV	ICV	05/17/16 13:28	II160512-1	2		1.946	mg/L	97	95	105			
WG403077ICB	ICB	05/17/16 13:34				U	mg/L		-0.03	0.03			
WG403077LFB	LFB	05/17/16 13:47	II160429-3	.4995		.485	mg/L	97	85	115			
L30414-01AS	AS	05/17/16 13:57	II160429-3	.4995	.01	.498	mg/L	98	85	115			
L30414-01ASD	ASD	05/17/16 14:00	II160429-3	.4995	.01	.507	mg/L	99	85	115	2	20	
L30419-10AS	AS	05/17/16 14:44	II160429-3	.4995	.04	.527	mg/L	97	85	115			
L30419-10ASD	ASD	05/17/16 14:47	II160429-3	.4995	.04	.523	mg/L	97	85	115	1	20	

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc. ACZ Project ID: ***L30419***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30419-01	WG403392	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403077	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403043	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403168	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403372	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG402986	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG402954	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403452	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG402986	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L30419***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30419-02	WG403392	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403077	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403043	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403168	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403372	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG402986	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG402954	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403452	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG402986	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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Inorganic Extended Qualifier Report

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ACZ Project ID: ***L30419***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30419-03	WG403392	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403077	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403043	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403168	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403372	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG402986	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG402954	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403452	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG402986	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L30419***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30419-04	WG403538	Mercury, total	M1631, Atomic Fluorescence	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG403077	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403043	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403168	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403372	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG402986	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG402954	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403452	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG402986	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L30419***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30419-05	WG403392	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403077	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403043	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403168	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403372	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403345	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG402954	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403452	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG402986	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L30419***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30419-06	WG403392	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403077	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403043	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403168	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403372	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403345	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG402954	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403452	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG402986	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L30419***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30419-07	WG403392	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403077	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403043	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403168	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403372	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403345	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG402954	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403452	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG402986	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L30419***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30419-08	WG403077	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Copper, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403392	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403077	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG403043	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403168	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403372	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403345	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG402954	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403452	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG402986	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L30419***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30419-09	WG403077	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Copper, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403392	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403077	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG403043	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403168	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403372	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403345	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG402954	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403452	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG402986	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L30419***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30419-10	WG403077	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Copper, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403392	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG403077	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG403043	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403317	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403314	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403168	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403372	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG403345	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG402986	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG402954	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG403452	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG402986	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L30419
Date Received:	05/12/2016 09:52
Received By:	ddp
Date Printed:	5/12/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?		X	

L30419-01 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L30419-02 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L30419-03 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L30419-04 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L30419-05 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L30419-06 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L30419-07 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L30419-08 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

L30419-09 : A Green, Yellow and HG-1631 container not received and a new container created from the White .

McClelland Laboratories, Inc.
3981

ACZ Project ID: L30419
Date Received: 05/12/2016 09:52
Received By: ddp
Date Printed: 5/12/2016

L30419-10 : A Green, Yellow, HG-1631 and Purple container not received and a new container created from the White .

16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA23888	4.7	<=6.0	12	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. 30419

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Mike Medina
Company: McClelland Laboratories, Inc.
E-mail: mli@mettest.com
Address: 1016 Greg Street
Sparks NV 89431
Telephone: 775-356-1300

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Mike Medina
Company: McClelland Laboratories, Inc.
E-mail: mli@mettest.com
Address: 1016 Greg Street
Sparks NV 89431
Telephone: 775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500	Mercury by 1631E				
CAL-002 (86-95)	5/11/16	WW	1	x			x				
CAL-004 (860-875)		WW	1	x			x				
CAL-003 (675-685)		WW	1	x			x				
GMC-012 (832-851)		WW	1	x			x				
CAL-004 (295-315)		WW	1	x			x				
CAL-001 (750-762)		WW	1	x			x				
GMC-014 (176-184)		WW	1	x			x				
CAL-001 (380-400)		WW	1	x			x				
CAL-002 (177-187)		WW	1	x			x				
Calico Leach Res. after CN Destruct		WW	1	x	x	x	x				

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 24
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
	5/11/16 9AM		5/12/16 950

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L30419 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

*****Gray out Analyses DOESN'T get done on all Samples, Just 1 of the Sample SEE COC*****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

June 28, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L30908

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 09, 2016. This project has been assigned to ACZ's project number, L30908. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L30908. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after July 28, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L30908-01***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/16/16 11:10	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.63			mg/L	0.03	0.2	06/13/16 17:46	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0200			mg/L	0.0004	0.002	06/10/16 22:31	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0729			mg/L	0.0002	0.001	06/10/16 22:31	enb
Barium, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.003	0.02	06/13/16 17:46	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00035			mg/L	0.00005	0.0003	06/10/16 22:31	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/13/16 17:46	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 17:46	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	06/10/16 22:31	enb
Calcium, dissolved	M200.7 ICP	1	1.4			mg/L	0.1	0.5	06/13/16 17:46	aeb
Chromium, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	06/13/16 17:46	aeb
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	06/13/16 17:46	aeb
Copper, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	06/13/16 17:46	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 17:46	aeb
Iron, dissolved	M200.7 ICP	1	18.70		*	mg/L	0.02	0.05	06/13/16 17:46	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	06/10/16 22:31	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/13/16 17:46	aeb
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	06/13/16 17:46	aeb
Manganese, dissolved	M200.7 ICP	1	0.023	B	*	mg/L	0.005	0.03	06/13/16 17:46	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/16/16 13:05	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/13/16 17:46	aeb
Nickel, dissolved	M200.7 ICP	1	0.051			mg/L	0.008	0.04	06/13/16 17:46	aeb
Potassium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	06/13/16 17:46	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 17:46	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0003	06/13/16 17:33	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/13/16 17:46	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/14/16 14:57	gss
Strontium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.005	0.03	06/13/16 17:46	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0063			mg/L	0.0001	0.0005	06/10/16 22:31	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/13/16 17:46	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/13/16 17:46	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	06/10/16 22:31	enb
Vanadium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.005	0.03	06/13/16 17:46	aeb
Zinc, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	06/13/16 17:46	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L30908-01***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Total Alkalinity		1		U	*	mg/L	2	20	06/10/16 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.7			%			06/28/16 0:00	calc
Sum of Anions			1.4			meq/L			06/28/16 0:00	calc
Sum of Cations			1.3			meq/L			06/28/16 0:00	calc
Chloride	SM4500Cl-E	1	1.3	B	*	mg/L	0.5	2	06/22/16 9:48	krh
Conductivity @25C	SM2510B	1	268		*	umhos/cm	1	10	06/10/16 1:17	id
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/16/16 11:17	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4.7	B		mg/L	0.2	5	06/28/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.08	B	*	mg/L	0.02	0.1	06/17/16 22:44	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/21/16 13:05	krh
pH (lab)	SM4500H+ B									
pH		1	3.5	H	*	units	0.1	0.1	06/10/16 0:00	id
pH measured at		1	22.8			C	0.1	0.1	06/10/16 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	06/17/16 21:28	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	102		*	mg/L	10	20	06/11/16 12:48	emk
Sulfate	D516-02/-07 - Turbidimetric	5	62.8		*	mg/L	5	25	06/23/16 11:45	krh
TDS (calculated)	Calculation		87.1			mg/L			06/28/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.17						06/28/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L30908-02***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/16/16 11:35	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.46			mg/L	0.03	0.2	06/13/16 17:49	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0004	0.002	06/10/16 22:34	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0140			mg/L	0.0002	0.001	06/10/16 22:34	enb
Barium, dissolved	M200.7 ICP	1	0.038			mg/L	0.003	0.02	06/13/16 17:49	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00746			mg/L	0.00005	0.0003	06/10/16 22:34	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/13/16 17:49	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 17:49	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0001	0.0005	06/10/16 22:34	enb
Calcium, dissolved	M200.7 ICP	1	18.2			mg/L	0.1	0.5	06/13/16 17:49	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 17:49	aeb
Cobalt, dissolved	M200.7 ICP	1	0.28			mg/L	0.01	0.05	06/13/16 17:49	aeb
Copper, dissolved	M200.7 ICP	1	0.40			mg/L	0.01	0.05	06/13/16 17:49	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 17:49	aeb
Iron, dissolved	M200.7 ICP	1	8.94		*	mg/L	0.02	0.05	06/13/16 17:49	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	06/10/16 22:34	enb
Lithium, dissolved	M200.7 ICP	1	0.017	B		mg/L	0.008	0.04	06/13/16 17:49	aeb
Magnesium, dissolved	M200.7 ICP	1	2.4			mg/L	0.2	1	06/13/16 17:49	aeb
Manganese, dissolved	M200.7 ICP	1	2.180		*	mg/L	0.005	0.03	06/13/16 17:49	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/16/16 13:07	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/13/16 17:49	aeb
Nickel, dissolved	M200.7 ICP	1	0.166			mg/L	0.008	0.04	06/13/16 17:49	aeb
Potassium, dissolved	M200.7 ICP	1	4.3			mg/L	0.2	1	06/13/16 17:49	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 17:49	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0003	06/13/16 17:36	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/13/16 17:49	aeb
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	06/14/16 15:00	gss
Strontium, dissolved	M200.7 ICP	1	0.244			mg/L	0.005	0.03	06/13/16 17:49	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0001	0.0005	06/10/16 22:34	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/13/16 17:49	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/13/16 17:49	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0128			mg/L	0.0001	0.0005	06/10/16 22:34	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/13/16 17:49	aeb
Zinc, dissolved	M200.7 ICP	1	0.45			mg/L	0.01	0.05	06/13/16 17:49	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L30908-02***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Total Alkalinity		1		U	*	mg/L	2	20	06/10/16 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-8.7			%			06/28/16 0:00	calc
Sum of Anions			2.5			meq/L			06/28/16 0:00	calc
Sum of Cations			2.1			meq/L			06/28/16 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	06/22/16 9:48	krh
Conductivity @25C	SM2510B	1	409		*	umhos/cm	1	10	06/10/16 1:21	id
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/16/16 11:24	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		55			mg/L	0.2	5	06/28/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	06/17/16 22:46	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/21/16 12:01	krh
pH (lab)	SM4500H+ B									
pH		1	3.3	H	*	units	0.1	0.1	06/10/16 0:00	id
pH measured at		1	22.9			C	0.1	0.1	06/10/16 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	06/17/16 21:30	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	194		*	mg/L	10	20	06/11/16 12:50	emk
Sulfate	D516-02/-07 - Turbidimetric	5	118		*	mg/L	5	25	06/23/16 11:45	krh
TDS (calculated)	Calculation		158			mg/L			06/28/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.23						06/28/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L30908-03***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/16/16 12:00	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	5	59.5			mg/L	0.2	0.8	06/13/16 17:57	aeb
Antimony, dissolved	M200.8 ICP-MS	5	0.006	B		mg/L	0.002	0.01	06/10/16 22:44	enb
Arsenic, dissolved	M200.8 ICP-MS	100	9.99			mg/L	0.02	0.1	06/13/16 17:39	enb
Barium, dissolved	M200.7 ICP	5		U		mg/L	0.02	0.08	06/13/16 17:57	aeb
Beryllium, dissolved	M200.8 ICP-MS	5	0.0107			mg/L	0.0003	0.001	06/10/16 22:44	enb
Bismuth, dissolved	M200.7 ICP	5		U	*	mg/L	0.2	1	06/13/16 17:57	aeb
Boron, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/13/16 17:57	aeb
Cadmium, dissolved	M200.8 ICP-MS	5	0.0072			mg/L	0.0005	0.003	06/10/16 22:44	enb
Calcium, dissolved	M200.7 ICP	5	63.2			mg/L	0.5	3	06/13/16 17:57	aeb
Chromium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/13/16 17:57	aeb
Cobalt, dissolved	M200.7 ICP	5	0.74			mg/L	0.05	0.3	06/13/16 17:57	aeb
Copper, dissolved	M200.7 ICP	5	1.73			mg/L	0.05	0.3	06/13/16 17:57	aeb
Gallium, dissolved	M200.7 ICP	5		U	*	mg/L	0.5	3	06/13/16 17:57	aeb
Iron, dissolved	M200.7 ICP	5	1170		*	mg/L	0.1	0.3	06/13/16 17:57	aeb
Lead, dissolved	M200.8 ICP-MS	5	0.0010	B		mg/L	0.0005	0.003	06/10/16 22:44	enb
Lithium, dissolved	M200.7 ICP	5		U		mg/L	0.04	0.2	06/13/16 17:57	aeb
Magnesium, dissolved	M200.7 ICP	5	15			mg/L	1	5	06/13/16 17:57	aeb
Manganese, dissolved	M200.7 ICP	5	0.65		*	mg/L	0.03	0.1	06/13/16 17:57	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/16/16 13:09	pta
Molybdenum, dissolved	M200.7 ICP	5	0.8			mg/L	0.1	0.5	06/13/16 17:57	aeb
Nickel, dissolved	M200.7 ICP	5	0.69			mg/L	0.04	0.2	06/13/16 17:57	aeb
Potassium, dissolved	M200.7 ICP	5	2	B		mg/L	1	5	06/13/16 17:57	aeb
Scandium, dissolved	M200.7 ICP	5		U	*	mg/L	0.5	3	06/13/16 17:57	aeb
Selenium, dissolved	M200.8 ICP-MS	100	0.02	B		mg/L	0.01	0.03	06/13/16 17:39	enb
Silver, dissolved	M200.7 ICP	5		U	*	mg/L	0.05	0.1	06/13/16 17:57	aeb
Sodium, dissolved	M200.7 ICP	5	2	B		mg/L	1	5	06/14/16 15:08	gss
Strontium, dissolved	M200.7 ICP	5	0.75			mg/L	0.03	0.1	06/13/16 17:57	aeb
Thallium, dissolved	M200.8 ICP-MS	5	0.0020	B		mg/L	0.0005	0.003	06/10/16 22:44	enb
Tin, dissolved	M200.7 ICP	5		U		mg/L	0.2	1	06/13/16 17:57	aeb
Titanium, dissolved	M200.7 ICP	5		U	*	mg/L	0.03	0.1	06/13/16 17:57	aeb
Uranium, dissolved	M200.8 ICP-MS	5	0.0173			mg/L	0.0005	0.003	06/10/16 22:44	enb
Vanadium, dissolved	M200.7 ICP	5	0.06	B		mg/L	0.03	0.1	06/13/16 17:57	aeb
Zinc, dissolved	M200.7 ICP	5	1.03			mg/L	0.05	0.3	06/13/16 17:57	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L30908-03***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Total Alkalinity		1		U	*	mg/L	2	20	06/10/16 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-6.4			%			06/28/16 0:00	calc
Sum of Anions			83			meq/L			06/28/16 0:00	calc
Sum of Cations			73			meq/L			06/28/16 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	06/22/16 9:48	krh
Conductivity @25C	SM2510B	1	6760		*	umhos/cm	1	10	06/10/16 1:25	id
Fluoride	SM4500F-C	400		U	*	mg/L	20	100	06/16/16 11:40	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		220			mg/L	1	30	06/28/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	06/17/16 22:49	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/21/16 12:02	krh
pH (lab)	SM4500H+ B									
pH		1	1.9	H	*	units	0.1	0.1	06/10/16 0:00	id
pH measured at		1	23.0			C	0.1	0.1	06/10/16 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	30	8.5		*	mg/L	0.6	2	06/17/16 22:01	pjb
Residue, Filterable (TDS) @180C	SM2540C	2	5060		*	mg/L	20	40	06/13/16 14:50	id
Sulfate	D516-02/-07 - Turbidimetric	100	3950		*	mg/L	100	500	06/23/16 11:55	krh
TDS (calculated)	Calculation		5270			mg/L			06/28/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.96						06/28/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L30908-04***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/16/16 12:13	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	15.90			mg/L	0.03	0.2	06/13/16 18:06	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0012	B		mg/L	0.0004	0.002	06/10/16 22:47	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.2279			mg/L	0.0002	0.001	06/13/16 17:42	enb
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	06/13/16 18:06	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00112			mg/L	0.00005	0.0003	06/10/16 22:47	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/13/16 18:06	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:06	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	06/10/16 22:47	enb
Calcium, dissolved	M200.7 ICP	1	2.9			mg/L	0.1	0.5	06/13/16 18:06	aeb
Chromium, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	06/13/16 18:06	aeb
Cobalt, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	06/13/16 18:06	aeb
Copper, dissolved	M200.7 ICP	1	0.28			mg/L	0.01	0.05	06/13/16 18:06	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 18:06	aeb
Iron, dissolved	M200.7 ICP	1	146		*	mg/L	0.02	0.05	06/13/16 18:06	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	06/10/16 22:47	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/13/16 18:06	aeb
Magnesium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	06/13/16 18:06	aeb
Manganese, dissolved	M200.7 ICP	1	0.375		*	mg/L	0.005	0.03	06/13/16 18:06	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/16/16 13:11	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/13/16 18:06	aeb
Nickel, dissolved	M200.7 ICP	1	0.103			mg/L	0.008	0.04	06/13/16 18:06	aeb
Potassium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	06/13/16 18:06	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 18:06	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0003	06/13/16 17:42	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/13/16 18:06	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/14/16 15:18	gss
Strontium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	06/13/16 18:06	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	06/10/16 22:47	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/13/16 18:06	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/13/16 18:06	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0176			mg/L	0.0001	0.0005	06/10/16 22:47	enb
Vanadium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.005	0.03	06/13/16 18:06	aeb
Zinc, dissolved	M200.7 ICP	1	0.20			mg/L	0.01	0.05	06/13/16 18:06	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L30908-04***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Total Alkalinity		1		U	*	mg/L	2	20	06/10/16 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-14.5			%			06/28/16 0:00	calc
Sum of Anions			13			meq/L			06/28/16 0:00	calc
Sum of Cations			9.7			meq/L			06/28/16 0:00	calc
Chloride	SM4500Cl-E	1	0.7	B	*	mg/L	0.5	2	06/22/16 9:48	krh
Conductivity @25C	SM2510B	1	2470		*	umhos/cm	1	10	06/10/16 1:29	id
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/16/16 11:46	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		8.1			mg/L	0.2	5	06/28/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	06/17/16 22:50	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/21/16 12:05	krh
pH (lab)	SM4500H+ B									
pH		1	2.3	H	*	units	0.1	0.1	06/10/16 0:00	id
pH measured at		1	23.3			C	0.1	0.1	06/10/16 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.26		*	mg/L	0.02	0.05	06/17/16 22:02	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	700		*	mg/L	10	20	06/11/16 12:56	emk
Sulfate	D516-02/-07 - Turbidimetric	50	637		*	mg/L	50	250	06/27/16 10:19	krh
TDS (calculated)	Calculation		804			mg/L			06/28/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.87						06/28/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L30908-05***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/16/16 12:25	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.29			mg/L	0.03	0.2	06/13/16 18:09	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0012	B		mg/L	0.0004	0.002	06/10/16 22:50	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0785			mg/L	0.0002	0.001	06/10/16 22:50	enb
Barium, dissolved	M200.7 ICP	1	0.025			mg/L	0.003	0.02	06/13/16 18:09	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00317			mg/L	0.00005	0.0003	06/10/16 22:50	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/13/16 18:09	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:09	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	06/10/16 22:50	enb
Calcium, dissolved	M200.7 ICP	1	22.5			mg/L	0.1	0.5	06/13/16 18:09	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:09	aeb
Cobalt, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	06/13/16 18:09	aeb
Copper, dissolved	M200.7 ICP	1	0.13			mg/L	0.01	0.05	06/13/16 18:09	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 18:09	aeb
Iron, dissolved	M200.7 ICP	1	4.37		*	mg/L	0.02	0.05	06/13/16 18:09	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	06/10/16 22:50	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/13/16 18:09	aeb
Magnesium, dissolved	M200.7 ICP	1	4.3			mg/L	0.2	1	06/13/16 18:09	aeb
Manganese, dissolved	M200.7 ICP	1	0.472		*	mg/L	0.005	0.03	06/13/16 18:09	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/16/16 13:17	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/13/16 18:09	aeb
Nickel, dissolved	M200.7 ICP	1	0.055			mg/L	0.008	0.04	06/13/16 18:09	aeb
Potassium, dissolved	M200.7 ICP	1	2.3			mg/L	0.2	1	06/13/16 18:09	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 18:09	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0003	06/13/16 17:45	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/13/16 18:09	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/14/16 15:21	gss
Strontium, dissolved	M200.7 ICP	1	0.072			mg/L	0.005	0.03	06/13/16 18:09	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	06/10/16 22:50	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/13/16 18:09	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/13/16 18:09	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0106			mg/L	0.0001	0.0005	06/10/16 22:50	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/13/16 18:09	aeb
Zinc, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	06/13/16 18:09	aeb

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L30908-05***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Total Alkalinity		1		U	*	mg/L	2	20	06/10/16 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-16.7			%			06/28/16 0:00	calc
Sum of Anions			2.8			meq/L			06/28/16 0:00	calc
Sum of Cations			2			meq/L			06/28/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	06/22/16 9:48	krh
Conductivity @25C	SM2510B	1	505		*	umhos/cm	1	10	06/10/16 2:04	id
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/16/16 11:49	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		74			mg/L	0.2	5	06/28/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	06/17/16 22:51	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.26		*	mg/L	0.05	0.2	06/21/16 12:08	krh
pH (lab)	SM4500H+ B									
pH		1	3.1	H	*	units	0.1	0.1	06/10/16 0:00	id
pH measured at		1	23.1			C	0.1	0.1	06/10/16 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	06/17/16 21:35	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	192		*	mg/L	10	20	06/11/16 12:58	emk
Sulfate	D516-02/-07 - Turbidimetric	5	132		*	mg/L	5	25	06/23/16 11:45	krh
TDS (calculated)	Calculation		168			mg/L			06/28/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.14						06/28/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L30908-06***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/16/16 12:38	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.05	B		mg/L	0.03	0.2	06/13/16 18:12	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/10/16 22:53	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0002	0.001	06/10/16 22:53	enb
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	06/13/16 18:12	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00005	B		mg/L	0.00005	0.0003	06/10/16 22:53	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/13/16 18:12	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:12	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/10/16 22:53	enb
Calcium, dissolved	M200.7 ICP	1	4.3			mg/L	0.1	0.5	06/13/16 18:12	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:12	aeb
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	06/13/16 18:12	aeb
Copper, dissolved	M200.7 ICP	1	0.13			mg/L	0.01	0.05	06/13/16 18:12	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 18:12	aeb
Iron, dissolved	M200.7 ICP	1	0.18		*	mg/L	0.02	0.05	06/13/16 18:12	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/10/16 22:53	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/13/16 18:12	aeb
Magnesium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	06/13/16 18:12	aeb
Manganese, dissolved	M200.7 ICP	1	0.023	B	*	mg/L	0.005	0.03	06/13/16 18:12	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/16/16 13:19	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/13/16 18:12	aeb
Nickel, dissolved	M200.7 ICP	1	0.024	B		mg/L	0.008	0.04	06/13/16 18:12	aeb
Potassium, dissolved	M200.7 ICP	1	2.9			mg/L	0.2	1	06/13/16 18:12	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 18:12	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0060			mg/L	0.0001	0.0003	06/13/16 17:48	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/13/16 18:12	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/14/16 15:24	gss
Strontium, dissolved	M200.7 ICP	1	0.053			mg/L	0.005	0.03	06/13/16 18:12	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	06/10/16 22:53	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/13/16 18:12	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/13/16 18:12	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	06/10/16 22:53	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/13/16 18:12	aeb
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	06/13/16 18:12	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L30908-06***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Total Alkalinity		1		U	*	mg/L	2	20	06/10/16 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-12.1			%			06/28/16 0:00	calc
Sum of Anions			0.483	B		meq/L			06/28/16 0:00	calc
Sum of Cations			0.379	B		meq/L			06/28/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	06/22/16 9:48	krh
Conductivity @25C	SM2510B	1	67.0		*	umhos/cm	1	10	06/10/16 2:09	id
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/16/16 11:54	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		14			mg/L	0.2	5	06/28/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	06/17/16 22:52	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/21/16 12:09	krh
pH (lab)	SM4500H+ B									
pH		1	4.5	H	*	units	0.1	0.1	06/10/16 0:00	id
pH measured at		1	23.0			C	0.1	0.1	06/10/16 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	06/17/16 21:36	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	44		*	mg/L	10	20	06/11/16 13:04	emk
Sulfate	D516-02/-07 - Turbidimetric	1	23.0		*	mg/L	1	5	06/23/16 11:38	krh
TDS (calculated)	Calculation		31.5			mg/L			06/28/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.40						06/28/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L30908-07***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/16/16 12:51	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	18.30			mg/L	0.03	0.2	06/13/16 18:15	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0004	0.002	06/10/16 22:56	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.9879			mg/L	0.0002	0.001	06/10/16 22:56	enb
Barium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.003	0.02	06/13/16 18:15	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00644			mg/L	0.00005	0.0003	06/10/16 22:56	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/13/16 18:15	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:15	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0001	0.0005	06/10/16 22:56	enb
Calcium, dissolved	M200.7 ICP	1	11.5			mg/L	0.1	0.5	06/13/16 18:15	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:15	aeb
Cobalt, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	06/13/16 18:15	aeb
Copper, dissolved	M200.7 ICP	1	0.28			mg/L	0.01	0.05	06/13/16 18:15	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 18:15	aeb
Iron, dissolved	M200.7 ICP	1	117			mg/L	0.02	0.05	06/13/16 18:15	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0001	0.0005	06/10/16 22:56	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/13/16 18:15	aeb
Magnesium, dissolved	M200.7 ICP	1	1.7			mg/L	0.2	1	06/13/16 18:15	aeb
Manganese, dissolved	M200.7 ICP	1	0.153			mg/L	0.005	0.03	06/13/16 18:15	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/16/16 13:21	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/13/16 18:15	aeb
Nickel, dissolved	M200.7 ICP	1	0.096			mg/L	0.008	0.04	06/13/16 18:15	aeb
Potassium, dissolved	M200.7 ICP	1	4.6			mg/L	0.2	1	06/13/16 18:15	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 18:15	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0003	06/13/16 18:04	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/13/16 18:15	aeb
Sodium, dissolved	M200.7 ICP	1	1.4			mg/L	0.2	1	06/14/16 15:27	gss
Strontium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.005	0.03	06/13/16 18:15	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0001	0.0005	06/10/16 22:56	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/13/16 18:15	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/13/16 18:15	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0050			mg/L	0.0001	0.0005	06/10/16 22:56	enb
Vanadium, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.005	0.03	06/13/16 18:15	aeb
Zinc, dissolved	M200.7 ICP	1	1.20			mg/L	0.01	0.05	06/13/16 18:15	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L30908-07***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Total Alkalinity		1		U	*	mg/L	2	20	06/10/16 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.2			%			06/28/16 0:00	calc
Sum of Anions			10			meq/L			06/28/16 0:00	calc
Sum of Cations			9.2			meq/L			06/28/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	06/22/16 9:48	krh
Conductivity @25C	SM2510B	1	1420		*	umhos/cm	1	10	06/10/16 2:13	id
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/16/16 11:59	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		36			mg/L	0.2	5	06/28/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	06/17/16 22:54	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/21/16 12:11	krh
pH (lab)	SM4500H+ B									
pH		1	2.6	H	*	units	0.1	0.1	06/10/16 0:00	id
pH measured at		1	23.0			C	0.1	0.1	06/10/16 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.29		*	mg/L	0.02	0.05	06/17/16 21:39	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	722		*	mg/L	10	20	06/11/16 13:06	emk
Sulfate	D516-02/-07 - Turbidimetric	20	496		*	mg/L	20	100	06/23/16 12:00	krh
TDS (calculated)	Calculation		652			mg/L			06/28/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.11						06/28/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L30908-08***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/16/16 13:03	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	06/13/16 18:18	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0014	B		mg/L	0.0004	0.002	06/10/16 22:59	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0130			mg/L	0.0002	0.001	06/10/16 22:59	enb
Barium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.003	0.02	06/13/16 18:18	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/10/16 22:59	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/13/16 18:18	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:18	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/10/16 22:59	enb
Calcium, dissolved	M200.7 ICP	1	2.7			mg/L	0.1	0.5	06/13/16 18:18	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:18	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:18	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:18	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 18:18	aeb
Iron, dissolved	M200.7 ICP	1	0.05			mg/L	0.02	0.05	06/13/16 18:18	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/10/16 22:59	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/13/16 18:18	aeb
Magnesium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	06/13/16 18:18	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/13/16 18:18	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/16/16 13:23	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/13/16 18:18	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/13/16 18:18	aeb
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	06/13/16 18:18	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 18:18	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	06/13/16 18:07	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/13/16 18:18	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/14/16 15:30	gss
Strontium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.005	0.03	06/13/16 18:18	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/10/16 22:59	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/13/16 18:18	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/13/16 18:18	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/10/16 22:59	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/13/16 18:18	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:18	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L30908-08***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	5.9	B		mg/L	2	20	06/10/16 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Total Alkalinity		1	5.9	B	*	mg/L	2	20	06/10/16 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			06/28/16 0:00	calc
Sum of Anions			0.118	B		meq/L			06/28/16 0:00	calc
Sum of Cations			0.162	B		meq/L			06/28/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	06/22/16 9:49	krh
Conductivity @25C	SM2510B	1	20.1		*	umhos/cm	1	10	06/10/16 2:22	id
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/16/16 12:13	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		7.6			mg/L	0.2	5	06/28/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	06/17/16 22:59	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/21/16 12:15	krh
pH (lab)	SM4500H+ B									
pH		1	7.2	H	*	units	0.1	0.1	06/10/16 0:00	id
pH measured at		1	23.1			C	0.1	0.1	06/10/16 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	06/17/16 21:40	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	10	B	*	mg/L	10	20	06/11/16 13:09	emk
Sulfate	D516-02/-07 - Turbidimetric	1		U	*	mg/L	1	5	06/23/16 11:40	krh
TDS (calculated)	Calculation		6.86			mg/L			06/28/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.46						06/28/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L30908-09***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/16/16 13:16	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	06/13/16 18:21	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0004	0.002	06/13/16 17:50	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0002	0.001	06/13/16 17:50	msh
Barium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.003	0.02	06/13/16 18:21	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00017	B		mg/L	0.00005	0.0003	06/15/16 16:20	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/13/16 18:21	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:21	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/13/16 17:50	msh
Calcium, dissolved	M200.7 ICP	1	1.9			mg/L	0.1	0.5	06/13/16 18:21	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:21	aeb
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	06/13/16 18:21	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:21	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 18:21	aeb
Iron, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.02	0.05	06/13/16 18:21	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	06/13/16 17:50	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/13/16 18:21	aeb
Magnesium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	06/13/16 18:21	aeb
Manganese, dissolved	M200.7 ICP	1	0.028	B		mg/L	0.005	0.03	06/13/16 18:21	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/16/16 13:25	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/13/16 18:21	aeb
Nickel, dissolved	M200.7 ICP	1	0.208			mg/L	0.008	0.04	06/13/16 18:21	aeb
Potassium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	06/13/16 18:21	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 18:21	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0001	0.0003	06/13/16 17:50	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/13/16 18:21	aeb
Sodium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	06/14/16 15:33	gss
Strontium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.005	0.03	06/13/16 18:21	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	06/13/16 17:50	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/13/16 18:21	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/13/16 18:21	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/13/16 17:50	msh
Vanadium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	06/13/16 18:21	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:21	aeb

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L30908-09***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Total Alkalinity		1		U	*	mg/L	2	20	06/10/16 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			06/28/16 0:00	calc
Sum of Anions			0.166	B		meq/L			06/28/16 0:00	calc
Sum of Cations			0.172	B		meq/L			06/28/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	06/22/16 9:49	krh
Conductivity @25C	SM2510B	1	30.6		*	umhos/cm	1	10	06/10/16 2:28	id
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/16/16 12:19	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		6.8			mg/L	0.2	5	06/28/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	06/17/16 23:00	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/21/16 12:16	krh
pH (lab)	SM4500H+ B									
pH		1	5.2	H	*	units	0.1	0.1	06/10/16 0:00	id
pH measured at		1	23.3			C	0.1	0.1	06/10/16 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	06/17/16 21:41	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	16	B	*	mg/L	10	20	06/11/16 13:11	emk
Sulfate	D516-02/-07 - Turbidimetric	1	7.9		*	mg/L	1	5	06/23/16 11:40	krh
TDS (calculated)	Calculation		11.4			mg/L			06/28/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.40						06/28/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L30908-10***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation				*				06/16/16 10:39	enb
Cyanide, WAD	SM4500-CN I- distillation				*				06/15/16 11:53	krh
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/17/16 11:05	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	3.85			mg/L	0.03	0.2	06/13/16 18:24	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/13/16 17:52	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0002	0.001	06/13/16 17:52	msh
Barium, dissolved	M200.7 ICP	1	0.045			mg/L	0.003	0.02	06/13/16 18:24	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00067			mg/L	0.00005	0.0003	06/15/16 16:23	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/13/16 18:24	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:24	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	06/13/16 17:52	msh
Calcium, dissolved	M200.7 ICP	1	0.8			mg/L	0.1	0.5	06/13/16 18:24	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/13/16 18:24	aeb
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	06/13/16 18:24	aeb
Copper, dissolved	M200.7 ICP	1	0.82			mg/L	0.01	0.05	06/13/16 18:24	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 18:24	aeb
Iron, dissolved	M200.7 ICP	1	17.40			mg/L	0.02	0.05	06/13/16 18:24	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	06/13/16 17:52	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/13/16 18:24	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/13/16 18:24	aeb
Manganese, dissolved	M200.7 ICP	1	0.088			mg/L	0.005	0.03	06/13/16 18:24	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/16/16 13:26	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/13/16 18:24	aeb
Nickel, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.008	0.04	06/13/16 18:24	aeb
Potassium, dissolved	M200.7 ICP	1	2.7			mg/L	0.2	1	06/13/16 18:24	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/13/16 18:24	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0034			mg/L	0.0001	0.0003	06/13/16 17:52	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/13/16 18:24	aeb
Sodium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	06/14/16 15:35	gss
Strontium, dissolved	M200.7 ICP	1	0.026	B		mg/L	0.005	0.03	06/13/16 18:24	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	06/13/16 17:52	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/13/16 18:24	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/13/16 18:24	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0068			mg/L	0.0001	0.0005	06/13/16 17:52	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/13/16 18:24	aeb
Zinc, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	06/13/16 18:24	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L30908-10***
Date Sampled: *06/08/16 00:00*
Date Received: *06/09/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Carbonate as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Hydroxide as CaCO3		1		U		mg/L	2	20	06/10/16 0:00	id
Total Alkalinity		1		U	*	mg/L	2	20	06/10/16 0:00	id
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.2			%			06/28/16 0:00	calc
Sum of Anions			1.6			meq/L			06/28/16 0:00	calc
Sum of Cations			1.5			meq/L			06/28/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	06/22/16 9:49	krh
Conductivity @25C	SM2510B	1	298		*	umhos/cm	1	10	06/10/16 2:32	id
Cyanide, total	M335.4 - Colorimetric w/ distillation	5		U	*	mg/L	0.03	0.1	06/16/16 23:13	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	06/16/16 0:01	pjb
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/16/16 12:25	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2	B		mg/L	0.2	5	06/28/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	06/17/16 23:02	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/21/16 12:18	krh
pH (lab)	SM4500H+ B									
pH		1	3.3	H	*	units	0.1	0.1	06/10/16 0:00	id
pH measured at		1	23.4			C	0.1	0.1	06/10/16 0:00	id
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	06/17/16 22:15	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	164		*	mg/L	10	20	06/11/16 13:14	emk
Sulfate	D516-02/-07 - Turbidimetric	5	74.0		*	mg/L	5	25	06/23/16 11:47	krh
TDS (calculated)	Calculation		100			mg/L			06/28/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.64						06/28/16 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of Interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L30908***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404351													
WG404351PBW1	PBW	06/09/16 17:18				14.7	mg/L		-20	20			
WG404351LCSW3	LCSW	06/09/16 17:35	WC160531-1	820.0001		824	mg/L	100	90	110			
WG404351LCSW6	LCSW	06/09/16 20:54	WC160531-1	820.0001		840	mg/L	102	90	110			
WG404351PBW2	PBW	06/09/16 21:02				2.3	mg/L		-20	20			
WG404351LCSW9	LCSW	06/09/16 23:36	WC160531-1	820.0001		852	mg/L	104	90	110			
WG404351PBW3	PBW	06/09/16 23:45				2.1	mg/L		-20	20			
L30908-04DUP	DUP	06/10/16 1:34			U	U	mg/L				0	20	RA
WG404351LCSW12	LCSW	06/10/16 1:51	WC160531-1	820.0001		853	mg/L	104	90	110			
WG404351PBW4	PBW	06/10/16 2:00				2	mg/L		-20	20			
L30926-02DUP	DUP	06/10/16 3:10			385	401	mg/L				4	20	
WG404351LCSW15	LCSW	06/10/16 5:46	WC160531-1	820.0001		868	mg/L	106	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		2.018	mg/L	101	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.09	0.09			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	1.0013		1.065	mg/L	106	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	1.0013	1.46	2.455	mg/L	99	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	1.0013	1.46	2.457	mg/L	100	85	115	0	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	1.0013	U	1.048	mg/L	105	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	1.0013	U	1.051	mg/L	105	85	115	0	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404418													
WG404418ICV	ICV	06/10/16 21:25	MS160601-2	.02		.01926	mg/L	96	90	110			
WG404418ICB	ICB	06/10/16 21:28				.00075	mg/L		-0.0012	0.0012			
WG404418LFB	LFB	06/10/16 21:31	MS160531-3	.009980001		.01028	mg/L	103	85	115			
L30872-02AS	AS	06/10/16 22:25	MS160531-3	.009980001	U	.00832	mg/L	83	70	130			
L30872-02ASD	ASD	06/10/16 22:28	MS160531-3	.009980001	U	.00867	mg/L	87	70	130	4	20	
WG404506													
WG404506ICV	ICV	06/13/16 17:30	MS160601-2	.02		.01911	mg/L	96	90	110			
WG404506ICB	ICB	06/13/16 17:32				U	mg/L		-0.0012	0.0012			
WG404506LFB	LFB	06/13/16 17:35	MS160531-3	.009980001		.01096	mg/L	110	85	115			
L30886-03AS	AS	06/13/16 17:43	MS160531-3	.009980001	U	.01073	mg/L	108	70	130			
L30886-03ASD	ASD	06/13/16 17:46	MS160531-3	.009980001	U	.01125	mg/L	113	70	130	5	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L30908***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404418													
WG404418ICV	ICV	06/10/16 21:25	MS160601-2	.05		.0484	mg/L	97	90	110			
WG404418ICB	ICB	06/10/16 21:28				U	mg/L		-0.0006	0.0006			
WG404418LFB	LFB	06/10/16 21:31	MS160531-3	.0501		.05011	mg/L	100	85	115			
L30872-02AS	AS	06/10/16 22:25	MS160531-3	.0501	U	.05151	mg/L	103	70	130			
L30872-02ASD	ASD	06/10/16 22:28	MS160531-3	.0501	U	.0517	mg/L	103	70	130	0	20	
WG404520													
WG404520ICV	ICV	06/13/16 17:20	MS160601-2	.05		.05275	mg/L	106	90	110			
WG404520ICB	ICB	06/13/16 17:23				U	mg/L		-0.0006	0.0006			
WG404520LFB	LFB	06/13/16 17:26	MS160531-3	.0501		.04872	mg/L	97	85	115			
L30908-06AS	AS	06/13/16 17:51	MS160531-3	.0501	.0026	.05339	mg/L	101	70	130			
L30908-06ASD	ASD	06/13/16 18:01	MS160531-3	.0501	.0026	.0528	mg/L	100	70	130	1	20	
WG404506													
WG404506ICV	ICV	06/13/16 17:30	MS160601-2	.05		.05304	mg/L	106	90	110			
WG404506ICB	ICB	06/13/16 17:32				U	mg/L		-0.0006	0.0006			
WG404506LFB	LFB	06/13/16 17:35	MS160531-3	.0501		.04966	mg/L	99	85	115			
L30886-03AS	AS	06/13/16 17:43	MS160531-3	.0501	U	.05466	mg/L	109	70	130			
L30886-03ASD	ASD	06/13/16 17:46	MS160531-3	.0501	U	.0546	mg/L	109	70	130	0	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.957	mg/L	98	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.009	0.009			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	.5005		.5091	mg/L	102	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	.5005	.038	.5426	mg/L	101	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	.5005	.038	.5421	mg/L	101	85	115	0	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	.5005	U	.5022	mg/L	100	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	.5005	U	.5077	mg/L	101	85	115	1	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404418													
WG404418ICV	ICV	06/10/16 21:25	MS160601-2	.05		.04672	mg/L	93	90	110			
WG404418ICB	ICB	06/10/16 21:28				.000082	mg/L		-0.00015	0.00015			
WG404418LFB	LFB	06/10/16 21:31	MS160531-3	.0501		.05116	mg/L	102	85	115			
L30872-02AS	AS	06/10/16 22:25	MS160531-3	.0501	U	.05021	mg/L	100	70	130			
L30872-02ASD	ASD	06/10/16 22:28	MS160531-3	.0501	U	.05135	mg/L	102	70	130	2	20	
WG404647													
WG404647ICV	ICV	06/15/16 15:52	MS160601-2	.05		.04991	mg/L	100	90	110			
WG404647ICB	ICB	06/15/16 15:55				.000074	mg/L		-0.00015	0.00015			
WG404647LFB	LFB	06/15/16 15:58	MS160531-3	.0501		.0518	mg/L	103	85	115			
L30902-02AS	AS	06/15/16 16:14	MS160531-3	.0501	U	.05387	mg/L	108	70	130			
L30902-02ASD	ASD	06/15/16 16:17	MS160531-3	.0501	U	.05365	mg/L	107	70	130	0	20	

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ACZ Project ID: ***L30908***

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.977	mg/L	99	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.12	0.12			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	1		1.005	mg/L	101	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	1	U	.998	mg/L	100	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	1	U	1.039	mg/L	104	85	115	4	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	1	U	1	mg/L	100	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	1	U	.997	mg/L	100	85	115	0	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.919	mg/L	96	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.03	0.03			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	.5005		.481	mg/L	96	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	.5005	U	.496	mg/L	99	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	.5005	U	.497	mg/L	99	85	115	0	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	.5005	U	.474	mg/L	95	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	.5005	U	.48	mg/L	96	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404418													
WG404418ICV	ICV	06/10/16 21:25	MS160601-2	.05		.04539	mg/L	91	90	110			
WG404418ICB	ICB	06/10/16 21:28				U	mg/L		-0.0003	0.0003			
WG404418LFB	LFB	06/10/16 21:31	MS160531-3	.05005		.04862	mg/L	97	85	115			
L30872-02AS	AS	06/10/16 22:25	MS160531-3	.05005	.0002	.04593	mg/L	91	70	130			
L30872-02ASD	ASD	06/10/16 22:28	MS160531-3	.05005	.0002	.04625	mg/L	92	70	130	1	20	
WG404506													
WG404506ICV	ICV	06/13/16 17:30	MS160601-2	.05		.05118	mg/L	102	90	110			
WG404506ICB	ICB	06/13/16 17:32				U	mg/L		-0.0003	0.0003			
WG404506LFB	LFB	06/13/16 17:35	MS160531-3	.05005		.05024	mg/L	100	85	115			
L30886-03AS	AS	06/13/16 17:43	MS160531-3	.05005	U	.04834	mg/L	97	70	130			
L30886-03ASD	ASD	06/13/16 17:46	MS160531-3	.05005	U	.04919	mg/L	98	70	130	2	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	100		98.1	mg/L	98	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.3	0.3			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	68.01588		70.45	mg/L	104	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	68.01588	18.2	88.35	mg/L	103	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	68.01588	18.2	87.77	mg/L	102	85	115	1	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	68.01588	U	69.14	mg/L	102	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	68.01588	U	69.57	mg/L	102	85	115	1	20	

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ACZ Project ID: ***L30908***

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405050													
WG405050ICB	ICB	06/22/16 9:35				U	mg/L		-1.5	1.5			
WG405050ICV	ICV	06/22/16 9:35	WI150701-4	55.055		58.61	mg/L	106	90	110			
WG405050LFB1	LFB	06/22/16 9:48	WI160415-1	29.97		31.77	mg/L	106	90	110			
L30908-01AS	AS	06/22/16 9:48	WI160415-1	29.97	1.3	32.68	mg/L	105	90	110			
L30908-02DUP	DUP	06/22/16 9:48			.6	.52	mg/L				14	20	RA
WG405050LFB2	LFB	06/22/16 10:03	WI160415-1	29.97		31.91	mg/L	106	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.912	mg/L	96	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.03	0.03			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	.5005		.504	mg/L	101	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	.5005	U	.508	mg/L	101	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	.5005	U	.51	mg/L	102	85	115	0	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	.5005	U	.498	mg/L	100	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	.5005	U	.503	mg/L	100	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2.002		1.909	mg/L	95	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.03	0.03			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	.498		.503	mg/L	101	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	.498	.28	.752	mg/L	95	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	.498	.28	.746	mg/L	94	85	115	1	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	.498	U	.492	mg/L	99	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	.498	U	.499	mg/L	100	85	115	1	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404351													
WG404351LCSW2	LCSW	06/09/16 17:24	PCN49501	1409		1460	umhos/cm	104	90	110			
WG404351LCSW5	LCSW	06/09/16 20:42	PCN49501	1409		1430	umhos/cm	101	90	110			
WG404351LCSW8	LCSW	06/09/16 23:23	PCN49501	1409		1410	umhos/cm	100	90	110			
L30908-04DUP	DUP	06/10/16 1:34			2470	2440	umhos/cm				1	20	
WG404351LCSW11	LCSW	06/10/16 1:39	PCN49501	1409		1420	umhos/cm	101	90	110			
L30926-02DUP	DUP	06/10/16 3:10			6450	6400	umhos/cm				1	20	
WG404351LCSW14	LCSW	06/10/16 5:33	PCN49501	1409		1400	umhos/cm	99	90	110			

McClelland Laboratories, Inc. ACZ Project ID: ***L30908***

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.936	mg/L	97	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.03	0.03			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	.501		.499	mg/L	100	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	.501	.4	.872	mg/L	94	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	.501	.4	.871	mg/L	94	85	115	0	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	.501	U	.492	mg/L	98	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	.501	U	.497	mg/L	99	85	115	1	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404779													
WG404779ICV	ICV	06/16/16 23:07	WI160615-5	.3003		.2817	mg/L	94	90	110			
WG404779ICB	ICB	06/16/16 23:07				U	mg/L		-0.003	0.003			
WG404718LRB	LRB	06/16/16 23:08				U	mg/L		-0.003	0.003			
WG404718LFB	LFB	06/16/16 23:09	WI160615-7	.2		.1851	mg/L	93	90	110			
L30928-01DUP	DUP	06/16/16 23:14			U	U	mg/L				0	20	RA
L30928-02LFM	LFM	06/16/16 23:16	WI160615-7	.2	.019	.1708	mg/L	76	90	110			M2

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404696													
WG404696ICV	ICV	06/15/16 23:54	WI160615-5	.3003		.2892	mg/L	96	90	110			
WG404696ICB	ICB	06/15/16 23:55				U	mg/L		-0.003	0.003			
WG404631LRB	LRB	06/15/16 23:56				U	mg/L		-0.003	0.003			
WG404631LFB	LFB	06/15/16 23:57	WI160615-4	.2002		.1981	mg/L	99	90	110			
L30884-01DUP	DUP	06/15/16 23:59			U	U	mg/L				0	20	RA
L30884-02LFM	LFM	06/16/16 0:01	WI160615-4	.2002	U	.2086	mg/L	104	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404713													
WG404713ICV	ICV	06/16/16 9:53	WC160614-7	2		1.909	mg/L	95	95	105			
WG404713ICB	ICB	06/16/16 9:57				.054	mg/L		-0.15	0.15			
WG404715													
WG404715ICV	ICV	06/16/16 11:00	WC160614-7	2		1.9	mg/L	95	95	105			
WG404715ICB	ICB	06/16/16 11:05				U	mg/L		-0.15	0.15			
WG404715LFB	LFB	06/16/16 11:12	WC160419-8	4.995		4.652	mg/L	93	90	110			
L30908-02AS	AS	06/16/16 11:27	WC160419-8	999	U	969	mg/L	97	90	110			
L30908-02DUP	DUP	06/16/16 11:32			U	U	mg/L				0	20	RA

McClelland Laboratories, Inc. ACZ Project ID: ***L30908***

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.98	mg/L	99	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.3	0.3			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	1		1	mg/L	100	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	1	U	1	mg/L	100	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	1	U	1.03	mg/L	103	85	115	3	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	1	U	1.01	mg/L	101	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	1	U	1.01	mg/L	101	85	115	0	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.97	mg/L	99	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.06	0.06			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	1.0017		1.013	mg/L	101	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	1.0017	8.94	9.476	mg/L	54	85	115			M3
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	1.0017	8.94	9.47	mg/L	53	85	115	0	20	M3
L30950-01AS	AS	06/13/16 18:45	II160516-4	1.0017	U	.987	mg/L	99	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	1.0017	U	.999	mg/L	100	85	115	1	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404418													
WG404418ICV	ICV	06/10/16 21:25	MS160601-2	.05		.04786	mg/L	96	90	110			
WG404418ICB	ICB	06/10/16 21:28				U	mg/L		-0.0003	0.0003			
WG404418LFB	LFB	06/10/16 21:31	MS160531-3	.05005		.04985	mg/L	100	85	115			
L30872-02AS	AS	06/10/16 22:25	MS160531-3	.05005	U	.04765	mg/L	95	70	130			
L30872-02ASD	ASD	06/10/16 22:28	MS160531-3	.05005	U	.04796	mg/L	96	70	130	1	20	
WG404506													
WG404506ICV	ICV	06/13/16 17:30	MS160601-2	.05		.05153	mg/L	103	90	110			
WG404506ICB	ICB	06/13/16 17:32				U	mg/L		-0.0003	0.0003			
WG404506LFB	LFB	06/13/16 17:35	MS160531-3	.05005		.05009	mg/L	100	85	115			
L30886-03AS	AS	06/13/16 17:43	MS160531-3	.05005	U	.04955	mg/L	99	70	130			
L30886-03ASD	ASD	06/13/16 17:46	MS160531-3	.05005	U	.0499	mg/L	100	70	130	1	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.9545	mg/L	98	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.024	0.024			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	1.002		.9953	mg/L	99	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	1.002	.017	1.019	mg/L	100	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	1.002	.017	1.019	mg/L	100	85	115	0	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	1.002	U	.9915	mg/L	99	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	1.002	U	.9904	mg/L	99	85	115	0	20	

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ACZ Project ID: ***L30908***

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	100		96.73	mg/L	97	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.6	0.6			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	49.99998		48.67	mg/L	97	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	49.99998	2.4	50.85	mg/L	97	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	49.99998	2.4	50.56	mg/L	96	85	115	1	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	49.99998	U	47.94	mg/L	96	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	49.99998	U	48.19	mg/L	96	85	115	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.893	mg/L	95	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.015	0.015			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	.5		.5115	mg/L	102	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	.5	2.18	2.566	mg/L	77	85	115			M3
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	.5	2.18	2.564	mg/L	77	85	115	0	20	M3
L30950-01AS	AS	06/13/16 18:45	II160516-4	.5	U	.5033	mg/L	101	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	.5	U	.5092	mg/L	102	85	115	1	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404615													
WG404615ICV	ICV	06/16/16 11:44	HG160510-2	.005		.00508	mg/L	102	95	105			
WG404615ICB	ICB	06/16/16 11:46				U	mg/L		-0.0002	0.0002			
WG404660													
WG404660LRB	LRB	06/16/16 12:53				U	mg/L		-0.00044	0.00044			
WG404660LFB	LFB	06/16/16 12:55	HG160613-2	.002002		.00197	mg/L	98	85	115			
L25368-44LFM	LFM	06/16/16 13:02	HG160613-2	.002002	U	.00198	mg/L	99	85	115			
L25368-44LFMD	LFMD	06/16/16 13:03	HG160613-2	.002002	U	.00194	mg/L	97	85	115	2	20	
L30936-02LFM	LFM	06/16/16 13:32	HG160613-2	.002002	U	.00196	mg/L	98	85	115			
L30936-02LFMD	LFMD	06/16/16 13:34	HG160613-2	.002002	U	.00183	mg/L	91	85	115	7	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.945	mg/L	97	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.06	0.06			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	.4995		.483	mg/L	97	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	.4995	U	.485	mg/L	97	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	.4995	U	.473	mg/L	95	85	115	3	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	.4995	U	.482	mg/L	96	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	.4995	U	.483	mg/L	97	85	115	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L30908***

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.978	mg/L	99	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.024	0.024			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	.501		.5029	mg/L	100	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	.501	.166	.651	mg/L	97	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	.501	.166	.6458	mg/L	96	85	115	1	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	.501	U	.4972	mg/L	99	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	.501	U	.5025	mg/L	100	85	115	1	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404856													
WG404856ICV	ICV	06/17/16 19:43	WI160607-11	2.416		2.455	mg/L	102	90	110			
WG404856ICB	ICB	06/17/16 19:45				U	mg/L		-0.02	0.02			
WG404862													
WG404862LFB1	LFB	06/17/16 22:42	WI160616-3	2		1.961	mg/L	98	90	110			
L30908-01AS	AS	06/17/16 22:45	WI160616-3	2	.08	2.184	mg/L	105	90	110			
L30908-02DUP	DUP	06/17/16 22:47			U	U	mg/L				0	20	RA
WG404862LFB2	LFB	06/17/16 23:22	WI160616-3	2		2.014	mg/L	101	90	110			

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404921													
WG404921ICV	ICV	06/21/16 11:55	WI160608-5	11.988		12.258	mg/L	102	90	110			
WG404921ICB	ICB	06/21/16 11:56				U	mg/L		-0.05	0.05			
WG404921LFB1	LFB	06/21/16 11:58	WI160121-1	10		10.133	mg/L	101	90	110			
L30908-03AS	AS	06/21/16 12:04	WI160121-1	10	U	10.346	mg/L	103	90	110			
L30908-04DUP	DUP	06/21/16 12:06			U	U	mg/L				0	20	RA
WG404921LFB2	LFB	06/21/16 12:39	WI160121-1	10		10.216	mg/L	102	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404351													
WG404351LCSW1	LCSW	06/09/16 17:22	PCN49792	5.99		6	units	100	5.9	6.1			
WG404351LCSW4	LCSW	06/09/16 20:41	PCN49792	5.99		6	units	100	5.9	6.1			
WG404351LCSW7	LCSW	06/09/16 23:21	PCN49792	5.99		6	units	100	5.9	6.1			
L30908-04DUP	DUP	06/10/16 1:34			2.3	2.3	units				0	20	
WG404351LCSW10	LCSW	06/10/16 1:37	PCN49792	5.99		6	units	100	5.9	6.1			
L30926-02DUP	DUP	06/10/16 3:10			8	8	units				0	20	
WG404351LCSW13	LCSW	06/10/16 5:32	PCN49792	5.99		6	units	100	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404858													
WG404858ICV	ICV	06/17/16 20:28	WI160502-3	.65228		.665	mg/L	102	90	110			
WG404858ICB	ICB	06/17/16 20:30				U	mg/L		-0.02	0.02			
WG404860													
WG404724LRB	LRB	06/17/16 21:25				U	mg/L		-0.02	0.02			
WG404724LFB	LFB	06/17/16 21:27	WI160603-2	.5		.481	mg/L	96	90	110			
L30908-01LFM	LFM	06/17/16 21:29	WI160603-2	.5	U	.499	mg/L	100	90	110			
L30908-02DUP	DUP	06/17/16 21:31			U	U	mg/L				0	20	RA
WG404861													
WG404807LRB	LRB	06/17/16 22:13				U	mg/L		-0.02	0.02			
WG404807LFB	LFB	06/17/16 22:14	WI160603-2	.5		.472	mg/L	94	90	110			
L30914-01LFM	LFM	06/17/16 22:17	WI160603-2	.5	.28	.77	mg/L	98	90	110			
L30914-02DUP	DUP	06/17/16 22:20			.26	.272	mg/L				5	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	20		19.32	mg/L	97	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.6	0.6			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	99.96008		101.5	mg/L	102	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	99.96008	4.3	106.2	mg/L	102	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	99.96008	4.3	105.2	mg/L	101	85	115	1	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	99.96008	U	100.1	mg/L	100	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	99.96008	U	100.5	mg/L	101	85	115	0	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404441													
WG404441PBW	PBW	06/11/16 12:30				U	mg/L		-20	20			
WG404441LCSW	LCSW	06/11/16 12:32	PCN51028	260		266	mg/L	102	80	120			
L30908-05DUP	DUP	06/11/16 13:01			192	210	mg/L				9	10	
L30934-02DUP	DUP	06/11/16 13:30			20000	20500	mg/L				2	10	
WG404500													
WG404500PBW	PBW	06/13/16 14:45				U	mg/L		-20	20			
WG404500LCSW	LCSW	06/13/16 14:46	PCN51028	260		256	mg/L	98	80	120			
L30937-02DUP	DUP	06/13/16 15:00			58	60	mg/L				3	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.95	mg/L	98	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.3	0.3			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	1.0009		1.04	mg/L	104	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	1.0009	U	1.04	mg/L	104	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	1.0009	U	1.04	mg/L	104	85	115	0	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	1.0009	U	1.01	mg/L	101	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	1.0009	U	1.05	mg/L	105	85	115	4	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L30908***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404520													
WG404520ICV	ICV	06/13/16 17:20	MS160601-2	.05		.04974	mg/L	99	90	110			
WG404520ICB	ICB	06/13/16 17:23				U	mg/L		-0.0003	0.0003			
WG404520LFB	LFB	06/13/16 17:26	MS160531-3	.0501		.04877	mg/L	97	85	115			
L30908-06AS	AS	06/13/16 17:51	MS160531-3	.0501	.006	.06079	mg/L	109	70	130			
L30908-06ASD	ASD	06/13/16 18:01	MS160531-3	.0501	.006	.05877	mg/L	105	70	130	3	20	
WG404506													
WG404506ICV	ICV	06/13/16 17:30	MS160601-2	.05		.05039	mg/L	101	90	110			
WG404506ICB	ICB	06/13/16 17:32				U	mg/L		-0.0003	0.0003			
WG404506LFB	LFB	06/13/16 17:35	MS160531-3	.0501		.0476	mg/L	95	85	115			
L30886-03AS	AS	06/13/16 17:43	MS160531-3	.0501	.0002	.05262	mg/L	105	70	130			
L30886-03ASD	ASD	06/13/16 17:46	MS160531-3	.0501	.0002	.05181	mg/L	103	70	130	2	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	1.001		1.001	mg/L	100	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.03	0.03			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	.5015		.509	mg/L	101	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	.5015	U	.363	mg/L	72	85	115			M2 ZA
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	.5015	U	.36	mg/L	72	85	115	1	20	M2 ZA
L30950-01AS	AS	06/13/16 18:45	II160516-4	.5015	U	.352	mg/L	70	85	115			M2 ZA
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	.5015	U	.358	mg/L	71	85	115	2	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404539													
WG404539ICV	ICV	06/14/16 14:24	II160603-1	100		99.73	mg/L	100	95	105			
WG404539ICB	ICB	06/14/16 14:30				U	mg/L		-0.6	0.6			
WG404539LFB	LFB	06/14/16 14:42	II160516-4	100.0149		102.1	mg/L	102	85	115			
L30908-02AS	AS	06/14/16 15:03	II160516-4	100.0149	.5	102	mg/L	101	85	115			
L30908-02ASD	ASD	06/14/16 15:06	II160516-4	100.0149	.5	101.5	mg/L	101	85	115	0	20	
L30950-01AS	AS	06/14/16 15:56	II160516-4	100.0149	U	100.7	mg/L	101	85	115			
L30950-01ASD	ASD	06/14/16 15:59	II160516-4	100.0149	U	101.3	mg/L	101	85	115	1	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.9152	mg/L	96	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.015	0.015			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	.501		.4931	mg/L	98	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	.501	.244	.7252	mg/L	96	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	.501	.244	.7227	mg/L	96	85	115	0	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	.501	U	.4889	mg/L	98	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	.501	U	.4894	mg/L	98	85	115	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L30908***

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405151													
WG405151ICB	ICB	06/23/16 9:34				U	mg/L		-3	3			
WG405151ICV	ICV	06/23/16 9:34	WI160623-2	20		20.1	mg/L	101	90	110			
WG405151LFB	LFB	06/23/16 11:38	WI160201-3	10.01		10.1	mg/L	101	90	110			
L30908-01DUP	DUP	06/23/16 11:45			62.8	65.1	mg/L				4	20	
L30908-02AS	AS	06/23/16 11:45	SO4TURB5X	10	118	132	mg/L	140	90	110			M3
WG405274													
WG405274ICB	ICB	06/27/16 9:55				U	mg/L		-3	3			
WG405274ICV	ICV	06/27/16 9:55	WI160623-2	20		20	mg/L	100	90	110			
WG405274LFB	LFB	06/27/16 10:12	WI160201-3	10.01		10.2	mg/L	102	90	110			
L31022-01AS	AS	06/27/16 10:12	WI160201-3	10.01	4.3	11.6	mg/L	73	90	110			M2
L30908-04DUP	DUP	06/27/16 10:19			637	689	mg/L				8	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404418													
WG404418ICV	ICV	06/10/16 21:25	MS160601-2	.05		.04961	mg/L	99	90	110			
WG404418ICB	ICB	06/10/16 21:28				U	mg/L		-0.0003	0.0003			
WG404418LFB	LFB	06/10/16 21:31	MS160531-3	.0501		.05142	mg/L	103	85	115			
L30872-02AS	AS	06/10/16 22:25	MS160531-3	.0501	U	.04996	mg/L	100	70	130			
L30872-02ASD	ASD	06/10/16 22:28	MS160531-3	.0501	U	.0504	mg/L	101	70	130	1	20	
WG404506													
WG404506ICV	ICV	06/13/16 17:30	MS160601-2	.05		.05202	mg/L	104	90	110			
WG404506ICB	ICB	06/13/16 17:32				U	mg/L		-0.0003	0.0003			
WG404506LFB	LFB	06/13/16 17:35	MS160531-3	.0501		.04985	mg/L	100	85	115			
L30886-03AS	AS	06/13/16 17:43	MS160531-3	.0501	U	.04954	mg/L	99	70	130			
L30886-03ASD	ASD	06/13/16 17:46	MS160531-3	.0501	U	.04971	mg/L	99	70	130	0	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		2.028	mg/L	101	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.12	0.12			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	1.001		.921	mg/L	92	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	1.001	U	.99	mg/L	99	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	1.001	U	.953	mg/L	95	85	115	4	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	1.001	U	.997	mg/L	100	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	1.001	U	.985	mg/L	98	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L30908***

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.9505	mg/L	98	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.015	0.015			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	1.003		.9994	mg/L	100	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	1.003	U	.9991	mg/L	100	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	1.003	U	.9982	mg/L	100	85	115	0	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	1.003	U	.9914	mg/L	99	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	1.003	U	.9952	mg/L	99	85	115	0	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404418													
WG404418ICV	ICV	06/10/16 21:25	MS160601-2	.05		.04918	mg/L	98	90	110			
WG404418ICB	ICB	06/10/16 21:28				U	mg/L		-0.0003	0.0003			
WG404418LFB	LFB	06/10/16 21:31	MS160531-3	.05		.05224	mg/L	104	85	115			
L30872-02AS	AS	06/10/16 22:25	MS160531-3	.05	.0001	.05105	mg/L	102	70	130			
L30872-02ASD	ASD	06/10/16 22:28	MS160531-3	.05	.0001	.05102	mg/L	102	70	130	0	20	
WG404506													
WG404506ICV	ICV	06/13/16 17:30	MS160601-2	.05		.05301	mg/L	106	90	110			
WG404506ICB	ICB	06/13/16 17:32				U	mg/L		-0.0003	0.0003			
WG404506LFB	LFB	06/13/16 17:35	MS160531-3	.05		.0516	mg/L	103	85	115			
L30886-03AS	AS	06/13/16 17:43	MS160531-3	.05	U	.05261	mg/L	105	70	130			
L30886-03ASD	ASD	06/13/16 17:46	MS160531-3	.05	U	.05329	mg/L	107	70	130	1	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.9672	mg/L	98	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.015	0.015			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	.501		.5107	mg/L	102	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	.501	U	.5061	mg/L	101	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	.501	U	.506	mg/L	101	85	115	0	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	.501	U	.5043	mg/L	101	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	.501	U	.5054	mg/L	101	85	115	0	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG404479													
WG404479ICV	ICV	06/13/16 17:13	II160603-1	2		1.98	mg/L	99	95	105			
WG404479ICB	ICB	06/13/16 17:19				U	mg/L		-0.03	0.03			
WG404479LFB	LFB	06/13/16 17:31	II160516-4	.4995		.536	mg/L	107	85	115			
L30908-02AS	AS	06/13/16 17:52	II160516-4	.4995	.45	.953	mg/L	101	85	115			
L30908-02ASD	ASD	06/13/16 17:55	II160516-4	.4995	.45	.949	mg/L	100	85	115	0	20	
L30950-01AS	AS	06/13/16 18:45	II160516-4	.4995	U	.532	mg/L	107	85	115			
L30950-01ASD	ASD	06/13/16 18:48	II160516-4	.4995	U	.52	mg/L	104	85	115	2	20	

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ACZ Project ID: ***L30908***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30908-01	WG404479	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG405050	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404715	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404862	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404921	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404860	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404441	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG405151	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG404351	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L30908***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30908-02	WG404479	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG405050	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404715	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404862	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404921	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404860	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404441	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG405151	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG404351	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L30908***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30908-03	WG404479	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG405050	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404715	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404862	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404921	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404860	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404500	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405151	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG404351	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30908-04	WG404479	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG405050	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404715	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404862	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404921	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404860	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404441	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG405274	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG404351	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30908-05	WG404479	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG405050	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404715	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404862	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404921	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404860	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404441	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG405151	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG404351	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30908-06	WG404479	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG405050	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404715	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404862	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404921	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404860	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404441	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG405151	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG404351	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30908-07	WG404479	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG405050	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404715	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404862	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404921	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404860	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404441	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG405151	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG404351	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30908-08	WG404479	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG405050	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404715	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404862	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404921	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404860	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404441	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG405151	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG404351	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30908-09	WG404479	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG405050	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404715	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404862	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404921	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404860	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404441	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG405151	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG404351	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L30908-10	WG404718	Cyanide, total	M335.4 - Manual Distillation	DJ	Sample dilution required due to insufficient sample.
	WG404479	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG405050	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404779	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404696	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404715	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404862	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404921	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG404351	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG404441	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG405151	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG404351	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L30908
Date Received: 06/09/2016 10:00
Received By: kmo
Date Printed: 6/9/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA24084	5.4	<=6.0	19	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L30908
Date Received:	06/09/2016 10:00
Received By:	kmo
Date Printed:	6/9/2016

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L30908

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	6/8/16	ww	1	x							
CAL-004 (860-875)		ww	1	x							
CAL-003 (675-685)		ww	1	x							
GMC-012 (832-851)		ww	1	x							
CAL-004 (295-315)		ww	1	x							
CAL-001 (750-762)		ww	1	x							
GMC-014 (176-184)		ww	1	x							
CAL-001 (380-400)		ww	1	x							
CAL-002 (177-187)		ww	1	x							
Calico Leach Res. after CN Destruct		ww	1	x	x	x					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 28
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	6/8/16 9AM	[signature]	6-9-16 [illegible]

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L30908 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

*****Gray out Analyses DOESN'T get done on all Samples just 1 of the Sample SEE COC*****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 19, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L31481

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 07, 2016. This project has been assigned to ACZ's project number, L31481. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L31481. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 18, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L31481-01***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/16 16:24	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.35		*	mg/L	0.03	0.2	07/08/16 23:05	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0206			mg/L	0.0004	0.002	07/12/16 12:38	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0574			mg/L	0.0002	0.001	07/12/16 12:38	msh
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	07/08/16 23:05	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00021	B		mg/L	0.00005	0.0003	07/12/16 12:38	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/08/16 23:05	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:05	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	07/12/16 12:38	msh
Calcium, dissolved	M200.7 ICP	1	0.9			mg/L	0.1	0.5	07/08/16 23:05	gss
Chromium, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	07/08/16 23:05	gss
Cobalt, dissolved	M200.7 ICP	1	0.01	B	*	mg/L	0.01	0.05	07/08/16 23:05	gss
Copper, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.01	0.05	07/08/16 23:05	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:05	gss
Iron, dissolved	M200.7 ICP	1	19.90		*	mg/L	0.02	0.05	07/08/16 23:05	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	07/12/16 12:38	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	07/08/16 23:05	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/08/16 23:05	gss
Manganese, dissolved	M200.7 ICP	1	0.015	B	*	mg/L	0.005	0.03	07/08/16 23:05	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	07/14/16 12:51	pta
Mercury, total	M1631, Atomic Fluorescence	2	25.4		*	ng/L	0.4	1	07/14/16 11:46	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/08/16 23:05	gss
Nickel, dissolved	M200.7 ICP	1	0.046			mg/L	0.008	0.04	07/08/16 23:05	gss
Potassium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	07/08/16 23:05	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:05	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0003	07/12/16 12:38	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/08/16 23:05	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/08/16 23:05	gss
Strontium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	07/08/16 23:05	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0061			mg/L	0.0001	0.0005	07/12/16 12:38	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	07/11/16 13:48	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/08/16 23:05	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	07/12/16 12:38	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/08/16 23:05	gss
Zinc, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	07/08/16 23:05	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L31481-01***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/07/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			4.0			%			07/18/16 0:00	calc
Sum of Anions			1.2			meq/L			07/18/16 0:00	calc
Sum of Cations			1.3			meq/L			07/18/16 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	07/13/16 16:28	spl
Conductivity @25C	SM2510B	1	293		*	umhos/cm	1	10	07/07/16 20:11	emk
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	07/12/16 11:56	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.3	B		mg/L	0.2	5	07/18/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	07/15/16 22:55	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/14/16 11:32	krh
pH (lab)	SM4500H+ B									
pH		1	3.3	H	*	units	0.1	0.1	07/07/16 0:00	emk
pH measured at		1	22.9			C	0.1	0.1	07/07/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/13/16 22:32	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	84		*	mg/L	10	20	07/07/16 14:05	sck
Sulfate	D516-02/-07 - Turbidimetric	5	57.9		*	mg/L	5	25	07/14/16 15:25	krh
TDS (calculated)	Calculation		81.3			mg/L			07/18/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.03						07/18/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L31481-02***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/16 16:36	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	9.80		*	mg/L	0.03	0.2	07/08/16 23:08	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0030			mg/L	0.0004	0.002	07/12/16 12:45	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0351			mg/L	0.0002	0.001	07/12/16 12:45	msh
Barium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.003	0.02	07/08/16 23:08	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.01308			mg/L	0.00005	0.0003	07/13/16 9:08	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/08/16 23:08	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:08	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0079			mg/L	0.0001	0.0005	07/12/16 12:45	msh
Calcium, dissolved	M200.7 ICP	1	21.8			mg/L	0.1	0.5	07/08/16 23:08	gss
Chromium, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	07/08/16 23:08	gss
Cobalt, dissolved	M200.7 ICP	1	1.38		*	mg/L	0.01	0.05	07/08/16 23:08	gss
Copper, dissolved	M200.7 ICP	1	1.03		*	mg/L	0.01	0.05	07/08/16 23:08	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:08	gss
Iron, dissolved	M200.7 ICP	1	54.40		*	mg/L	0.02	0.05	07/08/16 23:08	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	07/12/16 12:45	msh
Lithium, dissolved	M200.7 ICP	1	0.106			mg/L	0.008	0.04	07/08/16 23:08	gss
Magnesium, dissolved	M200.7 ICP	1	2.4			mg/L	0.2	1	07/08/16 23:08	gss
Manganese, dissolved	M200.7 ICP	1	9.030		*	mg/L	0.005	0.03	07/08/16 23:08	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	07/14/16 12:57	pta
Mercury, total	M1631, Atomic Fluorescence	10	187		*	ng/L	2	5	07/14/16 11:51	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/08/16 23:08	gss
Nickel, dissolved	M200.7 ICP	1	0.401			mg/L	0.008	0.04	07/08/16 23:08	gss
Potassium, dissolved	M200.7 ICP	1	2.9			mg/L	0.2	1	07/08/16 23:08	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:08	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0003	07/12/16 12:45	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/08/16 23:08	gss
Sodium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	07/08/16 23:08	gss
Strontium, dissolved	M200.7 ICP	1	0.291			mg/L	0.005	0.03	07/08/16 23:08	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0042			mg/L	0.0001	0.0005	07/12/16 12:45	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	07/11/16 13:51	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/08/16 23:08	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0521			mg/L	0.0001	0.0005	07/12/16 12:45	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/08/16 23:08	gss
Zinc, dissolved	M200.7 ICP	1	0.86			mg/L	0.01	0.05	07/08/16 23:08	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L31481-02***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/07/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-6.9			%			07/18/16 0:00	calc
Sum of Anions			7			meq/L			07/18/16 0:00	calc
Sum of Cations			6.1			meq/L			07/18/16 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	07/13/16 16:28	spl
Conductivity @25C	SM2510B	1	1140		*	umhos/cm	1	10	07/07/16 20:15	emk
Fluoride	SM4500F-C	100		U	*	mg/L	5	30	07/12/16 12:03	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		64			mg/L	0.2	5	07/18/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	07/15/16 22:57	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/14/16 11:33	krh
pH (lab)	SM4500H+ B									
pH		1	2.7	H	*	units	0.1	0.1	07/07/16 0:00	emk
pH measured at		1	22.9			C	0.1	0.1	07/07/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/13/16 22:34	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	526		*	mg/L	10	20	07/07/16 14:08	sck
Sulfate	D516-02/-07 - Turbidimetric	10	331		*	mg/L	10	50	07/14/16 15:31	krh
TDS (calculated)	Calculation		435			mg/L			07/18/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.21						07/18/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L31481-03***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/16 16:48	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	5	56.9		*	mg/L	0.2	0.8	07/08/16 23:17	gss
Antimony, dissolved	M200.8 ICP-MS	5	0.005	B		mg/L	0.002	0.01	07/12/16 12:48	msh
Arsenic, dissolved	M200.8 ICP-MS	5	9.640			mg/L	0.001	0.005	07/12/16 12:48	msh
Barium, dissolved	M200.7 ICP	5		U		mg/L	0.02	0.08	07/08/16 23:17	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.01062			mg/L	0.00005	0.0003	07/13/16 9:10	msh
Bismuth, dissolved	M200.7 ICP	5		U	*	mg/L	0.2	1	07/08/16 23:17	gss
Boron, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	07/08/16 23:17	gss
Cadmium, dissolved	M200.8 ICP-MS	5	0.0068			mg/L	0.0005	0.003	07/12/16 12:48	msh
Calcium, dissolved	M200.7 ICP	5	71.4			mg/L	0.5	3	07/08/16 23:17	gss
Chromium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	07/08/16 23:17	gss
Cobalt, dissolved	M200.7 ICP	5	0.64		*	mg/L	0.05	0.3	07/08/16 23:17	gss
Copper, dissolved	M200.7 ICP	5	1.61		*	mg/L	0.05	0.3	07/08/16 23:17	gss
Gallium, dissolved	M200.7 ICP	5		U	*	mg/L	0.5	3	07/08/16 23:17	gss
Iron, dissolved	M200.7 ICP	5	1170		*	mg/L	0.1	0.3	07/08/16 23:17	gss
Lead, dissolved	M200.8 ICP-MS	5	0.0008	B		mg/L	0.0005	0.003	07/12/16 12:48	msh
Lithium, dissolved	M200.7 ICP	5		U		mg/L	0.04	0.2	07/08/16 23:17	gss
Magnesium, dissolved	M200.7 ICP	5	13			mg/L	1	5	07/08/16 23:17	gss
Manganese, dissolved	M200.7 ICP	5	0.65		*	mg/L	0.03	0.1	07/08/16 23:17	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	07/14/16 12:59	pta
Mercury, total	M1631, Atomic Fluorescence	10	186		*	ng/L	2	5	07/14/16 11:56	mfm
Molybdenum, dissolved	M200.7 ICP	5	0.7			mg/L	0.1	0.5	07/08/16 23:17	gss
Nickel, dissolved	M200.7 ICP	5	0.67			mg/L	0.04	0.2	07/08/16 23:17	gss
Potassium, dissolved	M200.7 ICP	5		U		mg/L	1	5	07/08/16 23:17	gss
Scandium, dissolved	M200.7 ICP	5		U	*	mg/L	0.5	3	07/08/16 23:17	gss
Selenium, dissolved	M200.8 ICP-MS	5	0.0181			mg/L	0.0005	0.001	07/12/16 12:48	msh
Silver, dissolved	M200.7 ICP	5		U	*	mg/L	0.05	0.1	07/08/16 23:17	gss
Sodium, dissolved	M200.7 ICP	5	2	B		mg/L	1	5	07/08/16 23:17	gss
Strontium, dissolved	M200.7 ICP	5	0.69			mg/L	0.03	0.1	07/08/16 23:17	gss
Thallium, dissolved	M200.8 ICP-MS	5	0.0015	B		mg/L	0.0005	0.003	07/12/16 12:48	msh
Tin, dissolved	M200.7 ICP	5		U		mg/L	0.2	1	07/11/16 14:00	gss
Titanium, dissolved	M200.7 ICP	5		U	*	mg/L	0.03	0.1	07/08/16 23:17	gss
Uranium, dissolved	M200.8 ICP-MS	5	0.0145			mg/L	0.0005	0.003	07/12/16 12:48	msh
Vanadium, dissolved	M200.7 ICP	5	0.04	B		mg/L	0.03	0.1	07/08/16 23:17	gss
Zinc, dissolved	M200.7 ICP	5	0.98			mg/L	0.05	0.3	07/08/16 23:17	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L31481-03***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/07/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.7			%			07/18/16 0:00	calc
Sum of Anions			77			meq/L			07/18/16 0:00	calc
Sum of Cations			73			meq/L			07/18/16 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	07/13/16 16:28	spl
Conductivity @25C	SM2510B	1	6760		*	umhos/cm	1	10	07/07/16 20:19	emk
Fluoride	SM4500F-C	800		U	*	mg/L	40	200	07/12/16 12:09	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		232			mg/L	1	30	07/18/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B	*	mg/L	0.02	0.1	07/15/16 23:00	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/14/16 11:35	krh
pH (lab)	SM4500H+ B									
pH		1	1.9	H	*	units	0.1	0.1	07/07/16 0:00	emk
pH measured at		1	23.2			C	0.1	0.1	07/07/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	30	6.5		*	mg/L	0.6	2	07/16/16 12:43	pjb
Residue, Filterable (TDS) @180C	SM2540C	5	4860		*	mg/L	50	100	07/08/16 14:18	abd
Sulfate	D516-02/-07 - Turbidimetric	100	3680		*	mg/L	100	500	07/14/16 15:29	krh
TDS (calculated)	Calculation		5000			mg/L			07/18/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.97						07/18/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L31481-04***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/16 16:54	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	15.10		*	mg/L	0.03	0.2	07/08/16 23:20	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0004	0.002	07/12/16 12:50	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.2614			mg/L	0.0002	0.001	07/12/16 12:50	msh
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	07/08/16 23:20	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00126			mg/L	0.00005	0.0003	07/13/16 9:12	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/08/16 23:20	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:20	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	07/12/16 12:50	msh
Calcium, dissolved	M200.7 ICP	1	1.6			mg/L	0.1	0.5	07/08/16 23:20	gss
Chromium, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	07/08/16 23:20	gss
Cobalt, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.01	0.05	07/08/16 23:20	gss
Copper, dissolved	M200.7 ICP	1	0.24		*	mg/L	0.01	0.05	07/08/16 23:20	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:20	gss
Iron, dissolved	M200.7 ICP	1	149		*	mg/L	0.02	0.05	07/08/16 23:20	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	07/12/16 12:50	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	07/08/16 23:20	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/08/16 23:20	gss
Manganese, dissolved	M200.7 ICP	1	0.367		*	mg/L	0.005	0.03	07/08/16 23:20	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	07/14/16 13:42	pta
Mercury, total	M1631, Atomic Fluorescence	10	187		*	ng/L	2	5	07/14/16 12:01	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/08/16 23:20	gss
Nickel, dissolved	M200.7 ICP	1	0.096			mg/L	0.008	0.04	07/08/16 23:20	gss
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	07/08/16 23:20	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:20	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0003	07/12/16 12:50	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/08/16 23:20	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/08/16 23:20	gss
Strontium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	07/08/16 23:20	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	07/12/16 12:50	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	07/11/16 14:04	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/08/16 23:20	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0153			mg/L	0.0001	0.0005	07/12/16 12:50	msh
Vanadium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	07/08/16 23:20	gss
Zinc, dissolved	M200.7 ICP	1	0.16			mg/L	0.01	0.05	07/08/16 23:20	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L31481-04***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/07/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-18.1			%			07/18/16 0:00	calc
Sum of Anions			14			meq/L			07/18/16 0:00	calc
Sum of Cations			9.7			meq/L			07/18/16 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	07/13/16 16:28	spl
Conductivity @25C	SM2510B	1	2480		*	umhos/cm	1	10	07/07/16 20:24	emk
Fluoride	SM4500F-C	400	20	B	*	mg/L	20	100	07/12/16 12:20	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4	B		mg/L	0.2	5	07/18/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B	*	mg/L	0.02	0.1	07/15/16 23:01	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/14/16 11:36	krh
pH (lab)	SM4500H+ B									
pH		1	2.3	H	*	units	0.1	0.1	07/07/16 0:00	emk
pH measured at		1	23.4			C	0.1	0.1	07/07/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.36		*	mg/L	0.02	0.05	07/13/16 22:37	pjb
Residue, Filterable (TDS) @180C	SM2540C	5	790		*	mg/L	50	100	07/07/16 14:13	sck
Sulfate	D516-02/-07 - Turbidimetric	50	625		*	mg/L	50	250	07/14/16 15:29	krh
TDS (calculated)	Calculation		812			mg/L			07/18/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.97						07/18/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L31481-05***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/16 17:00	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.40		*	mg/L	0.03	0.2	07/08/16 23:23	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0004	0.002	07/12/16 12:52	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0571			mg/L	0.0002	0.001	07/12/16 12:52	msh
Barium, dissolved	M200.7 ICP	1	0.026			mg/L	0.003	0.02	07/08/16 23:23	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00294			mg/L	0.00005	0.0003	07/13/16 9:19	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/08/16 23:23	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:23	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	07/12/16 12:52	msh
Calcium, dissolved	M200.7 ICP	1	21.1			mg/L	0.1	0.5	07/08/16 23:23	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:23	gss
Cobalt, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.01	0.05	07/08/16 23:23	gss
Copper, dissolved	M200.7 ICP	1	0.13		*	mg/L	0.01	0.05	07/08/16 23:23	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:23	gss
Iron, dissolved	M200.7 ICP	1	4.04		*	mg/L	0.02	0.05	07/08/16 23:23	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	07/12/16 12:52	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	07/08/16 23:23	gss
Magnesium, dissolved	M200.7 ICP	1	3.8			mg/L	0.2	1	07/08/16 23:23	gss
Manganese, dissolved	M200.7 ICP	1	0.473		*	mg/L	0.005	0.03	07/08/16 23:23	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	07/14/16 13:44	pta
Mercury, total	M1631, Atomic Fluorescence	5	8		*	ng/L	1	3	07/14/16 13:57	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/08/16 23:23	gss
Nickel, dissolved	M200.7 ICP	1	0.058			mg/L	0.008	0.04	07/08/16 23:23	gss
Potassium, dissolved	M200.7 ICP	1	1.7			mg/L	0.2	1	07/08/16 23:23	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:23	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	07/12/16 12:52	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/08/16 23:23	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/08/16 23:23	gss
Strontium, dissolved	M200.7 ICP	1	0.063			mg/L	0.005	0.03	07/08/16 23:23	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	07/12/16 12:52	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	07/11/16 14:07	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/08/16 23:23	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0104			mg/L	0.0001	0.0005	07/12/16 12:52	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/08/16 23:23	gss
Zinc, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	07/08/16 23:23	gss

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L31481-05***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/07/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-16.3			%			07/18/16 0:00	calc
Sum of Anions			2.5			meq/L			07/18/16 0:00	calc
Sum of Cations			1.8			meq/L			07/18/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	07/13/16 16:28	spl
Conductivity @25C	SM2510B	1	592		*	umhos/cm	1	10	07/07/16 20:28	emk
Fluoride	SM4500F-C	1	0.47		*	mg/L	0.05	0.3	07/12/16 12:25	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		68			mg/L	0.2	5	07/18/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/15/16 23:03	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/14/16 11:39	krh
pH (lab)	SM4500H+ B									
pH		1	3.0	H	*	units	0.1	0.1	07/07/16 0:00	emk
pH measured at		1	23.1			C	0.1	0.1	07/07/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/16/16 12:44	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	186		*	mg/L	10	20	07/07/16 14:19	sck
Sulfate	D516-02/-07 - Turbidimetric	5	117		*	mg/L	5	25	07/14/16 15:27	krh
TDS (calculated)	Calculation		150			mg/L			07/18/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.24						07/18/16 0:00	calc

Arizona license number: AZ0102

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L31481-06***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/16 17:06	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.03	0.2	07/08/16 23:26	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/16 12:54	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0002	0.001	07/12/16 12:54	msh
Barium, dissolved	M200.7 ICP	1	0.003	B		mg/L	0.003	0.02	07/08/16 23:26	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00008	B		mg/L	0.00005	0.0003	07/13/16 9:21	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/08/16 23:26	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:26	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/16 12:54	msh
Calcium, dissolved	M200.7 ICP	1	4.5			mg/L	0.1	0.5	07/08/16 23:26	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:26	gss
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/08/16 23:26	gss
Copper, dissolved	M200.7 ICP	1	0.15		*	mg/L	0.01	0.05	07/08/16 23:26	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:26	gss
Iron, dissolved	M200.7 ICP	1	0.23		*	mg/L	0.02	0.05	07/08/16 23:26	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	07/12/16 12:54	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	07/08/16 23:26	gss
Magnesium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	07/08/16 23:26	gss
Manganese, dissolved	M200.7 ICP	1	0.023	B	*	mg/L	0.005	0.03	07/08/16 23:26	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	07/14/16 13:45	pta
Mercury, total	M1631, Atomic Fluorescence	10	117		*	ng/L	2	5	07/14/16 12:33	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/08/16 23:26	gss
Nickel, dissolved	M200.7 ICP	1	0.039	B		mg/L	0.008	0.04	07/08/16 23:26	gss
Potassium, dissolved	M200.7 ICP	1	2.8			mg/L	0.2	1	07/08/16 23:26	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:26	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0041			mg/L	0.0001	0.0003	07/12/16 12:54	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/08/16 23:26	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/08/16 23:26	gss
Strontium, dissolved	M200.7 ICP	1	0.051			mg/L	0.005	0.03	07/08/16 23:26	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	07/12/16 12:54	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	07/11/16 14:10	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/08/16 23:26	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	07/12/16 12:54	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/08/16 23:26	gss
Zinc, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	07/08/16 23:26	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L31481-06***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/07/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-11.1			%			07/18/16 0:00	calc
Sum of Anions			0.485	B		meq/L			07/18/16 0:00	calc
Sum of Cations			0.388	B		meq/L			07/18/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	07/13/16 16:28	spl
Conductivity @25C	SM2510B	1	77.4		*	umhos/cm	1	10	07/07/16 20:33	emk
Fluoride	SM4500F-C	1	0.07	B	*	mg/L	0.05	0.3	07/12/16 12:30	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		15			mg/L	0.2	5	07/18/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/15/16 23:04	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/14/16 11:42	krh
pH (lab)	SM4500H+ B									
pH		1	4.4	H	*	units	0.1	0.1	07/07/16 0:00	emk
pH measured at		1	22.9			C	0.1	0.1	07/07/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/13/16 22:42	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	44		*	mg/L	10	20	07/07/16 14:21	sck
Sulfate	D516-02/-07 - Turbidimetric	1	22.9		*	mg/L	1	5	07/14/16 15:21	krh
TDS (calculated)	Calculation		31.6			mg/L			07/18/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.39						07/18/16 0:00	calc

Arizona license number: AZ0102

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L31481-07***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/16 17:12	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	15.80		*	mg/L	0.03	0.2	07/08/16 23:29	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0019	B		mg/L	0.0004	0.002	07/12/16 12:57	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.8539			mg/L	0.0002	0.001	07/12/16 12:57	msh
Barium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.003	0.02	07/08/16 23:29	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00549			mg/L	0.00005	0.0003	07/13/16 9:27	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/08/16 23:29	gss
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	07/08/16 23:29	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0033			mg/L	0.0001	0.0005	07/12/16 12:57	msh
Calcium, dissolved	M200.7 ICP	1	7.9			mg/L	0.1	0.5	07/08/16 23:29	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:29	gss
Cobalt, dissolved	M200.7 ICP	1	0.06		*	mg/L	0.01	0.05	07/08/16 23:29	gss
Copper, dissolved	M200.7 ICP	1	0.24		*	mg/L	0.01	0.05	07/08/16 23:29	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:29	gss
Iron, dissolved	M200.7 ICP	1	115		*	mg/L	0.02	0.05	07/08/16 23:29	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0042			mg/L	0.0001	0.0005	07/12/16 12:57	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	07/08/16 23:29	gss
Magnesium, dissolved	M200.7 ICP	1	1			mg/L	0.2	1	07/08/16 23:29	gss
Manganese, dissolved	M200.7 ICP	1	0.108		*	mg/L	0.005	0.03	07/08/16 23:29	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	07/14/16 13:47	pta
Mercury, total	M1631, Atomic Fluorescence	2	1.7		*	ng/L	0.4	1	07/14/16 12:38	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/08/16 23:29	gss
Nickel, dissolved	M200.7 ICP	1	0.068			mg/L	0.008	0.04	07/08/16 23:29	gss
Potassium, dissolved	M200.7 ICP	1	4.9			mg/L	0.2	1	07/08/16 23:29	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:29	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	07/12/16 12:57	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/08/16 23:29	gss
Sodium, dissolved	M200.7 ICP	1	2.2			mg/L	0.2	1	07/08/16 23:29	gss
Strontium, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.005	0.03	07/08/16 23:29	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0001	0.0005	07/12/16 12:57	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	07/11/16 14:13	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/08/16 23:29	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0044			mg/L	0.0001	0.0005	07/12/16 12:57	msh
Vanadium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	07/08/16 23:29	gss
Zinc, dissolved	M200.7 ICP	1	0.99			mg/L	0.01	0.05	07/08/16 23:29	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L31481-07***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/07/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.3			%			07/18/16 0:00	calc
Sum of Anions			9			meq/L			07/18/16 0:00	calc
Sum of Cations			8.6			meq/L			07/18/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	07/13/16 16:28	spl
Conductivity @25C	SM2510B	1	1400		*	umhos/cm	1	10	07/07/16 20:37	emk
Fluoride	SM4500F-C	100		U	*	mg/L	5	30	07/12/16 12:34	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		24			mg/L	0.2	5	07/18/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B	*	mg/L	0.02	0.1	07/15/16 23:05	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/15/16 15:48	krh
pH (lab)	SM4500H+ B									
pH		1	2.6	H	*	units	0.1	0.1	07/07/16 0:00	emk
pH measured at		1	22.8			C	0.1	0.1	07/07/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.25		*	mg/L	0.02	0.05	07/13/16 22:43	pjb
Residue, Filterable (TDS) @180C	SM2540C	5	700		*	mg/L	50	100	07/07/16 14:24	sck
Sulfate	D516-02/-07 - Turbidimetric	20	426		*	mg/L	20	100	07/14/16 15:43	krh
TDS (calculated)	Calculation		574			mg/L			07/18/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.22						07/18/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L31481-08***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/16 17:18	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.2	07/08/16 23:38	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0004	0.002	07/12/16 12:59	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0104			mg/L	0.0002	0.001	07/12/16 12:59	msh
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	07/08/16 23:38	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/13/16 9:29	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/08/16 23:38	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:38	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/16 12:59	msh
Calcium, dissolved	M200.7 ICP	1	1.6			mg/L	0.1	0.5	07/08/16 23:38	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:38	gss
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/08/16 23:38	gss
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/08/16 23:38	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:38	gss
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.05	07/08/16 23:38	gss
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/16 12:59	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	07/08/16 23:38	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/08/16 23:38	gss
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/08/16 23:38	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	07/14/16 13:50	pta
Mercury, total	M1631, Atomic Fluorescence	5	45		*	ng/L	1	3	07/14/16 12:43	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/08/16 23:38	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	07/08/16 23:38	gss
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/08/16 23:38	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:38	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	07/12/16 12:59	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/08/16 23:38	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/08/16 23:38	gss
Strontium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	07/08/16 23:38	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/16 12:59	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	07/11/16 14:22	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/08/16 23:38	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/16 12:59	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/08/16 23:38	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:38	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L31481-08***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	2.3	B		mg/L	2	20	07/07/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Total Alkalinity		1	2.3	B	*	mg/L	2	20	07/07/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			07/18/16 0:00	calc
Sum of Anions				U		meq/L			07/18/16 0:00	calc
Sum of Cations				U		meq/L			07/18/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	07/13/16 16:28	spl
Conductivity @25C	SM2510B	1	13.7		*	umhos/cm	1	10	07/07/16 20:45	emk
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	07/12/16 12:45	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4	B		mg/L	0.2	5	07/18/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	07/15/16 23:10	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/15/16 15:50	krh
pH (lab)	SM4500H+ B									
pH		1	6.7	H	*	units	0.1	0.1	07/07/16 0:00	emk
pH measured at		1	22.9			C	0.1	0.1	07/07/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/13/16 22:44	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	14	B	*	mg/L	10	20	07/07/16 14:26	sck
Sulfate	D516-02/-07 - Turbidimetric	1		U	*	mg/L	1	5	07/14/16 15:52	krh
TDS (calculated)	Calculation		3.01			mg/L			07/18/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		4.65						07/18/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L31481-09***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/16 17:24	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.2	07/08/16 23:41	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0004	0.002	07/12/16 13:01	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0043			mg/L	0.0002	0.001	07/12/16 13:01	msh
Barium, dissolved	M200.7 ICP	1	0.003	B		mg/L	0.003	0.02	07/08/16 23:41	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00007	B		mg/L	0.00005	0.0003	07/13/16 9:31	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/08/16 23:41	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:41	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/16 13:01	msh
Calcium, dissolved	M200.7 ICP	1	1.2			mg/L	0.1	0.5	07/08/16 23:41	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:41	gss
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/08/16 23:41	gss
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/08/16 23:41	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:41	gss
Iron, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.02	0.05	07/08/16 23:41	gss
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/16 13:01	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	07/08/16 23:41	gss
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	07/08/16 23:41	gss
Manganese, dissolved	M200.7 ICP	1	0.017	B	*	mg/L	0.005	0.03	07/08/16 23:41	gss
Mercury, dissolved	M245.1 CVAA	2		U	*	mg/L	0.0004	0.002	07/15/16 13:33	scp
Mercury, total	M1631, Atomic Fluorescence	1	11.2		*	ng/L	0.2	0.5	07/14/16 12:48	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/08/16 23:41	gss
Nickel, dissolved	M200.7 ICP	1	0.155			mg/L	0.008	0.04	07/08/16 23:41	gss
Potassium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	07/08/16 23:41	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:41	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0019			mg/L	0.0001	0.0003	07/12/16 13:01	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/08/16 23:41	gss
Sodium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	07/08/16 23:41	gss
Strontium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	07/08/16 23:41	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	07/12/16 13:01	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	07/11/16 14:26	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/08/16 23:41	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/12/16 13:01	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/08/16 23:41	gss
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	07/08/16 23:41	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L31481-09***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/07/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			07/18/16 0:00	calc
Sum of Anions			0.115	B		meq/L			07/18/16 0:00	calc
Sum of Cations			0.113	B		meq/L			07/18/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	07/13/16 16:29	spl
Conductivity @25C	SM2510B	1	25.2		*	umhos/cm	1	10	07/07/16 20:51	emk
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	07/12/16 12:50	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4.2	B		mg/L	0.2	5	07/18/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/15/16 23:12	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/15/16 16:44	krh
pH (lab)	SM4500H+ B									
pH		1	5.2	H	*	units	0.1	0.1	07/07/16 0:00	emk
pH measured at		1	23.1			C	0.1	0.1	07/07/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/13/16 22:45	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	18	B	*	mg/L	10	20	07/07/16 14:29	sck
Sulfate	D516-02/-07 - Turbidimetric	1	5.5		*	mg/L	1	5	07/14/16 15:52	krh
TDS (calculated)	Calculation		7.88			mg/L			07/18/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.28						07/18/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L31481-10***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/11/16 16:06	bce
Cyanide, WAD	SM4500-CN I- distillation				*				07/11/16 12:49	bce
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								07/08/16 17:30	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	4.54		*	mg/L	0.03	0.2	07/08/16 23:44	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/12/16 13:04	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0002	0.001	07/12/16 13:04	msh
Barium, dissolved	M200.7 ICP	1	0.043			mg/L	0.003	0.02	07/08/16 23:44	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00054			mg/L	0.00005	0.0003	07/13/16 9:34	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/08/16 23:44	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:44	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	07/12/16 13:04	msh
Calcium, dissolved	M200.7 ICP	1	0.7			mg/L	0.1	0.5	07/08/16 23:44	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	07/08/16 23:44	gss
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/08/16 23:44	gss
Copper, dissolved	M200.7 ICP	1	0.63		*	mg/L	0.01	0.05	07/08/16 23:44	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:44	gss
Iron, dissolved	M200.7 ICP	1	18.50		*	mg/L	0.02	0.05	07/08/16 23:44	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	07/12/16 13:04	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	07/08/16 23:44	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	07/08/16 23:44	gss
Manganese, dissolved	M200.7 ICP	1	0.094		*	mg/L	0.005	0.03	07/08/16 23:44	gss
Mercury, dissolved	M245.1 CVAA	2		U	*	mg/L	0.0004	0.002	07/15/16 13:35	scp
Mercury, total	M1631, Atomic Fluorescence	1	4.5		*	ng/L	0.2	0.5	07/14/16 12:54	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	07/08/16 23:44	gss
Nickel, dissolved	M200.7 ICP	1	0.020	B		mg/L	0.008	0.04	07/08/16 23:44	gss
Potassium, dissolved	M200.7 ICP	1	2.7			mg/L	0.2	1	07/08/16 23:44	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/08/16 23:44	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0001	0.0003	07/12/16 13:04	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/08/16 23:44	gss
Sodium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	07/08/16 23:44	gss
Strontium, dissolved	M200.7 ICP	1	0.022	B		mg/L	0.005	0.03	07/08/16 23:44	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	07/12/16 13:04	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	07/11/16 14:29	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/08/16 23:44	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0058			mg/L	0.0001	0.0005	07/12/16 13:04	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	07/08/16 23:44	gss
Zinc, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	07/08/16 23:44	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L31481-10***
Date Sampled: *07/06/16 00:00*
Date Received: *07/07/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/07/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/07/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			07/18/16 0:00	calc
Sum of Anions			1.6			meq/L			07/18/16 0:00	calc
Sum of Cations			1.6			meq/L			07/18/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	07/13/16 16:29	spl
Conductivity @25C	SM2510B	1	336		*	umhos/cm	1	10	07/07/16 20:55	emk
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U		mg/L	0.003	0.01	07/13/16 16:35	bsu
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/13/16 15:22	bsu
Fluoride	SM4500F-C	1	0.09	B	*	mg/L	0.05	0.3	07/12/16 12:56	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.8	B		mg/L	0.2	5	07/18/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	07/15/16 23:13	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/15/16 16:45	krh
pH (lab)	SM4500H+ B									
pH		1	3.3	H	*	units	0.1	0.1	07/07/16 0:00	emk
pH measured at		1	23.1			C	0.1	0.1	07/07/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/13/16 22:47	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	180		*	mg/L	10	20	07/07/16 14:32	sck
Sulfate	D516-02/-07 - Turbidimetric	5	74.0		*	mg/L	5	25	07/14/16 15:58	krh
TDS (calculated)	Calculation		102			mg/L			07/18/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.76						07/18/16 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405888													
WG405888PBW1	PBW	07/07/16 16:32				U	mg/L		-20	20			
WG405888LCSW3	LCSW	07/07/16 16:49	WC160624-3	820.0001		772	mg/L	94	90	110			
WG405888LCSW6	LCSW	07/07/16 19:59	WC160624-3	820.0001		795	mg/L	97	90	110			
WG405888PBW2	PBW	07/07/16 20:07				U	mg/L		-20	20			
L31481-10DUP	DUP	07/07/16 21:00			U	U	mg/L				0	20	RA
WG405888LCSW9	LCSW	07/07/16 22:29	WC160624-3	820.0001		794	mg/L	97	90	110			
WG405888PBW3	PBW	07/07/16 22:37				U	mg/L		-20	20			
WG405888LCSW12	LCSW	07/08/16 2:08	WC160624-3	820.0001		800	mg/L	98	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		2.049	mg/L	102	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.09	0.09			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	1.0013		1.026	mg/L	102	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	1.0013	9.8	10.48	mg/L	68	85	115			M3
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	1.0013	9.8	10.53	mg/L	73	85	115	0	20	M3

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406050													
WG406050ICV	ICV	07/12/16 12:14	MS160601-2	.02		.02116	mg/L	106	90	110			
WG406050ICB	ICB	07/12/16 12:16				U	mg/L		-0.0012	0.0012			
WG406050LFB	LFB	07/12/16 12:18	MS160531-3	.009980001		.00951	mg/L	95	85	115			
L31410-03AS	AS	07/12/16 12:27	MS160531-3	.009980001	.0006	.0082	mg/L	76	70	130			
L31410-03ASD	ASD	07/12/16 12:29	MS160531-3	.009980001	.0006	.00876	mg/L	82	70	130	7	20	
L31490-01AS	AS	07/12/16 13:13	MS160531-3	.009980001	U	.0098	mg/L	98	70	130			
L31490-01ASD	ASD	07/12/16 13:15	MS160531-3	.009980001	U	.00917	mg/L	92	70	130	7	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406050													
WG406050ICV	ICV	07/12/16 12:14	MS160601-2	.05		.05476	mg/L	110	90	110			
WG406050ICB	ICB	07/12/16 12:16				U	mg/L		-0.0006	0.0006			
WG406050LFB	LFB	07/12/16 12:18	MS160531-3	.0501		.04704	mg/L	94	85	115			
L31410-03AS	AS	07/12/16 12:27	MS160531-3	.0501	.008	.05687	mg/L	98	70	130			
L31410-03ASD	ASD	07/12/16 12:29	MS160531-3	.0501	.008	.05793	mg/L	100	70	130	2	20	
L31490-01AS	AS	07/12/16 13:13	MS160531-3	.0501	U	.04906	mg/L	98	70	130			
L31490-01ASD	ASD	07/12/16 13:15	MS160531-3	.0501	U	.05003	mg/L	100	70	130	2	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		1.9862	mg/L	99	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.009	0.009			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	.5005		.4919	mg/L	98	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	.5005	.009	.502	mg/L	99	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	.5005	.009	.5044	mg/L	99	85	115	0	20	

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ACZ Project ID: ***L31481***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406050													
WG406050ICV	ICV	07/12/16 12:14	MS160601-2	.05		.049762	mg/L	100	90	110			
WG406050ICB	ICB	07/12/16 12:16				U	mg/L		-0.00015	0.00015			
WG406050LFB	LFB	07/12/16 12:18	MS160531-3	.0501		.04592	mg/L	92	85	115			
L31410-03AS	AS	07/12/16 12:27	MS160531-3	.0501	U	.041955	mg/L	84	70	130			
L31410-03ASD	ASD	07/12/16 12:29	MS160531-3	.0501	U	.043784	mg/L	87	70	130	4	20	
L31490-01AS	AS	07/12/16 13:13	MS160531-3	.0501	U	.046966	mg/L	94	70	130			
L31490-01ASD	ASD	07/12/16 13:15	MS160531-3	.0501	U	.044116	mg/L	88	70	130	6	20	
WG406154													
WG406154ICV	ICV	07/13/16 8:59	MS160601-2	.05		.0502	mg/L	100	90	110			
WG406154ICB	ICB	07/13/16 9:01				U	mg/L		-0.00015	0.00015			
WG406154LFB	LFB	07/13/16 9:06	MS160531-3	.0501		.04664	mg/L	93	85	115			
L31481-04AS	AS	07/13/16 9:14	MS160531-3	.0501	.00126	.05501	mg/L	107	70	130			
L31481-04ASD	ASD	07/13/16 9:16	MS160531-3	.0501	.00126	.05715	mg/L	112	70	130	4	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		2.008	mg/L	100	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.12	0.12			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	1		1.03	mg/L	103	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	1	U	.992	mg/L	99	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	1	U	.988	mg/L	99	85	115	0	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		1.981	mg/L	99	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.03	0.03			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	.5005		.498	mg/L	100	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	.5005	U	.497	mg/L	99	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	.5005	U	.502	mg/L	100	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406050													
WG406050ICV	ICV	07/12/16 12:14	MS160601-2	.05		.05073	mg/L	101	90	110			
WG406050ICB	ICB	07/12/16 12:16				U	mg/L		-0.0003	0.0003			
WG406050LFB	LFB	07/12/16 12:18	MS160531-3	.05005		.04694	mg/L	94	85	115			
L31410-03AS	AS	07/12/16 12:27	MS160531-3	.05005	U	.0431	mg/L	86	70	130			
L31410-03ASD	ASD	07/12/16 12:29	MS160531-3	.05005	U	.04491	mg/L	90	70	130	4	20	
L31490-01AS	AS	07/12/16 13:13	MS160531-3	.05005	U	.04723	mg/L	94	70	130			
L31490-01ASD	ASD	07/12/16 13:15	MS160531-3	.05005	U	.04544	mg/L	91	70	130	4	20	

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ACZ Project ID: ***L31481***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	100		101.6	mg/L	102	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.3	0.3			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	68.01588		69.98	mg/L	103	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	68.01588	21.8	92.2	mg/L	104	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	68.01588	21.8	92.23	mg/L	104	85	115	0	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406221													
WG406221ICB	ICB	07/13/16 11:29				U	mg/L		-1.5	1.5			
WG406221ICV	ICV	07/13/16 11:29	WI160701-1	55.055		58.02	mg/L	105	90	110			
WG406221LFB1	LFB	07/13/16 16:16	WI160415-1	29.97		30.08	mg/L	100	90	110			
L31481-01AS	AS	07/13/16 16:28	WI160415-1	29.97	.6	34.43	mg/L	113	90	110			M1
L31481-02DUP	DUP	07/13/16 16:28			.5	U	mg/L				200	20	RA
WG406221LFB2	LFB	07/13/16 16:29	WI160415-1	29.97		30.74	mg/L	103	90	110			
L31483-01AS	AS	07/13/16 16:41	WI160415-1	29.97	44.2	72.53	mg/L	95	90	110			
L31483-02DUP	DUP	07/13/16 16:41			15.3	15.09	mg/L				1	20	

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		1.921	mg/L	96	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.03	0.03			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	.5005		.49	mg/L	98	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	.5005	.12	.606	mg/L	97	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	.5005	.12	.606	mg/L	97	85	115	0	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2.002		1.917	mg/L	96	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.03	0.03			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	.498		.492	mg/L	99	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	.498	1.38	1.787	mg/L	82	85	115			M2
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	.498	1.38	1.794	mg/L	83	85	115	0	20	M2

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405888													
WG405888LCSW2	LCSW	07/07/16 16:37	PCN49501	1409		1490	umhos/cm	106	90	110			
WG405888LCSW5	LCSW	07/07/16 19:46	PCN49501	1409		1440	umhos/cm	102	90	110			
L31481-10DUP	DUP	07/07/16 21:00			336	344	umhos/cm				2	20	
WG405888LCSW8	LCSW	07/07/16 22:17	PCN49501	1409		1430	umhos/cm	101	90	110			
WG405888LCSW11	LCSW	07/08/16 1:55	PCN49501	1409		1380	umhos/cm	98	90	110			

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		1.966	mg/L	98	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.03	0.03			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	.501		.485	mg/L	97	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	.501	1.03	1.442	mg/L	82	85	115			M2
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	.501	1.03	1.448	mg/L	83	85	115	0	20	M2

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406232													
WG406232ICV	ICV	07/13/16 15:09	WI160630-6	.3003		.2818	mg/L	94	90	110			
WG406232ICB	ICB	07/13/16 15:10				U	mg/L		-0.003	0.003			
WG406251													
WG406048LRB	LRB	07/13/16 16:25				U	mg/L		-0.003	0.003			
WG406048LFB	LFB	07/13/16 16:26	WI160630-2	.2		.1806	mg/L	90	90	110			
L31454-03DUP	DUP	07/13/16 16:28			.127	.1308	mg/L				3	20	
L31454-04LFM	LFM	07/13/16 16:29	WI160630-2	.2	.041	.2424	mg/L	101	90	110			

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406232													
WG406232ICV	ICV	07/13/16 15:09	WI160630-6	.3003		.2818	mg/L	94	90	110			
WG406232ICB	ICB	07/13/16 15:10				U	mg/L		-0.003	0.003			
WG405989LRB	LRB	07/13/16 15:11				U	mg/L		-0.003	0.003			
WG405989LFB	LFB	07/13/16 15:12	WI160630-4	.2002		.1976	mg/L	99	90	110			
L31446-05DUP	DUP	07/13/16 15:13			U	U	mg/L				0	20	RA
L31447-01LFM	LFM	07/13/16 15:15	WI160630-4	.2002	.014	.2066	mg/L	96	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406081													
WG406081ICV	ICV	07/12/16 10:52	WC160707-1	2		1.93	mg/L	97	95	105			
WG406081ICB	ICB	07/12/16 10:56				U	mg/L		-0.15	0.15			
WG406081LFB1	LFB	07/12/16 11:03	WC160419-8	4.995		4.525	mg/L	91	90	110			
L31449-01AS	AS	07/12/16 11:10	WC160419-8	4.995	.98	5.394	mg/L	88	90	110			
L31449-01DUP	DUP	07/12/16 11:13			.98	.944	mg/L				4	20	
L31481-03AS	AS	07/12/16 12:13	WC160419-8	3996	U	3033	mg/L	76	90	110			
L31481-03DUP	DUP	07/12/16 12:16			U	64	mg/L				200	20	RA
WG406081LFB2	LFB	07/12/16 13:18	WC160419-8	4.995		4.692	mg/L	94	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		2.01	mg/L	101	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.3	0.3			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	1		1.02	mg/L	102	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	1	U	.99	mg/L	99	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	1	U	1.01	mg/L	101	85	115	2	20	

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ACZ Project ID: ***L31481***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		2.003	mg/L	100	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.06	0.06			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	1.0017		.988	mg/L	99	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	1.0017	54.4	52.33	mg/L	-207	85	115			M3
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	1.0017	54.4	52.51	mg/L	-189	85	115	0	20	M3

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406050													
WG406050ICV	ICV	07/12/16 12:14	MS160601-2	.05		.05208	mg/L	104	90	110			
WG406050ICB	ICB	07/12/16 12:16				U	mg/L		-0.0003	0.0003			
WG406050LFB	LFB	07/12/16 12:18	MS160531-3	.05005		.04568	mg/L	91	85	115			
L31410-03AS	AS	07/12/16 12:27	MS160531-3	.05005	.0005	.04259	mg/L	84	70	130			
L31410-03ASD	ASD	07/12/16 12:29	MS160531-3	.05005	.0005	.04484	mg/L	89	70	130	5	20	
L31490-01AS	AS	07/12/16 13:13	MS160531-3	.05005	U	.04597	mg/L	92	70	130			
L31490-01ASD	ASD	07/12/16 13:15	MS160531-3	.05005	U	.04474	mg/L	89	70	130	3	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		2.003	mg/L	100	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.024	0.024			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	1.002		1.01	mg/L	101	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	1.002	.106	1.097	mg/L	99	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	1.002	.106	1.105	mg/L	100	85	115	1	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	100		101.05	mg/L	101	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.6	0.6			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	49.99998		48.66	mg/L	97	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	49.99998	2.4	51.68	mg/L	99	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	49.99998	2.4	51.87	mg/L	99	85	115	0	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		1.9352	mg/L	97	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.015	0.015			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	.5		.5013	mg/L	100	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	.5	9.03	9.026	mg/L	-1	85	115			M3
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	.5	9.03	9.055	mg/L	5	85	115	0	20	M3

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406123													
WG406123ICV	ICV	07/14/16 12:37	HG160510-2	.005		.0051	mg/L	102	95	105			
WG406123ICB	ICB	07/14/16 12:39				U	mg/L		-0.0002	0.0002			
WG406123LRB	LRB	07/14/16 12:41				U	mg/L		-0.00044	0.00044			
WG406123LFB	LFB	07/14/16 12:43	HG160705-2	.002002		.00187	mg/L	93	85	115			
L31481-01LFM	LFM	07/14/16 12:53	HG160705-2	.002002	U	.00193	mg/L	96	85	115			
L31481-01LFMD	LFMD	07/14/16 12:55	HG160705-2	.002002	U	.00186	mg/L	93	85	115	4	20	
L31482-04LFM	LFM	07/14/16 14:23	HG160705-2	.002002	U	.00189	mg/L	94	85	115			
L31482-04LFMD	LFMD	07/14/16 14:25	HG160705-2	.002002	U	.00184	mg/L	92	85	115	3	20	
WG406196													
WG406196ICV	ICV	07/15/16 10:27	HG160510-2	.005		.00508	mg/L	102	95	105			
WG406196ICB	ICB	07/15/16 10:29				U	mg/L		-0.0002	0.0002			
WG406373													
WG406373LRB	LRB	07/15/16 13:26				U	mg/L		-0.00044	0.00044			
WG406373LFB	LFB	07/15/16 13:28	HG160705-2	.002002		.00177	mg/L	88	85	115			
L31521-01LFM	LFM	07/15/16 13:47	HG160705-2	.002002	U	.00179	mg/L	89	85	115			
L31521-01LFMD	LFMD	07/15/16 13:49	HG160705-2	.002002	U	.00176	mg/L	88	85	115	2	20	

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG403091													
WG403091ICV	ICV	05/17/16 10:13	HG160223-4	10		10.3	ng/L	103	79	121			
WG403091ICB	ICB	05/17/16 10:19				U	ng/L		-0.5	0.5			
WG406268													
WG406268CCV1	CCV	07/14/16 11:04	HG160525-4	10		10.9	ng/L	109	76.5	123.4			
WG406268CCB1	CCB	07/14/16 11:10				U	ng/L		-0.5	0.5			
WG406268PQV1	PQV	07/14/16 11:25	HG160525-5	.5		.4	ng/L	80	70	130			
WG406268LFB	LFB	07/14/16 11:30	HG160525-6	2		1.58	ng/L	79	71	125			
WG406268CCV2	CCV	07/14/16 12:17	HG160525-4	10		10.4	ng/L	104	76.5	123.4			
WG406268CCB2	CCB	07/14/16 12:22				U	ng/L		-0.5	0.5			
WG406268CCV3	CCV	07/14/16 13:20	HG160525-4	10		10.2	ng/L	102	76.5	123.4			
WG406268CCB3	CCB	07/14/16 13:25				U	ng/L		-0.5	0.5			
L31481-05MS	MS	07/14/16 14:02	HG5XPREP	50	8	16.3	ng/L	84	71	125			
L31481-05MSD	MSD	07/14/16 14:07	HG5XPREP	50	8	16.5	ng/L	86	71	125	1	24	
L31490-01MS	MS	07/14/16 14:18	HG160525-6	2	.4	2.22	ng/L	91	71	125			
L31490-01MSD	MSD	07/14/16 14:23	HG160525-6	2	.4	2.24	ng/L	92	71	125	1	24	
WG406268CCV4	CCV	07/14/16 14:28	HG160525-4	10		9.74	ng/L	97	76.5	123.4			
WG406268CCB4	CCB	07/14/16 14:34				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		2.047	mg/L	102	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.06	0.06			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	.4995		.5	mg/L	100	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	.4995	U	.491	mg/L	98	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	.4995	U	.495	mg/L	99	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L31481***

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		2.022	mg/L	101	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.024	0.024			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	.501		.5013	mg/L	100	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	.501	.401	.8766	mg/L	95	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	.501	.401	.8835	mg/L	96	85	115	1	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406436													
WG406436ICV	ICV	07/15/16 19:58	WI160607-11	2.416		2.545	mg/L	105	90	110			
WG406436ICB	ICB	07/15/16 19:59				U	mg/L		-0.02	0.02			
WG406441													
WG406441LFB	LFB	07/15/16 22:54	WI160616-3	2		1.981	mg/L	99	90	110			
L31481-01AS	AS	07/15/16 22:56	WI160616-3	2	.02	2.05	mg/L	102	90	110			
L31481-02DUP	DUP	07/15/16 22:59			.02	.025	mg/L				22	20	RA

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406277													
WG406277ICV	ICV	07/14/16 10:54	WI160705-8	11.988		12.177	mg/L	102	90	110			
WG406277ICB	ICB	07/14/16 10:55				U	mg/L		-0.05	0.05			
WG406277LFB1	LFB	07/14/16 10:56	WI160121-1	10		10.138	mg/L	101	90	110			
L31451-01AS	AS	07/14/16 11:19	WI160121-1	10	U	10.42	mg/L	104	90	110			
L31462-01DUP	DUP	07/14/16 11:22			U	U	mg/L				0	20	RA
WG406277LFB2	LFB	07/14/16 11:38	WI160121-1	10		10.261	mg/L	103	90	110			
L31481-05AS	AS	07/14/16 11:41	WI160121-1	10	U	10.306	mg/L	103	90	110			
L31481-06DUP	DUP	07/14/16 11:43			U	U	mg/L				0	20	RA
WG406390													
WG406390ICV	ICV	07/15/16 15:36	WI160705-8	11.988		12.144	mg/L	101	90	110			
WG406390ICB	ICB	07/15/16 15:38				U	mg/L		-0.05	0.05			
WG406390LFB1	LFB	07/15/16 15:39	WI160121-1	10		10.26	mg/L	103	90	110			
L31446-05AS	AS	07/15/16 15:42	WI160121-1	10	U	11.383	mg/L	114	90	110			M1
L31447-01DUP	DUP	07/15/16 15:45			4.39	4.363	mg/L				1	20	
WG406390LFB2	LFB	07/15/16 16:22	WI160121-1	10		10.433	mg/L	104	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405888													
WG405888LCSW1	LCSW	07/07/16 16:35	PCN49792	5.99		6	units	100	5.9	6.1			
WG405888LCSW4	LCSW	07/07/16 19:45	PCN49792	5.99		6	units	100	5.9	6.1			
L31481-10DUP	DUP	07/07/16 21:00			3.3	3.3	units				0	20	
WG405888LCSW7	LCSW	07/07/16 22:15	PCN49792	5.99		6	units	100	5.9	6.1			
WG405888LCSW10	LCSW	07/08/16 1:54	PCN49792	5.99		6	units	100	5.9	6.1			

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ACZ Project ID: ***L31481***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406255													
WG406255ICV	ICV	07/13/16 21:26	WI160629-4	.65228		.654	mg/L	100	90	110			
WG406255ICB	ICB	07/13/16 21:28				U	mg/L		-0.02	0.02			
WG406257													
WG405960LRB	LRB	07/13/16 22:13				U	mg/L		-0.02	0.02			
WG405960LFB	LFB	07/13/16 22:14	WI160705-2	.5		.499	mg/L	100	90	110			
L31481-01LFM	LFM	07/13/16 22:33	WI160705-2	.5	U	.543	mg/L	109	90	110			
L31481-02DUP	DUP	07/13/16 22:35			U	.022	mg/L				200	20	RA
WG406457													
WG406457ICV	ICV	07/16/16 12:39	WI160629-4	.65228		.648	mg/L	99	90	110			
WG406457ICB	ICB	07/16/16 12:42				U	mg/L		-0.02	0.02			
WG406200LRB	LRB	07/16/16 12:45				U	mg/L		-0.02	0.02			
WG406200LFB	LFB	07/16/16 12:46	WI160705-2	.5		.476	mg/L	95	90	110			
L31565-01LFM	LFM	07/16/16 12:51	WI160705-2	.5	.29	.772	mg/L	96	90	110			
L31565-02DUP	DUP	07/16/16 13:20			1.5	1.57	mg/L				5	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	20		20.15	mg/L	101	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.6	0.6			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	99.96008		100.1	mg/L	100	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	99.96008	2.9	103.9	mg/L	101	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	99.96008	2.9	103.9	mg/L	101	85	115	0	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405863													
WG405863PBW	PBW	07/07/16 13:45				U	mg/L		-20	20			
WG405863LCSW	LCSW	07/07/16 13:47	PCN51033	260		270	mg/L	104	80	120			
L31481-05DUP	DUP	07/07/16 14:20			186	176	mg/L				6	10	
L31493-01DUP	DUP	07/07/16 14:45			334	346	mg/L				4	10	
WG405943													
WG405943PBW	PBW	07/08/16 14:00				U	mg/L		-20	20			
WG405943LCSW	LCSW	07/08/16 14:01	PCN51033	260		248	mg/L	95	80	120			
L31519-02DUP	DUP	07/08/16 14:29			820	840	mg/L				2	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		1.99	mg/L	100	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.3	0.3			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	1.0009		1	mg/L	100	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	1.0009	U	1	mg/L	100	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	1.0009	U	1.01	mg/L	101	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406050													
WG406050ICV	ICV	07/12/16 12:14	MS160601-2	.05		.05109	mg/L	102	90	110			
WG406050ICB	ICB	07/12/16 12:16				U	mg/L		-0.0003	0.0003			
WG406050LFB	LFB	07/12/16 12:18	MS160531-3	.0501		.05447	mg/L	109	85	115			
L31410-03AS	AS	07/12/16 12:27	MS160531-3	.0501	U	.04996	mg/L	100	70	130			
L31410-03ASD	ASD	07/12/16 12:29	MS160531-3	.0501	U	.04935	mg/L	99	70	130	1	20	
L31490-01AS	AS	07/12/16 13:13	MS160531-3	.0501	.0004	.04882	mg/L	97	70	130			
L31490-01ASD	ASD	07/12/16 13:15	MS160531-3	.0501	.0004	.04905	mg/L	97	70	130	0	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	1.001		1.01	mg/L	101	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.03	0.03			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	.5015		.464	mg/L	93	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	.5015	U	.366	mg/L	73	85	115			M2 ZA
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	.5015	U	.365	mg/L	73	85	115	0	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	100		100.22	mg/L	100	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.6	0.6			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	100.0149		98.87	mg/L	99	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	100.0149	.8	100.9	mg/L	100	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	100.0149	.8	101.2	mg/L	100	85	115	0	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		1.9348	mg/L	97	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.015	0.015			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	.501		.4759	mg/L	95	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	.501	.291	.7563	mg/L	93	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	.501	.291	.7577	mg/L	93	85	115	0	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406340													
WG406340ICB	ICB	07/14/16 7:22				U	mg/L		-3	3			
WG406340ICV	ICV	07/14/16 7:22	WI160711-2	20		20.4	mg/L	102	90	110			
L31420-01DUP	DUP	07/14/16 15:29			588	581	mg/L				1	20	
L31420-02AS	AS	07/14/16 15:29	SO4TURB50X	10	592	608	mg/L	160	90	110			M3
WG406340LFB	LFB	07/14/16 15:42	WI160201-3	10.01		11	mg/L	110	90	110			
L31481-08DUP	DUP	07/14/16 15:52			U	U	mg/L				0	20	RA
L31481-09AS	AS	07/14/16 15:52	WI160201-3	10.01	5.5	17.8	mg/L	123	90	110			M1

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406050													
WG406050ICV	ICV	07/12/16 12:14	MS160601-2	.05		.05182	mg/L	104	90	110			
WG406050ICB	ICB	07/12/16 12:16				U	mg/L		-0.0003	0.0003			
WG406050LFB	LFB	07/12/16 12:18	MS160531-3	.0501		.04564	mg/L	91	85	115			
L31410-03AS	AS	07/12/16 12:27	MS160531-3	.0501	U	.04247	mg/L	85	70	130			
L31410-03ASD	ASD	07/12/16 12:29	MS160531-3	.0501	U	.0445	mg/L	89	70	130	5	20	
L31490-01AS	AS	07/12/16 13:13	MS160531-3	.0501	U	.04648	mg/L	93	70	130			
L31490-01ASD	ASD	07/12/16 13:15	MS160531-3	.0501	U	.04546	mg/L	91	70	130	2	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406016													
WG406016ICV	ICV	07/11/16 13:26	II160624-1	2		2.054	mg/L	103	95	105			
WG406016ICB	ICB	07/11/16 13:32				U	mg/L		-0.12	0.12			
WG406016LFB	LFB	07/11/16 13:45	II160614-2	1.001		1.025	mg/L	102	85	115			
L31481-02AS	AS	07/11/16 13:54	II160614-2	1.001	U	1.011	mg/L	101	85	115			
L31481-02ASD	ASD	07/11/16 13:57	II160614-2	1.001	U	.997	mg/L	100	85	115	1	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		1.9782	mg/L	99	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.015	0.015			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	1.003		1.005	mg/L	100	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	1.003	U	.993	mg/L	99	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	1.003	U	1.004	mg/L	100	85	115	1	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406050													
WG406050ICV	ICV	07/12/16 12:14	MS160601-2	.05		.0508	mg/L	102	90	110			
WG406050ICB	ICB	07/12/16 12:16				U	mg/L		-0.0003	0.0003			
WG406050LFB	LFB	07/12/16 12:18	MS160531-3	.05		.04508	mg/L	90	85	115			
L31410-03AS	AS	07/12/16 12:27	MS160531-3	.05	U	.04158	mg/L	83	70	130			
L31410-03ASD	ASD	07/12/16 12:29	MS160531-3	.05	U	.04412	mg/L	88	70	130	6	20	
L31490-01AS	AS	07/12/16 13:13	MS160531-3	.05	.0026	.04899	mg/L	93	70	130			
L31490-01ASD	ASD	07/12/16 13:15	MS160531-3	.05	.0026	.04797	mg/L	91	70	130	2	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		2.0213	mg/L	101	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.015	0.015			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	.501		.5	mg/L	100	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	.501	U	.5064	mg/L	101	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	.501	U	.5091	mg/L	102	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L31481***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG405941													
WG405941ICV	ICV	07/08/16 22:44	II160624-1	2		2.004	mg/L	100	95	105			
WG405941ICB	ICB	07/08/16 22:50				U	mg/L		-0.03	0.03			
WG405941LFB	LFB	07/08/16 23:02	II160614-2	.4995		.512	mg/L	103	85	115			
L31481-02AS	AS	07/08/16 23:11	II160614-2	.4995	.86	1.331	mg/L	94	85	115			
L31481-02ASD	ASD	07/08/16 23:14	II160614-2	.4995	.86	1.337	mg/L	95	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L31481-01	WG405941	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Cobalt, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Copper, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG406268	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG405941	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG406221	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406081	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG406441	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406277	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406257	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405863	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406340	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG405888	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L31481-02	WG405941	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Cobalt, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Copper, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG406268	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG405941	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG406221	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406081	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG406441	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406277	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406257	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405863	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406340	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG405888	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L31481-03	WG405941	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Cobalt, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Copper, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG406268	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG405941	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG406221	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406081	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406441	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406277	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406457	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405943	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406340	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG405888	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L31481-04	WG405941	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Cobalt, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Copper, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG406268	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG405941	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG406221	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406081	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406441	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406277	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406257	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405863	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406340	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG405888	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L31481-05	WG405941	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Cobalt, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Copper, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG406268	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG405941	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG406221	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406081	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406441	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406277	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406457	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405863	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406340	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG405888	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Inorganic Extended Qualifier Report

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L31481-06	WG405941	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Cobalt, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Copper, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG406268	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG405941	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG406221	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406081	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406441	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406277	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406257	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405863	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406340	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG405888	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L31481-07	WG405941	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Cobalt, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Copper, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG406268	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG405941	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG406221	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406081	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406441	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406390	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG405888	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406257	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405863	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406340	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L31481-08	WG405941	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Cobalt, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Copper, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG406268	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG405941	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG406221	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406081	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406441	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406390	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG405888	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406257	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405863	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406340	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L31481-09	WG405941	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Cobalt, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Copper, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG406373	Mercury, dissolved	M245.1 CVAA	D1	Sample required dilution due to matrix.
	WG406268	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG405941	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG406221	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406081	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406441	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406390	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG405888	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406257	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405863	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406340	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L31481***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L31481-10	WG405941	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Cobalt, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Copper, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG406373	Mercury, dissolved	M245.1 CVAA	D1	Sample required dilution due to matrix.
	WG406268	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG405941	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG405888	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406232	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406081	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406441	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG406390	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG405888	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406257	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405863	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG406340	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG405888	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L31481
Date Received: 07/07/2016 09:49
Received By: kmo
Date Printed: 7/7/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA24271	5.4	<=6.0	14	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L31481
Date Received:	07/07/2016 09:49
Received By:	kmo
Date Printed:	7/7/2016

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L31481

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500	Mercury by 1631E				
CAL-002 (86-95)	7/6/16	WW	1	x			x				
CAL-004 (860-875)		WW	1	x			x				
CAL-003 (675-685)		WW	1	x			x				
GMC-012 (832-851)		WW	1	x			x				
CAL-004 (295-315)		WW	1	x			x				
CAL-001 (750-762)		WW	1	x			x				
GMC-014 (176-184)		WW	1	x			x				
CAL-001 (380-400)		WW	1	x			x				
CAL-002 (177-187)		WW	1	x			x				
Calico Leach Res. after CN Destruct		WW	1	x	x	x	x				

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 32
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	7/6/16 9AM	[signature]	7-7-16 0940

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L31481 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

****Gray out Analyses DOESN'T get done on all Samples, last 1 of the Sample SEE COC****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

August 24, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L32131

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 04, 2016. This project has been assigned to ACZ's project number, L32131. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L32131. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 23, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Case Narrative

McClelland Laboratories, Inc.

August 24, 2016

Project ID: 3981
ACZ Project ID: L32131

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 10 miscellaneous samples from McClelland Laboratories, Inc. on August 4, 2016. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L32131. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

1. Suspect analytes (Sulfate) on L32131-04 were re-analyzed to verify the cation-anion balance above 10%.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L32131-01***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								08/10/16 10:54	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.42		*	mg/L	0.03	0.2	08/10/16 17:24	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0231			mg/L	0.0004	0.002	08/15/16 22:11	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0739			mg/L	0.0002	0.001	08/15/16 22:11	enb
Barium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.003	0.02	08/10/16 17:24	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00027	B		mg/L	0.00005	0.0003	08/16/16 18:03	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	08/10/16 17:24	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 17:24	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	08/15/16 22:11	enb
Calcium, dissolved	M200.7 ICP	1	0.9			mg/L	0.1	0.5	08/10/16 17:24	gss
Chromium, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	08/10/16 17:24	gss
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	08/10/16 17:24	gss
Copper, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	08/10/16 17:24	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 17:24	gss
Iron, dissolved	M200.7 ICP	1	22.60		*	mg/L	0.02	0.05	08/10/16 17:24	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	08/15/16 22:11	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	08/10/16 17:24	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	08/10/16 17:24	gss
Manganese, dissolved	M200.7 ICP	1	0.014	B	*	mg/L	0.005	0.03	08/10/16 17:24	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	08/11/16 14:24	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	08/10/16 17:24	gss
Nickel, dissolved	M200.7 ICP	1	0.050			mg/L	0.008	0.04	08/10/16 17:24	gss
Potassium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	08/10/16 17:24	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 17:24	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0003	08/15/16 22:11	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	08/11/16 17:28	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	08/10/16 17:24	gss
Strontium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.005	0.03	08/10/16 17:24	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0064			mg/L	0.0001	0.0005	08/15/16 22:11	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	08/10/16 17:24	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	08/10/16 17:24	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	08/15/16 22:11	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	08/10/16 17:24	gss
Zinc, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	08/10/16 17:24	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L32131-01***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	08/09/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			3.7			%			08/24/16 0:00	calc
Sum of Anions			1.3			meq/L			08/24/16 0:00	calc
Sum of Cations			1.4			meq/L			08/24/16 0:00	calc
Chloride	SM4500Cl-E	1	1.1	B	*	mg/L	0.5	2	08/11/16 14:42	spl
Conductivity @25C	SM2510B	1	304		*	umhos/cm	1	10	08/09/16 17:18	emk
Fluoride	SM4500F-C	1		U		mg/L	0.05	0.3	08/10/16 13:39	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.3	B		mg/L	0.2	5	08/24/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	08/12/16 23:06	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	08/15/16 13:52	krh
pH (lab)	SM4500H+ B									
pH		1	3.2	H	*	units	0.1	0.1	08/09/16 0:00	emk
pH measured at		1	22.6			C	0.1	0.1	08/09/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	08/10/16 15:08	bce
Residue, Filterable (TDS) @180C	SM2540C	1	102		*	mg/L	10	20	08/05/16 16:37	sck
Sulfate	D516-02/-07 - Turbidimetric	5	60.0		*	mg/L	5	25	08/10/16 10:15	spl
TDS (calculated)	Calculation		86.6			mg/L			08/24/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.18						08/24/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L32131-02***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								08/10/16 11:02	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	6.37		*	mg/L	0.03	0.2	08/10/16 17:27	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0004	0.002	08/15/16 22:14	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0175			mg/L	0.0002	0.001	08/15/16 22:14	enb
Barium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.003	0.02	08/10/16 17:27	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00485			mg/L	0.00005	0.0003	08/16/16 18:06	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	08/10/16 17:27	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 17:27	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0030			mg/L	0.0001	0.0005	08/15/16 22:14	enb
Calcium, dissolved	M200.7 ICP	1	5.4			mg/L	0.1	0.5	08/10/16 17:27	gss
Chromium, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	08/10/16 17:27	gss
Cobalt, dissolved	M200.7 ICP	1	0.59			mg/L	0.01	0.05	08/10/16 17:27	gss
Copper, dissolved	M200.7 ICP	1	0.45			mg/L	0.01	0.05	08/10/16 17:27	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 17:27	gss
Iron, dissolved	M200.7 ICP	1	36.50		*	mg/L	0.02	0.05	08/10/16 17:27	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	08/15/16 22:14	enb
Lithium, dissolved	M200.7 ICP	1	0.033	B		mg/L	0.008	0.04	08/10/16 17:27	gss
Magnesium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	08/10/16 17:27	gss
Manganese, dissolved	M200.7 ICP	1	3.510		*	mg/L	0.005	0.03	08/10/16 17:27	gss
Mercury, dissolved	M245.1 CVAA	1	0.0005	B	*	mg/L	0.0002	0.001	08/11/16 14:26	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	08/10/16 17:27	gss
Nickel, dissolved	M200.7 ICP	1	0.161			mg/L	0.008	0.04	08/10/16 17:27	gss
Potassium, dissolved	M200.7 ICP	1	1.7			mg/L	0.2	1	08/10/16 17:27	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 17:27	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	08/15/16 22:14	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	08/11/16 17:31	aeb
Sodium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	08/10/16 17:27	gss
Strontium, dissolved	M200.7 ICP	1	0.101			mg/L	0.005	0.03	08/10/16 17:27	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0036			mg/L	0.0001	0.0005	08/15/16 22:14	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	08/10/16 17:27	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	08/10/16 17:27	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0211			mg/L	0.0001	0.0005	08/15/16 22:14	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	08/10/16 17:27	gss
Zinc, dissolved	M200.7 ICP	1	0.33			mg/L	0.01	0.05	08/10/16 17:27	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L32131-02***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	08/09/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-12.0			%			08/24/16 0:00	calc
Sum of Anions			4.2			meq/L			08/24/16 0:00	calc
Sum of Cations			3.3			meq/L			08/24/16 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	08/11/16 14:42	spl
Conductivity @25C	SM2510B	1	1080		*	umhos/cm	1	10	08/09/16 17:51	emk
Fluoride	SM4500F-C	100		U	*	mg/L	5	30	08/10/16 13:47	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		16			mg/L	0.2	5	08/24/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	08/12/16 23:08	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	08/11/16 12:08	spl
pH (lab)	SM4500H+ B									
pH		1	2.6	H	*	units	0.1	0.1	08/09/16 0:00	emk
pH measured at		1	21.5			C	0.1	0.1	08/09/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	08/10/16 15:10	bce
Residue, Filterable (TDS) @180C	SM2540C	1	284		*	mg/L	10	20	08/05/16 16:40	sck
Sulfate	D516-02/-07 - Turbidimetric	10	201		*	mg/L	10	50	08/10/16 10:22	spl
TDS (calculated)	Calculation		257			mg/L			08/24/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.11						08/24/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L32131-03***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								08/10/16 11:10	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	2	33.20		*	mg/L	0.06	0.3	08/10/16 17:37	gss
Antimony, dissolved	M200.8 ICP-MS	2	0.0041			mg/L	0.0008	0.004	08/15/16 22:17	enb
Arsenic, dissolved	M200.8 ICP-MS	50	5.18			mg/L	0.01	0.05	08/16/16 18:14	enb
Barium, dissolved	M200.7 ICP	2	0.007	B		mg/L	0.006	0.03	08/10/16 17:37	gss
Beryllium, dissolved	M200.8 ICP-MS	50	0.007	B		mg/L	0.003	0.01	08/16/16 18:14	enb
Bismuth, dissolved	M200.7 ICP	2		U	*	mg/L	0.08	0.4	08/10/16 17:37	gss
Boron, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	08/10/16 17:37	gss
Cadmium, dissolved	M200.8 ICP-MS	2	0.0039			mg/L	0.0002	0.001	08/15/16 22:17	enb
Calcium, dissolved	M200.7 ICP	2	53.1			mg/L	0.2	1	08/10/16 17:37	gss
Chromium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	08/10/16 17:37	gss
Cobalt, dissolved	M200.7 ICP	2	0.36			mg/L	0.02	0.1	08/10/16 17:37	gss
Copper, dissolved	M200.7 ICP	2	0.95			mg/L	0.02	0.1	08/10/16 17:37	gss
Gallium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	08/10/16 17:37	gss
Iron, dissolved	M200.7 ICP	2	718		*	mg/L	0.04	0.1	08/10/16 17:37	gss
Lead, dissolved	M200.8 ICP-MS	2	0.0009	B		mg/L	0.0002	0.001	08/15/16 22:17	enb
Lithium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.08	08/10/16 17:37	gss
Magnesium, dissolved	M200.7 ICP	2	7.4			mg/L	0.4	2	08/10/16 17:37	gss
Manganese, dissolved	M200.7 ICP	2	0.42		*	mg/L	0.01	0.05	08/10/16 17:37	gss
Mercury, dissolved	M245.1 CVAA	1	0.0002	B	*	mg/L	0.0002	0.001	08/11/16 14:32	scp
Molybdenum, dissolved	M200.7 ICP	2	0.41			mg/L	0.04	0.2	08/10/16 17:37	gss
Nickel, dissolved	M200.7 ICP	2	0.39			mg/L	0.02	0.08	08/10/16 17:37	gss
Potassium, dissolved	M200.7 ICP	2	0.5	B		mg/L	0.4	2	08/10/16 17:37	gss
Scandium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	08/10/16 17:37	gss
Selenium, dissolved	M200.8 ICP-MS	2	0.0131			mg/L	0.0002	0.0005	08/15/16 22:17	enb
Silver, dissolved	M200.7 ICP	2	0.02	B	*	mg/L	0.02	0.05	08/11/16 17:40	aeb
Sodium, dissolved	M200.7 ICP	2	0.7	B		mg/L	0.4	2	08/10/16 17:37	gss
Strontium, dissolved	M200.7 ICP	2	0.41			mg/L	0.01	0.05	08/10/16 17:37	gss
Thallium, dissolved	M200.8 ICP-MS	2	0.0011			mg/L	0.0002	0.001	08/15/16 22:17	enb
Tin, dissolved	M200.7 ICP	2		U		mg/L	0.08	0.4	08/10/16 17:37	gss
Titanium, dissolved	M200.7 ICP	2		U	*	mg/L	0.01	0.05	08/10/16 17:37	gss
Uranium, dissolved	M200.8 ICP-MS	2	0.0083			mg/L	0.0002	0.001	08/15/16 22:17	enb
Vanadium, dissolved	M200.7 ICP	2	0.02	B		mg/L	0.01	0.05	08/10/16 17:37	gss
Zinc, dissolved	M200.7 ICP	2	0.61			mg/L	0.02	0.1	08/10/16 17:37	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L32131-03***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	08/09/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			2.3			%			08/24/16 0:00	calc
Sum of Anions			43			meq/L			08/24/16 0:00	calc
Sum of Cations			45			meq/L			08/24/16 0:00	calc
Chloride	SM4500Cl-E	1	0.8	B	*	mg/L	0.5	2	08/11/16 14:42	spl
Conductivity @25C	SM2510B	1	5000		*	umhos/cm	1	10	08/09/16 17:55	emk
Fluoride	SM4500F-C	400		U	*	mg/L	20	100	08/10/16 13:53	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		163			mg/L	0.5	10	08/24/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	08/12/16 23:11	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	08/11/16 12:09	spl
pH (lab)	SM4500H+ B									
pH		1	2.0	H	*	units	0.1	0.1	08/09/16 0:00	emk
pH measured at		1	21.6			C	0.1	0.1	08/09/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	10	3.6		*	mg/L	0.2	0.5	08/10/16 15:36	bce
Residue, Filterable (TDS) @180C	SM2540C	1	3160		*	mg/L	10	20	08/05/16 16:43	sck
Sulfate	D516-02/-07 - Turbidimetric	100	2040		*	mg/L	100	500	08/10/16 10:24	spl
TDS (calculated)	Calculation		2860			mg/L			08/24/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.10						08/24/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L32131-04***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								08/10/16 11:19	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	7.32		*	mg/L	0.03	0.2	08/10/16 17:40	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0004	0.002	08/15/16 22:20	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0745			mg/L	0.0002	0.001	08/16/16 18:17	enb
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	08/10/16 17:40	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00078			mg/L	0.00005	0.0003	08/16/16 18:17	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	08/10/16 17:40	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 17:40	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	08/15/16 22:20	enb
Calcium, dissolved	M200.7 ICP	1	0.8			mg/L	0.1	0.5	08/10/16 17:40	gss
Chromium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	08/10/16 17:40	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	08/10/16 17:40	gss
Copper, dissolved	M200.7 ICP	1	0.13			mg/L	0.01	0.05	08/10/16 17:40	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 17:40	gss
Iron, dissolved	M200.7 ICP	1	77.80		*	mg/L	0.02	0.05	08/10/16 17:40	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0005	08/15/16 22:20	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	08/10/16 17:40	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	08/10/16 17:40	gss
Manganese, dissolved	M200.7 ICP	1	0.219		*	mg/L	0.005	0.03	08/10/16 17:40	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	08/11/16 14:34	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	08/10/16 17:40	gss
Nickel, dissolved	M200.7 ICP	1	0.059			mg/L	0.008	0.04	08/10/16 17:40	gss
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	08/10/16 17:40	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 17:40	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0003	08/15/16 22:20	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	08/11/16 17:43	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	08/10/16 17:40	gss
Strontium, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.005	0.03	08/10/16 17:40	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	08/15/16 22:20	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	08/10/16 17:40	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	08/10/16 17:40	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0148			mg/L	0.0001	0.0005	08/15/16 22:20	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	08/10/16 17:40	gss
Zinc, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	08/10/16 17:40	gss

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L32131-04***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	08/09/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-21.9			%			08/24/16 0:00	calc
Sum of Anions			7.8			meq/L			08/24/16 0:00	calc
Sum of Cations			5.0			meq/L			08/24/16 0:00	calc
Chloride	SM4500Cl-E	1	0.9	B	*	mg/L	0.5	2	08/11/16 14:42	spl
Conductivity @25C	SM2510B	1	2040		*	umhos/cm	1	10	08/09/16 17:59	emk
Fluoride	SM4500F-C	100		U	*	mg/L	5	30	08/10/16 13:59	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2	B		mg/L	0.2	5	08/24/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	08/12/16 23:12	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	08/11/16 12:14	spl
pH (lab)	SM4500H+ B									
pH		1	2.3	H	*	units	0.1	0.1	08/09/16 0:00	emk
pH measured at		1	21.8			C	0.1	0.1	08/09/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.08		*	mg/L	0.02	0.05	08/10/16 15:29	bce
Residue, Filterable (TDS) @180C	SM2540C	1	372		*	mg/L	10	20	08/05/16 16:45	sck
Sulfate	D516-02/-07 - Turbidimetric	20	368			mg/L	20	100	08/23/16 11:32	bsu
TDS (calculated)	Calculation		456			mg/L			08/24/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.82						08/24/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L32131-05***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								08/10/16 11:27	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.91		*	mg/L	0.03	0.2	08/10/16 17:43	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0010	B		mg/L	0.0004	0.002	08/15/16 22:23	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0212			mg/L	0.0002	0.001	08/15/16 22:23	enb
Barium, dissolved	M200.7 ICP	1	0.026			mg/L	0.003	0.02	08/10/16 17:43	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00286			mg/L	0.00005	0.0003	08/16/16 18:19	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	08/10/16 17:43	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 17:43	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	08/15/16 22:23	enb
Calcium, dissolved	M200.7 ICP	1	21.3			mg/L	0.1	0.5	08/10/16 17:43	gss
Chromium, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	08/10/16 17:43	gss
Cobalt, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	08/10/16 17:43	gss
Copper, dissolved	M200.7 ICP	1	0.15			mg/L	0.01	0.05	08/10/16 17:43	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 17:43	gss
Iron, dissolved	M200.7 ICP	1	4.75		*	mg/L	0.02	0.05	08/10/16 17:43	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0044			mg/L	0.0001	0.0005	08/15/16 22:23	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	08/10/16 17:43	gss
Magnesium, dissolved	M200.7 ICP	1	3.8			mg/L	0.2	1	08/10/16 17:43	gss
Manganese, dissolved	M200.7 ICP	1	0.554		*	mg/L	0.005	0.03	08/10/16 17:43	gss
Mercury, dissolved	M245.1 CVAA	1	0.0002	B	*	mg/L	0.0002	0.001	08/11/16 14:36	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	08/10/16 17:43	gss
Nickel, dissolved	M200.7 ICP	1	0.059			mg/L	0.008	0.04	08/10/16 17:43	gss
Potassium, dissolved	M200.7 ICP	1	1.8			mg/L	0.2	1	08/10/16 17:43	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 17:43	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	08/15/16 22:23	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	08/11/16 17:46	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	08/10/16 17:43	gss
Strontium, dissolved	M200.7 ICP	1	0.069			mg/L	0.005	0.03	08/10/16 17:43	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	08/15/16 22:23	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	08/10/16 17:43	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	08/10/16 17:43	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0143			mg/L	0.0001	0.0005	08/15/16 22:23	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	08/10/16 17:43	gss
Zinc, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	08/10/16 17:43	gss

** Please refer to Qualifier Reports for details.*

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L32131-05***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	08/09/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-25.5			%			08/24/16 0:00	calc
Sum of Anions			3.2			meq/L			08/24/16 0:00	calc
Sum of Cations			1.9			meq/L			08/24/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	08/11/16 14:43	spl
Conductivity @25C	SM2510B	1	751		*	umhos/cm	1	10	08/09/16 18:04	emk
Fluoride	SM4500F-C	100	5	B	*	mg/L	5	30	08/10/16 14:11	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		69			mg/L	0.2	5	08/24/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	08/12/16 23:13	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	08/11/16 12:15	spl
pH (lab)	SM4500H+ B									
pH		1	2.8	H	*	units	0.1	0.1	08/09/16 0:00	emk
pH measured at		1	22.0			C	0.1	0.1	08/09/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	08/10/16 15:13	bce
Residue, Filterable (TDS) @180C	SM2540C	1	190		*	mg/L	10	20	08/05/16 16:48	sck
Sulfate	D516-02/-07 - Turbidimetric	5	139		*	mg/L	5	25	08/10/16 10:15	spl
TDS (calculated)	Calculation		178			mg/L			08/24/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.07						08/24/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L32131-06***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								08/10/16 11:44	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.05	B	*	mg/L	0.03	0.2	08/10/16 17:52	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	08/15/16 22:26	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0002	0.001	08/15/16 22:26	enb
Barium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.003	0.02	08/10/16 17:52	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00007	B		mg/L	0.00005	0.0003	08/16/16 18:22	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	08/10/16 17:52	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 17:52	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	08/15/16 22:26	enb
Calcium, dissolved	M200.7 ICP	1	5.1			mg/L	0.1	0.5	08/10/16 17:52	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 17:52	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 17:52	gss
Copper, dissolved	M200.7 ICP	1	0.19			mg/L	0.01	0.05	08/10/16 17:52	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 17:52	gss
Iron, dissolved	M200.7 ICP	1	0.31		*	mg/L	0.02	0.05	08/10/16 17:52	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	08/15/16 22:26	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	08/10/16 17:52	gss
Magnesium, dissolved	M200.7 ICP	1	0.9	B		mg/L	0.2	1	08/10/16 17:52	gss
Manganese, dissolved	M200.7 ICP	1	0.027	B	*	mg/L	0.005	0.03	08/10/16 17:52	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	08/11/16 14:38	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	08/10/16 17:52	gss
Nickel, dissolved	M200.7 ICP	1	0.044			mg/L	0.008	0.04	08/10/16 17:52	gss
Potassium, dissolved	M200.7 ICP	1	3.2			mg/L	0.2	1	08/10/16 17:52	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 17:52	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0040			mg/L	0.0001	0.0003	08/15/16 22:26	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	08/11/16 17:49	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	08/10/16 17:52	gss
Strontium, dissolved	M200.7 ICP	1	0.061			mg/L	0.005	0.03	08/10/16 17:52	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	08/15/16 22:26	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	08/10/16 17:52	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	08/10/16 17:52	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	08/15/16 22:26	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	08/10/16 17:52	gss
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	08/10/16 17:52	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L32131-06***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	08/09/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-1.6			%			08/24/16 0:00	calc
Sum of Anions			0.458	B		meq/L			08/24/16 0:00	calc
Sum of Cations			0.444	B		meq/L			08/24/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	08/11/16 14:43	spl
Conductivity @25C	SM2510B	1	94.8		*	umhos/cm	1	10	08/09/16 18:08	emk
Fluoride	SM4500F-C	100		U	*	mg/L	5	30	08/10/16 14:15	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		16			mg/L	0.2	5	08/24/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	08/12/16 23:15	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	08/11/16 12:16	spl
pH (lab)	SM4500H+ B									
pH		1	4.3	H	*	units	0.1	0.1	08/09/16 0:00	emk
pH measured at		1	22.3			C	0.1	0.1	08/09/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	08/10/16 15:15	bce
Residue, Filterable (TDS) @180C	SM2540C	1	36		*	mg/L	10	20	08/05/16 16:50	sck
Sulfate	D516-02/-07 - Turbidimetric	1	21.8		*	mg/L	1	5	08/10/16 10:09	spl
TDS (calculated)	Calculation		31.7			mg/L			08/24/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.14						08/24/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: *L32131-07*
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								08/10/16 12:01	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	6.95		*	mg/L	0.03	0.2	08/10/16 17:56	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0020			mg/L	0.0004	0.002	08/15/16 22:29	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.6104			mg/L	0.0002	0.001	08/15/16 22:29	enb
Barium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.003	0.02	08/10/16 17:56	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00274			mg/L	0.00005	0.0003	08/19/16 18:04	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	08/10/16 17:56	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 17:56	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	08/15/16 22:29	enb
Calcium, dissolved	M200.7 ICP	1	3.4			mg/L	0.1	0.5	08/10/16 17:56	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 17:56	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	08/10/16 17:56	gss
Copper, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	08/10/16 17:56	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 17:56	gss
Iron, dissolved	M200.7 ICP	1	71.50		*	mg/L	0.02	0.05	08/10/16 17:56	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	08/15/16 22:29	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	08/10/16 17:56	gss
Magnesium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	08/10/16 17:56	gss
Manganese, dissolved	M200.7 ICP	1	0.053		*	mg/L	0.005	0.03	08/10/16 17:56	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	08/11/16 14:40	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	08/10/16 17:56	gss
Nickel, dissolved	M200.7 ICP	1	0.033	B		mg/L	0.008	0.04	08/10/16 17:56	gss
Potassium, dissolved	M200.7 ICP	1	6.3			mg/L	0.2	1	08/10/16 17:56	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 17:56	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	08/15/16 22:29	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	08/11/16 17:52	aeb
Sodium, dissolved	M200.7 ICP	1	2.9			mg/L	0.2	1	08/10/16 17:56	gss
Strontium, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.005	0.03	08/10/16 17:56	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0034			mg/L	0.0001	0.0005	08/15/16 22:29	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	08/10/16 17:56	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	08/10/16 17:56	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0034			mg/L	0.0001	0.0005	08/15/16 22:29	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	08/10/16 17:56	gss
Zinc, dissolved	M200.7 ICP	1	0.57			mg/L	0.01	0.05	08/10/16 17:56	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L32131-07***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	08/09/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-1.0			%			08/24/16 0:00	calc
Sum of Anions			5.2			meq/L			08/24/16 0:00	calc
Sum of Cations			5.1			meq/L			08/24/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	08/11/16 14:43	spl
Conductivity @25C	SM2510B	1	1160		*	umhos/cm	1	10	08/09/16 18:12	emk
Fluoride	SM4500F-C	100		U	*	mg/L	5	30	08/10/16 14:19	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		11			mg/L	0.2	5	08/24/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	08/12/16 23:16	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	08/11/16 12:18	spl
pH (lab)	SM4500H+ B									
pH		1	2.6	H	*	units	0.1	0.1	08/09/16 0:00	emk
pH measured at		1	22.4			C	0.1	0.1	08/09/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.14		*	mg/L	0.02	0.05	08/10/16 15:17	bce
Residue, Filterable (TDS) @180C	SM2540C	1	396		*	mg/L	10	20	08/05/16 16:53	sck
Sulfate	D516-02/-07 - Turbidimetric	10	249		*	mg/L	10	50	08/10/16 10:26	spl
TDS (calculated)	Calculation		341			mg/L			08/24/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.16						08/24/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L32131-08***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								08/10/16 12:09	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.2	08/10/16 17:59	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0004	0.002	08/15/16 22:33	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0098			mg/L	0.0002	0.001	08/16/16 18:33	enb
Barium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.003	0.02	08/10/16 17:59	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	08/15/16 22:33	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	08/10/16 17:59	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 17:59	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	08/15/16 22:33	enb
Calcium, dissolved	M200.7 ICP	1	1.6			mg/L	0.1	0.5	08/10/16 17:59	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 17:59	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 17:59	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 17:59	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 17:59	gss
Iron, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.02	0.05	08/10/16 17:59	gss
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	08/15/16 22:33	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	08/10/16 17:59	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	08/10/16 17:59	gss
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	08/10/16 17:59	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	08/11/16 14:42	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	08/10/16 17:59	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	08/10/16 17:59	gss
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	08/10/16 17:59	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 17:59	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	08/15/16 22:33	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	08/11/16 18:01	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	08/10/16 17:59	gss
Strontium, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.005	0.03	08/10/16 17:59	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	08/15/16 22:33	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	08/10/16 17:59	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	08/10/16 17:59	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	08/15/16 22:33	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	08/10/16 17:59	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 17:59	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L32131-08***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	3.7	B		mg/L	2	20	08/09/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Total Alkalinity		1	3.7	B	*	mg/L	2	20	08/09/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			08/24/16 0:00	calc
Sum of Anions			0.161	B		meq/L			08/24/16 0:00	calc
Sum of Cations				U		meq/L			08/24/16 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	08/11/16 14:43	spl
Conductivity @25C	SM2510B	1	14.2		*	umhos/cm	1	10	08/09/16 18:21	emk
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	08/10/16 14:24	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4	B		mg/L	0.2	5	08/24/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	08/12/16 23:21	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	08/11/16 12:21	spl
pH (lab)	SM4500H+ B									
pH		1	7.0	H	*	units	0.1	0.1	08/09/16 0:00	emk
pH measured at		1	22.6			C	0.1	0.1	08/09/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	08/10/16 15:18	bce
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	08/05/16 16:56	sck
Sulfate	D516-02/-07 - Turbidimetric	1	3.5	B	*	mg/L	1	5	08/10/16 10:09	spl
TDS (calculated)	Calculation		7.9			mg/L			08/24/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						08/24/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L32131-09***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								08/10/16 12:18	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	08/10/16 18:02	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0004	0.002	08/15/16 22:42	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0002	0.001	08/15/16 22:42	enb
Barium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.003	0.02	08/10/16 18:02	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00012	B		mg/L	0.00005	0.0003	08/15/16 22:42	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	08/10/16 18:02	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 18:02	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	08/15/16 22:42	enb
Calcium, dissolved	M200.7 ICP	1	1.4			mg/L	0.1	0.5	08/10/16 18:02	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 18:02	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 18:02	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 18:02	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 18:02	gss
Iron, dissolved	M200.7 ICP	1	0.07			mg/L	0.02	0.05	08/10/16 18:02	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	08/15/16 22:42	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	08/10/16 18:02	gss
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	08/10/16 18:02	gss
Manganese, dissolved	M200.7 ICP	1	0.021	B		mg/L	0.005	0.03	08/10/16 18:02	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	08/11/16 14:48	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	08/10/16 18:02	gss
Nickel, dissolved	M200.7 ICP	1	0.185			mg/L	0.008	0.04	08/10/16 18:02	gss
Potassium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	08/10/16 18:02	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 18:02	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0020			mg/L	0.0001	0.0003	08/15/16 22:42	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	08/11/16 18:04	aeb
Sodium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	08/10/16 18:02	gss
Strontium, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.005	0.03	08/10/16 18:02	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	08/15/16 22:42	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	08/10/16 18:02	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	08/10/16 18:02	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	08/15/16 22:42	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	08/10/16 18:02	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 18:02	gss

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L32131-09***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	08/09/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			08/24/16 0:00	calc
Sum of Anions			0.149	B		meq/L			08/24/16 0:00	calc
Sum of Cations			0.127	B		meq/L			08/24/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	08/11/16 14:43	spl
Conductivity @25C	SM2510B	1	30.2		*	umhos/cm	1	10	08/09/16 18:27	emk
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	08/10/16 14:40	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4.7	B		mg/L	0.2	5	08/24/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	08/12/16 23:23	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	08/11/16 12:24	spl
pH (lab)	SM4500H+ B									
pH		1	4.9	H	*	units	0.1	0.1	08/09/16 0:00	emk
pH measured at		1	22.9			C	0.1	0.1	08/09/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	08/10/16 15:22	bce
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	08/05/16 16:58	sck
Sulfate	D516-02/-07 - Turbidimetric	1	7.1		*	mg/L	1	5	08/10/16 10:09	spl
TDS (calculated)	Calculation		9.8			mg/L			08/24/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						08/24/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L32131-10***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation				*				08/11/16 9:55	bce
Cyanide, WAD	SM4500-CN I- distillation				*				08/10/16 10:32	bce
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								08/10/16 12:26	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	6.47			mg/L	0.03	0.2	08/10/16 18:05	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	08/15/16 22:45	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0045			mg/L	0.0002	0.001	08/15/16 22:45	enb
Barium, dissolved	M200.7 ICP	1	0.047			mg/L	0.003	0.02	08/10/16 18:05	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00069			mg/L	0.00005	0.0003	08/15/16 22:45	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	08/10/16 18:05	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 18:05	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	08/15/16 22:45	enb
Calcium, dissolved	M200.7 ICP	1	0.9			mg/L	0.1	0.5	08/10/16 18:05	gss
Chromium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	08/10/16 18:05	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	08/10/16 18:05	gss
Copper, dissolved	M200.7 ICP	1	0.67			mg/L	0.01	0.05	08/10/16 18:05	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 18:05	gss
Iron, dissolved	M200.7 ICP	1	24.10			mg/L	0.02	0.05	08/10/16 18:05	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0019			mg/L	0.0001	0.0005	08/15/16 22:45	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	08/10/16 18:05	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	08/10/16 18:05	gss
Manganese, dissolved	M200.7 ICP	1	0.140			mg/L	0.005	0.03	08/10/16 18:05	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	08/11/16 14:50	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	08/10/16 18:05	gss
Nickel, dissolved	M200.7 ICP	1	0.023	B		mg/L	0.008	0.04	08/10/16 18:05	gss
Potassium, dissolved	M200.7 ICP	1	3.4			mg/L	0.2	1	08/10/16 18:05	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	08/10/16 18:05	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0037			mg/L	0.0001	0.0003	08/15/16 22:45	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	08/11/16 18:07	aeb
Sodium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	08/10/16 18:05	gss
Strontium, dissolved	M200.7 ICP	1	0.031			mg/L	0.005	0.03	08/10/16 18:05	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0001	0.0005	08/15/16 22:45	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	08/10/16 18:05	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	08/10/16 18:05	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0081			mg/L	0.0001	0.0005	08/15/16 22:45	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	08/10/16 18:05	gss
Zinc, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	08/10/16 18:05	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L32131-10***
Date Sampled: *08/03/16 00:00*
Date Received: *08/04/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	08/09/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	08/09/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			2.3			%			08/24/16 0:00	calc
Sum of Anions			2.1			meq/L			08/24/16 0:00	calc
Sum of Cations			2.2			meq/L			08/24/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	08/11/16 14:43	spl
Conductivity @25C	SM2510B	1	474		*	umhos/cm	1	10	08/09/16 18:31	emk
Cyanide, total	M335.4 - Colonmetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	08/11/16 23:03	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	08/10/16 23:49	pjb
Fluoride	SM4500F-C	1	0.11	B	*	mg/L	0.05	0.3	08/10/16 14:45	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.3	B		mg/L	0.2	5	08/24/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	08/12/16 23:24	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	08/11/16 12:25	spl
pH (lab)	SM4500H+ B									
pH		1	3.1	H	*	units	0.1	0.1	08/09/16 0:00	emk
pH measured at		1	22.8			C	0.1	0.1	08/09/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	08/10/16 15:30	bce
Residue, Filterable (TDS) @180C	SM2540C	1	228		*	mg/L	10	20	08/05/16 17:04	sck
Sulfate	D516-02/-07 - Turbidimetric	5	98.5		*	mg/L	5	25	08/10/16 10:43	spl
TDS (calculated)	Calculation		135			mg/L			08/24/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.69						08/24/16 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/cxtquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L32131***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407791													
WG407791PBW1	PBW	08/09/16 11:30				U	mg/L		-20	20			
WG407791LCSW3	LCSW	08/09/16 11:47	WC160728-1	820.0001		788	mg/L	96	90	110			
WG407791LCSW6	LCSW	08/09/16 14:42	WC160728-1	820.0001		807	mg/L	98	90	110			
WG407791PBW2	PBW	08/09/16 14:47				U	mg/L		-20	20			
L32131-01DUP	DUP	08/09/16 17:23			U	U	mg/L				0	20	RA
WG407791LCSW9	LCSW	08/09/16 17:40	WC160728-1	820.0001		809	mg/L	99	90	110			
WG407791PBW3	PBW	08/09/16 17:47				U	mg/L		-20	20			
L32141-01DUP	DUP	08/09/16 18:50			259	272	mg/L				5	20	
WG407791LCSW12	LCSW	08/09/16 20:40	WC160728-1	820.0001		814	mg/L	99	90	110			
WG407791PBW4	PBW	08/09/16 20:45				U	mg/L		-20	20			
WG407791LCSW15	LCSW	08/09/16 23:56	WC160728-1	820.0001		821	mg/L	100	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		2.071	mg/L	104	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.09	0.09			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	1.0013		1.046	mg/L	104	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	1.0013	6.37	7.138	mg/L	77	85	115			M3
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	1.0013	6.37	7.107	mg/L	74	85	115	0	20	M3
L32146-02AS	AS	08/10/16 18:15	II160802-3	1.0013	U	1.035	mg/L	103	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	1.0013	U	1.049	mg/L	105	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG408186													
WG408186ICV	ICV	08/15/16 21:24	MS160720-6	.02		.01919	mg/L	96	90	110			
WG408186ICB	ICB	08/15/16 21:27				.00053	mg/L		-0.0012	0.0012			
WG408186LFB	LFB	08/15/16 21:30	MS160729-2	.009980001		.00874	mg/L	88	85	115			
L31993-02AS	AS	08/15/16 21:40	MS160729-2	.009980001	U	.01171	mg/L	117	70	130			
L31993-02ASD	ASD	08/15/16 21:43	MS160729-2	.009980001	U	.01187	mg/L	119	70	130	1	20	
L32131-10AS	AS	08/15/16 22:48	MS160729-2	.009980001	U	.00951	mg/L	95	70	130			
L32131-10ASD	ASD	08/15/16 22:51	MS160729-2	.009980001	U	.00991	mg/L	99	70	130	4	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L32131***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG408186													
WG408186ICV	ICV	08/15/16 21:24	MS160720-6	.05		.05058	mg/L	101	90	110			
WG408186ICB	ICB	08/15/16 21:27				U	mg/L		-0.0006	0.0006			
WG408186LFB	LFB	08/15/16 21:30	MS160729-2	.0501		.04473	mg/L	89	85	115			
L31993-02AS	AS	08/15/16 21:40	MS160729-2	.0501	.0186	.07022	mg/L	103	70	130			
L31993-02ASD	ASD	08/15/16 21:43	MS160729-2	.0501	.0186	.06915	mg/L	101	70	130	2	20	
L32131-10AS	AS	08/15/16 22:48	MS160729-2	.0501	.0045	.0522	mg/L	95	70	130			
L32131-10ASD	ASD	08/15/16 22:51	MS160729-2	.0501	.0045	.0524	mg/L	96	70	130	0	20	
WG408266													
WG408266ICV	ICV	08/16/16 17:55	MS160720-6	.05		.05296	mg/L	106	90	110			
WG408266ICB	ICB	08/16/16 17:57				U	mg/L		-0.0006	0.0006			
WG408266LFB	LFB	08/16/16 18:00	MS160729-2	.0501		.04791	mg/L	96	85	115			
L32131-02AS	AS	08/16/16 18:08	MS160729-2	.0501	.0185	.0657	mg/L	94	70	130			
L32131-02ASD	ASD	08/16/16 18:11	MS160729-2	.0501	.0185	.06643	mg/L	96	70	130	1	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		2.0488	mg/L	102	95	105			
WG407903ICB	ICB	08/10/16 17:02				.0039	mg/L		-0.009	0.009			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	.5005		.4854	mg/L	97	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	.5005	.007	.4856	mg/L	96	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	.5005	.007	.4845	mg/L	95	85	115	0	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	.5005	.027	.509	mg/L	96	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	.5005	.027	.5128	mg/L	97	85	115	1	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG408186													
WG408186ICV	ICV	08/15/16 21:24	MS160720-6	.05		.05261	mg/L	105	90	110			
WG408186ICB	ICB	08/15/16 21:27				U	mg/L		-0.00015	0.00015			
WG408186LFB	LFB	08/15/16 21:30	MS160729-2	.0501		.04698	mg/L	94	85	115			
L32131-10AS	AS	08/15/16 22:48	MS160729-2	.0501	.00069	.04571	mg/L	90	70	130			
L32131-10ASD	ASD	08/15/16 22:51	MS160729-2	.0501	.00069	.04588	mg/L	90	70	130	0	20	
WG408266													
WG408266ICV	ICV	08/16/16 17:55	MS160720-6	.05		.04601	mg/L	92	90	110			
WG408266ICB	ICB	08/16/16 17:57				.000056	mg/L		-0.00015	0.00015			
WG408266LFB	LFB	08/16/16 18:00	MS160729-2	.0501		.04442	mg/L	89	85	115			
L32131-02AS	AS	08/16/16 18:08	MS160729-2	.0501	.00485	.0489	mg/L	88	70	130			
L32131-02ASD	ASD	08/16/16 18:11	MS160729-2	.0501	.00485	.04916	mg/L	88	70	130	1	20	
WG408460													
WG408460ICV	ICV	08/19/16 17:55	MS160720-6	.05		.04681	mg/L	94	90	110			
WG408460ICB	ICB	08/19/16 17:58				.000057	mg/L		-0.00015	0.00015			
WG408460LFB	LFB	08/19/16 18:01	MS160818-2	.0501		.04629	mg/L	92	85	115			
L32301-01AS	AS	08/19/16 18:20	MS160818-2	.0501	U	.04765	mg/L	95	70	130			
L32301-01ASD	ASD	08/19/16 18:23	MS160818-2	.0501	U	.04613	mg/L	92	70	130	3	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L32131***

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		2.027	mg/L	101	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.12	0.12			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	1		.941	mg/L	94	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	1	U	.975	mg/L	98	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	1	U	.953	mg/L	95	85	115	2	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	1	U	.99	mg/L	99	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	1	U	1.002	mg/L	100	85	115	1	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		2.052	mg/L	103	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.03	0.03			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	.5005		.48	mg/L	96	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	.5005	U	.488	mg/L	98	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	.5005	U	.48	mg/L	96	85	115	2	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	.5005	U	.481	mg/L	96	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	.5005	U	.494	mg/L	99	85	115	3	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG408186													
WG408186ICV	ICV	08/15/16 21:24	MS160720-6	.05		.04973	mg/L	99	90	110			
WG408186ICB	ICB	08/15/16 21:27				U	mg/L		-0.0003	0.0003			
WG408186LFB	LFB	08/15/16 21:30	MS160729-2	.05005		.04467	mg/L	89	85	115			
L31993-02AS	AS	08/15/16 21:40	MS160729-2	.05005	U	.04691	mg/L	94	70	130			
L31993-02ASD	ASD	08/15/16 21:43	MS160729-2	.05005	U	.04619	mg/L	92	70	130	2	20	
L32131-10AS	AS	08/15/16 22:48	MS160729-2	.05005	.0008	.04807	mg/L	94	70	130			
L32131-10ASD	ASD	08/15/16 22:51	MS160729-2	.05005	.0008	.04913	mg/L	97	70	130	2	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	100		102.33	mg/L	102	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.3	0.3			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	68.00716		67.14	mg/L	99	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	68.00716	5.4	72.47	mg/L	99	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	68.00716	5.4	72.04	mg/L	98	85	115	1	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	68.00716	19	84.94	mg/L	97	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	68.00716	19	84.87	mg/L	97	85	115	0	20	

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ACZ Project ID: ***L32131***

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG408018													
WG408018ICB	ICB	08/11/16 14:15				U	mg/L		-1.5	1.5			
WG408018ICV	ICV	08/11/16 14:15	WI160701-1	55.055		57.84	mg/L	105	90	110			
WG408018LFB1	LFB	08/11/16 14:42	WI160415-1	29.97		31.62	mg/L	106	90	110			
L32131-01AS	AS	08/11/16 14:42	WI160415-1	29.97	1.1	31.91	mg/L	103	90	110			
L32131-02DUP	DUP	08/11/16 14:42			.6	.56	mg/L				7	20	RA
WG408018LFB2	LFB	08/11/16 14:59	WI160415-1	29.97		32.95	mg/L	110	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		1.993	mg/L	100	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.03	0.03			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	.5005		.486	mg/L	97	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	.5005	.11	.586	mg/L	95	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	.5005	.11	.589	mg/L	96	85	115	1	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	.5005	U	.486	mg/L	97	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	.5005	U	.496	mg/L	99	85	115	2	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2.002		1.921	mg/L	96	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.03	0.03			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	.5015		.474	mg/L	95	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	.5015	.59	1.038	mg/L	89	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	.5015	.59	1.042	mg/L	90	85	115	0	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	.5015	U	.48	mg/L	96	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	.5015	U	.48	mg/L	96	85	115	0	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407791													
WG407791LCSW2	LCSW	08/09/16 11:35	PCN49502	1409		1540	umhos/cm	109	90	110			
WG407791LCSW5	LCSW	08/09/16 14:29	PCN49502	1409		1490	umhos/cm	106	90	110			
L32131-01DUP	DUP	08/09/16 17:23			304	313	umhos/cm				3	20	
WG407791LCSW8	LCSW	08/09/16 17:27	PCN49502	1409		1490	umhos/cm	106	90	110			
L32141-01DUP	DUP	08/09/16 18:50			3270	3200	umhos/cm				2	20	
WG407791LCSW11	LCSW	08/09/16 20:27	PCN49502	1409		1420	umhos/cm	101	90	110			
WG407791LCSW14	LCSW	08/09/16 23:44	PCN49502	1409		1440	umhos/cm	102	90	110			

McClelland Laboratories, Inc.

ACZ Project ID: ***L32131***

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		2.03	mg/L	102	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.03	0.03			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	.501		.482	mg/L	96	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	.501	.45	.893	mg/L	88	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	.501	.45	.898	mg/L	89	85	115	1	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	.501	U	.479	mg/L	96	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	.501	U	.487	mg/L	97	85	115	2	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG408037													
WG408037ICV	ICV	08/11/16 22:59	WI160801-8	.3003		.2873	mg/L	96	90	110			
WG408037ICB	ICB	08/11/16 23:00				U	mg/L		-0.003	0.003			
WG407962LRB	LRB	08/11/16 23:01				U	mg/L		-0.003	0.003			
WG407962LFB	LFB	08/11/16 23:02	WI160801-4	.2		.2028	mg/L	101	90	110			
L32156-01DUP	DUP	08/11/16 23:05			U	U	mg/L				0	20	RA
L32156-02LFM	LFM	08/11/16 23:07	WI160801-4	.2	.008	.1661	mg/L	79	90	110			M2

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407951													
WG407951ICV	ICV	08/10/16 23:36	WI160801-8	.3003		.2899	mg/L	97	90	110			
WG407951ICB	ICB	08/10/16 23:37				U	mg/L		-0.003	0.003			
WG407871LRB	LRB	08/10/16 23:38				U	mg/L		-0.003	0.003			
WG407871LFB	LFB	08/10/16 23:38	WI160801-6	.2002		.1986	mg/L	99	90	110			
L32106-01DUP	DUP	08/10/16 23:40			.004	U	mg/L				200	20	RA
L32106-02LFM	LFM	08/10/16 23:42	WI160801-6	.2002	U	.1681	mg/L	84	90	110			M2

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407904													
WG407904ICV	ICV	08/10/16 12:28	WC160728-2	2		1.898	mg/L	95	95	105			
WG407904ICB	ICB	08/10/16 12:32				U	mg/L		-0.15	0.15			
WG407904LFB1	LFB	08/10/16 12:40	WC160419-8	4.995		4.84	mg/L	97	90	110			
L31995-02AS	AS	08/10/16 12:47	WC160419-8	4.995	.55	5.24	mg/L	94	90	110			
L31995-02DUP	DUP	08/10/16 12:51			.55	.511	mg/L				7	20	
L32131-04AS	AS	08/10/16 14:03	WC160419-8	499.5	U	397.6	mg/L	80	90	110			M2
L32131-04DUP	DUP	08/10/16 14:07			U	6.6	mg/L				200	20	RA
WG407904LFB2	LFB	08/10/16 15:10	WC160419-8	4.995		4.683	mg/L	94	90	110			

McClelland Laboratories, Inc. ACZ Project ID: ***L32131***

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		2	mg/L	100	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.3	0.3			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	1		.89	mg/L	89	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	1	U	.91	mg/L	91	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	1	U	.91	mg/L	91	85	115	0	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	1	U	.97	mg/L	97	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	1	U	.88	mg/L	88	85	115	10	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		2.032	mg/L	102	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.06	0.06			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	1.0017		.971	mg/L	97	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	1.0017	36.5	35.14	mg/L	-136	85	115			M3
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	1.0017	36.5	35.08	mg/L	-142	85	115	0	20	M3
L32146-02AS	AS	08/10/16 18:15	II160802-3	1.0017	U	.984	mg/L	98	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	1.0017	U	.978	mg/L	98	85	115	1	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG408186													
WG408186ICV	ICV	08/15/16 21:24	MS160720-6	.05		.05288	mg/L	106	90	110			
WG408186ICB	ICB	08/15/16 21:27				U	mg/L		-0.0003	0.0003			
WG408186LFB	LFB	08/15/16 21:30	MS160729-2	.05005		.04663	mg/L	93	85	115			
L31993-02AS	AS	08/15/16 21:40	MS160729-2	.05005	.0001	.04958	mg/L	99	70	130			
L31993-02ASD	ASD	08/15/16 21:43	MS160729-2	.05005	.0001	.04892	mg/L	98	70	130	1	20	
L32131-10AS	AS	08/15/16 22:48	MS160729-2	.05005	.0019	.05011	mg/L	96	70	130			
L32131-10ASD	ASD	08/15/16 22:51	MS160729-2	.05005	.0019	.05094	mg/L	98	70	130	2	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		2.045	mg/L	102	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.024	0.024			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	1.002		.9507	mg/L	95	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	1.002	.033	.9793	mg/L	94	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	1.002	.033	.9764	mg/L	94	85	115	0	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	1.002	U	.9612	mg/L	96	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	1.002	U	.9542	mg/L	95	85	115	1	20	

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ACZ Project ID: ***L32131***

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	100		101.1	mg/L	101	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.6	0.6			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	50.00491		45.39	mg/L	91	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	50.00491	.5	46.09	mg/L	91	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	50.00491	.5	45.6	mg/L	90	85	115	1	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	50.00491	1.1	46.41	mg/L	91	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	50.00491	1.1	46.2	mg/L	90	85	115	0	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		2.0102	mg/L	101	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.015	0.015			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	.5		.5029	mg/L	101	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	.5	3.51	3.79	mg/L	56	85	115			M3
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	.5	3.51	3.784	mg/L	55	85	115	0	20	M3
L32146-02AS	AS	08/10/16 18:15	II160802-3	.5	.013	.5153	mg/L	100	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	.5	.013	.5179	mg/L	101	85	115	1	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407866													
WG407866ICV	ICV	08/11/16 10:18	HG160805-4	.005		.00492	mg/L	98	95	105			
WG407866ICB	ICB	08/11/16 10:20				U	mg/L		-0.0002	0.0002			
WG407954													
WG407954LRB	LRB	08/11/16 14:09				.00034	mg/L		-0.00044	0.00044			
WG407954LFB	LFB	08/11/16 14:11	HG160805-2	.002002		.00196	mg/L	98	85	115			
L31996-02LFM	LFM	08/11/16 14:18	HG160805-2	.002002	.0003	.00146	mg/L	58	85	115			M2
L31996-02LFMD	LFMD	08/11/16 14:20	HG160805-2	.002002	.0003	.00163	mg/L	66	85	115	11	20	M2
L32131-08LFM	LFM	08/11/16 14:44	HG160805-2	.002002	U	.00177	mg/L	88	85	115			
L32131-08LFMD	LFMD	08/11/16 14:46	HG160805-2	.002002	U	.00194	mg/L	97	85	115	9	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		2.083	mg/L	104	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.06	0.06			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	.4995		.497	mg/L	99	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	.4995	U	.495	mg/L	99	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	.4995	U	.492	mg/L	98	85	115	1	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	.4995	U	.497	mg/L	99	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	.4995	U	.497	mg/L	99	85	115	0	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		1.99	mg/L	100	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.024	0.024			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	.501		.4886	mg/L	98	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	.501	.161	.6322	mg/L	94	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	.501	.161	.6445	mg/L	97	85	115	2	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	.501	U	.4846	mg/L	97	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	.501	U	.4864	mg/L	97	85	115	0	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG408105													
WG408105ICV	ICV	08/12/16 20:43	WI160607-11	2.416		2.43	mg/L	101	90	110			
WG408105ICB	ICB	08/12/16 20:44				U	mg/L		-0.02	0.02			
WG408108													
WG408108LFB	LFB	08/12/16 23:04	WI160616-3	2		1.946	mg/L	97	90	110			
L32131-01AS	AS	08/12/16 23:07	WI160616-3	2	U	2.04	mg/L	102	90	110			
L32131-02DUP	DUP	08/12/16 23:10			.03	.027	mg/L				11	20	RA

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407983													
WG407983ICV	ICV	08/11/16 11:53	WI160705-8	11.988		12.39	mg/L	103	90	110			
WG407983ICB	ICB	08/11/16 11:55				U	mg/L		-0.05	0.05			
WG407983LFB1	LFB	08/11/16 11:56	WI160121-1	10		10.254	mg/L	103	90	110			
L32045-01AS	AS	08/11/16 11:59	WI160121-1	10	U	10.404	mg/L	104	90	110			
L32045-03DUP	DUP	08/11/16 12:02			1.76	1.736	mg/L				1	20	
L32131-07AS	AS	08/11/16 12:19	WI160121-1	10	U	9.912	mg/L	99	90	110			
L32131-08DUP	DUP	08/11/16 12:22			U	U	mg/L				0	20	RA
WG407983LFB2	LFB	08/11/16 12:38	WI160121-1	10		10.522	mg/L	105	90	110			
WG408162													
WG408162ICV	ICV	08/15/16 13:45	WI160705-8	11.988		12.349	mg/L	103	90	110			
WG408162ICB	ICB	08/15/16 13:46				U	mg/L		-0.05	0.05			
WG408162LFB1	LFB	08/15/16 13:48	WI160121-1	10		10.044	mg/L	100	90	110			
L32056-01AS	AS	08/15/16 13:51	WI160121-1	10	U	10.177	mg/L	102	90	110			
L32131-01DUP	DUP	08/15/16 13:54			U	U	mg/L				0	20	RA
WG408162LFB2	LFB	08/15/16 14:30	WI160121-1	10		10.332	mg/L	103	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407791													
WG407791LCSW1	LCSW	08/09/16 11:33	PCN49792	5.99		6	units	100	5.9	6.1			
WG407791LCSW4	LCSW	08/09/16 14:28	PCN49792	5.99		6	units	100	5.9	6.1			
L32131-01DUP	DUP	08/09/16 17:23			3.2	3.2	units				0	20	
WG407791LCSW7	LCSW	08/09/16 17:26	PCN49792	5.99		6	units	100	5.9	6.1			
L32141-01DUP	DUP	08/09/16 18:50			8.3	8.3	units				0	20	
WG407791LCSW10	LCSW	08/09/16 20:26	PCN49792	5.99		6	units	100	5.9	6.1			
WG407791LCSW13	LCSW	08/09/16 23:42	PCN49792	5.99		6	units	100	5.9	6.1			

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ACZ Project ID: ***L32131***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407852													
WG407852ICV	ICV	08/10/16 13:54	WI160629-4	.65228		.66	mg/L	101	90	110			
WG407852ICB	ICB	08/10/16 13:56				U	mg/L		-0.02	0.02			
WG407931													
WG407882LRB	LRB	08/10/16 14:55				U	mg/L		-0.02	0.02			
WG407882LFB	LFB	08/10/16 14:56	WI160805-2	.5		.496	mg/L	99	90	110			
L32111-01LFM	LFM	08/10/16 14:59	WI160805-2	.5	.04	.537	mg/L	99	90	110			
L32111-02DUP	DUP	08/10/16 15:01			.04	.044	mg/L				10	20	RA
L32131-05LFM	LFM	08/10/16 15:14	WI160805-2	.5	U	.52	mg/L	104	90	110			
L32131-06DUP	DUP	08/10/16 15:16			U	U	mg/L				0	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	20		20.42	mg/L	102	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.6	0.6			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	99.99679		96.6	mg/L	97	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	99.99679	1.7	98.17	mg/L	96	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	99.99679	1.7	97.12	mg/L	95	85	115	1	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	99.99679	.4	97.08	mg/L	97	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	99.99679	.4	96.87	mg/L	96	85	115	0	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407743													
WG407743PBW	PBW	08/05/16 16:30				U	mg/L		-20	20			
WG407743LCSW	LCSW	08/05/16 16:32	PCN51167	260		256	mg/L	98	80	120			
L32131-09DUP	DUP	08/05/16 17:01			U	U	mg/L				0	10	RA
L32162-01DUP	DUP	08/05/16 17:30			190	192	mg/L				1	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		2.05	mg/L	103	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.3	0.3			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	1.0009		1.01	mg/L	101	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	1.0009	U	.99	mg/L	99	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	1.0009	U	.99	mg/L	99	85	115	0	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	1.0009	U	1	mg/L	100	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	1.0009	U	.99	mg/L	99	85	115	1	20	

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ACZ Project ID: ***L32131***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG408186													
WG408186ICV	ICV	08/15/16 21:24	MS160720-6	.05		.04941	mg/L	99	90	110			
WG408186ICB	ICB	08/15/16 21:27				U	mg/L		-0.0003	0.0003			
WG408186LFB	LFB	08/15/16 21:30	MS160729-2	.0501		.04483	mg/L	89	85	115			
L31993-02AS	AS	08/15/16 21:40	MS160729-2	.0501	.0019	.05136	mg/L	99	70	130			
L31993-02ASD	ASD	08/15/16 21:43	MS160729-2	.0501	.0019	.04932	mg/L	95	70	130	4	20	
L32131-10AS	AS	08/15/16 22:48	MS160729-2	.0501	.0037	.05154	mg/L	95	70	130			
L32131-10ASD	ASD	08/15/16 22:51	MS160729-2	.0501	.0037	.05164	mg/L	96	70	130	0	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407991													
WG407991ICV	ICV	08/11/16 17:07	II160720-1	1.001		1.018	mg/L	102	95	105			
WG407991ICB	ICB	08/11/16 17:13				U	mg/L		-0.03	0.03			
WG407991LFB	LFB	08/11/16 17:25	II160802-3	.501		.477	mg/L	95	85	115			
L32131-02AS	AS	08/11/16 17:34	II160802-3	.501	U	.247	mg/L	49	85	115			M2 ZA
L32131-02ASD	ASD	08/11/16 17:37	II160802-3	.501	U	.247	mg/L	49	85	115	0	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	100		101.7	mg/L	102	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.6	0.6			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	100.0149		95.69	mg/L	96	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	100.0149	.8	96.76	mg/L	96	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	100.0149	.8	95.75	mg/L	95	85	115	1	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	100.0149	.6	96.12	mg/L	96	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	100.0149	.6	95.92	mg/L	95	85	115	0	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		1.995	mg/L	100	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.015	0.015			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	.501		.5024	mg/L	100	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	.501	.101	.5956	mg/L	99	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	.501	.101	.5908	mg/L	98	85	115	1	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	.501	.186	.676	mg/L	98	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	.501	.186	.6753	mg/L	98	85	115	0	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407885													
WG407885ICB	ICB	08/10/16 10:00				U	mg/L		-3	3			
WG407885ICV	ICV	08/10/16 10:00	WI160727-5	20		19	mg/L	95	90	110			
WG407885LFB	LFB	08/10/16 10:08	WI160201-3	10.01		9.6	mg/L	96	90	110			
L32131-01AS	AS	08/10/16 10:15	SO4TURB5X	10	60	71.4	mg/L	114	90	110			M3
L31902-12DUP	DUP	08/10/16 10:24			4780	4750	mg/L				1	20	
L32131-10DUP	DUP	08/10/16 10:43			98.5	107	mg/L				8	20	
L32146-05AS	AS	08/10/16 10:44	SO4TURB20X	10	481	507	mg/L	260	90	110			M3
WG408620													
WG408620ICB	ICB	08/23/16 9:36				U	mg/L		-3	3			
WG408620ICV	ICV	08/23/16 9:36	WI160815-10	20		19.7	mg/L	99	90	110			
WG408620LFB	LFB	08/23/16 11:16	WI160815-8	10		9.4	mg/L	94	90	110			
L32287-01AS	AS	08/23/16 11:25	SO4TURB5X	10	40.4	51.2	mg/L	108	90	110			
L32286-01DUP	DUP	08/23/16 11:33			592	585	mg/L				1	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG408186													
WG408186ICV	ICV	08/15/16 21:24	MS160720-6	.05		.05311	mg/L	106	90	110			
WG408186ICB	ICB	08/15/16 21:27				U	mg/L		-0.0003	0.0003			
WG408186LFB	LFB	08/15/16 21:30	MS160729-2	.0501		.04698	mg/L	94	85	115			
L31993-02AS	AS	08/15/16 21:40	MS160729-2	.0501	U	.05051	mg/L	101	70	130			
L31993-02ASD	ASD	08/15/16 21:43	MS160729-2	.0501	U	.04962	mg/L	99	70	130	2	20	
L32131-10AS	AS	08/15/16 22:48	MS160729-2	.0501	.0025	.0514	mg/L	98	70	130			
L32131-10ASD	ASD	08/15/16 22:51	MS160729-2	.0501	.0025	.05254	mg/L	100	70	130	2	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		2.037	mg/L	102	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.12	0.12			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	1.001		.946	mg/L	95	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	1.001	U	.956	mg/L	96	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	1.001	U	.977	mg/L	98	85	115	2	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	1.001	U	.962	mg/L	96	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	1.001	U	.963	mg/L	96	85	115	0	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		1.985	mg/L	99	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.015	0.015			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	1.001		.9558	mg/L	95	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	1.001	U	.9491	mg/L	95	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	1.001	U	.9519	mg/L	95	85	115	0	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	1.001	U	.9642	mg/L	96	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	1.001	U	.9572	mg/L	96	85	115	1	20	

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ACZ Project ID: ***L32131***

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG408186													
WG408186ICV	ICV	08/15/16 21:24	MS160720-6	.05		.05222	mg/L	104	90	110			
WG408186ICB	ICB	08/15/16 21:27				U	mg/L		-0.0003	0.0003			
WG408186LFB	LFB	08/15/16 21:30	MS160729-2	.05		.04597	mg/L	92	85	115			
L31993-02AS	AS	08/15/16 21:40	MS160729-2	.05	.0043	.05461	mg/L	101	70	130			
L31993-02ASD	ASD	08/15/16 21:43	MS160729-2	.05	.0043	.05434	mg/L	100	70	130	0	20	
L32131-10AS	AS	08/15/16 22:48	MS160729-2	.05	.0081	.05499	mg/L	94	70	130			
L32131-10ASD	ASD	08/15/16 22:51	MS160729-2	.05	.0081	.05568	mg/L	95	70	130	1	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		2.0522	mg/L	103	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.015	0.015			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	.501		.4935	mg/L	99	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	.501	U	.4929	mg/L	98	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	.501	U	.4933	mg/L	98	85	115	0	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	.501	U	.4932	mg/L	98	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	.501	U	.4894	mg/L	98	85	115	1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG407903													
WG407903ICV	ICV	08/10/16 16:56	II160720-1	2		1.993	mg/L	100	95	105			
WG407903ICB	ICB	08/10/16 17:02				U	mg/L		-0.03	0.03			
WG407903LFB	LFB	08/10/16 17:15	II160802-3	.4995		.498	mg/L	100	85	115			
L32131-02AS	AS	08/10/16 17:30	II160802-3	.4995	.33	.785	mg/L	91	85	115			
L32131-02ASD	ASD	08/10/16 17:34	II160802-3	.4995	.33	.785	mg/L	91	85	115	0	20	
L32146-02AS	AS	08/10/16 18:15	II160802-3	.4995	.69	1.13	mg/L	88	85	115			
L32146-02ASD	ASD	08/10/16 18:18	II160802-3	.4995	.69	1.13	mg/L	88	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L32131***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32131-01	WG407903	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407954	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407991	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG408018	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG408108	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG408162	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407931	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407743	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407885	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407791	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc. ACZ Project ID: ***L32131***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32131-02	WG407903	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407954	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407991	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG408018	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407904	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
	WG408108	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407931	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407743	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407885	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407791	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32131-03	WG407903	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407954	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407991	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG408018	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407904	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
	WG408108	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407931	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407743	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407885	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407791	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L32131***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32131-04	WG407903	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407954	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407991	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG408018	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407904	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	DJ	Sample dilution required due to insufficient sample.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG408108	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407931	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407743	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L32131***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32131-05	WG407903	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407954	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407991	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG408018	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407904	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG408108	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407931	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407743	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407885	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407791	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc.

ACZ Project ID: ***L32131***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32131-06	WG407903	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407954	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407991	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG408018	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407904	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG408108	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407931	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407743	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407885	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407791	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L32131***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32131-07	WG407903	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407991	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG408018	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407904	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG408108	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407983	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407931	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407743	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407885	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407791	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

McClelland Laboratories, Inc. ACZ Project ID: ***L32131***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32131-08	WG407903	Aluminum, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG408186	Beryllium, dissolved	M200.8 ICP-MS	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
	WG407903	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407991	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG408018	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407904	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG408108	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407983	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407931	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407743	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407885	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407791	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32131-09	WG407991	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG408018	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407904	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG408108	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407983	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407931	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407743	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407885	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407791	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L32131***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32131-10	WG407962	Cyanide, total	M335.4 - Manual Distillation	Q3	Sample received with improper or inadequate chemical preservation.
	WG407871	Cyanide, WAD	SM4500-CN I- distillation	Q3	Sample received with improper or inadequate chemical preservation.
	WG407991	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG408018	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG408037	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407951	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407904	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG408108	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407983	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407791	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407931	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG407743	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG407885	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG407791	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
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Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L32131
Date Received: 08/04/2016 09:51
Received By: kmo
Date Printed: 8/4/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA24466	1	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

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Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L32131
Date Received:	08/04/2016 09:51
Received By:	kmo
Date Printed:	8/4/2016

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L32131

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	8/3/16	WW	1	x							
CAL-004 (860-875)		WW	1	x							
CAL-003 (675-685)		WW	1	x							
GMC-012 (832-851)		WW	1	x							
CAL-004 (295-315)		WW	1	x							
CAL-001 (750-762)		WW	1	x							
GMC-014 (176-184)		WW	1	x							
CAL-001 (380-400)		WW	1	x							
CAL-002 (177-187)		WW	1	x							
Calico Leach Res. after CN Destruct		WW	1	x	x	x					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 36
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	8/3/16 9AM	DOP	8/4/16 9:50

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L32131 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

Gray Out Analyses DOESN'T get done on all Samples, Just 1 of the Sample SEE COC

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

September 16, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L32682

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on September 01, 2016. This project has been assigned to ACZ's project number, L32682. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L32682. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after October 16, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L32682-01***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								09/06/16 13:36	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	2.79			mg/L	0.03	0.2	09/07/16 17:29	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0203			mg/L	0.0004	0.002	09/12/16 21:43	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0743			mg/L	0.0002	0.001	09/12/16 21:43	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	09/08/16 10:34	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00032			mg/L	0.00005	0.0003	09/13/16 16:59	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	09/07/16 17:29	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 17:29	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	09/12/16 21:43	mfm
Calcium, dissolved	M200.7 ICP	1	1.1			mg/L	0.1	0.5	09/07/16 17:29	gss
Chromium, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	09/07/16 17:29	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 17:29	gss
Copper, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	09/07/16 17:29	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 17:29	gss
Iron, dissolved	M200.7 ICP	1	17.70		*	mg/L	0.02	0.05	09/08/16 10:34	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	09/12/16 21:43	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	09/07/16 17:29	gss
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	09/07/16 17:29	gss
Manganese, dissolved	M200.7 ICP	1	0.018	B		mg/L	0.005	0.03	09/07/16 17:29	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	09/14/16 15:55	scp
Mercury, total	M1631, Atomic Fluorescence	5	48		*	ng/L	1	3	09/16/16 9:04	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	09/07/16 17:29	gss
Nickel, dissolved	M200.7 ICP	1	0.058			mg/L	0.008	0.04	09/07/16 17:29	gss
Potassium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	09/07/16 17:29	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 17:29	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0003	09/12/16 21:43	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	09/07/16 17:29	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	09/07/16 17:29	gss
Strontium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	09/07/16 17:29	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0061			mg/L	0.0001	0.0005	09/12/16 21:43	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	09/07/16 17:29	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	09/07/16 17:29	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0001	0.0005	09/12/16 21:43	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	09/07/16 17:29	gss
Zinc, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	09/07/16 17:29	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L32682-01***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.4			%			09/16/16 0:00	calc
Sum of Anions			1.5			meq/L			09/16/16 0:00	calc
Sum of Cations			1.4			meq/L			09/16/16 0:00	calc
Chloride	SM4500Cl-E	1	1	B		mg/L	0.5	2	09/08/16 13:36	spl
Conductivity @25C	SM2510B	1	402		*	umhos/cm	1	10	09/03/16 14:29	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	09/08/16 14:02	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4	B		mg/L	0.2	5	09/16/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	09/09/16 23:14	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	09/12/16 13:11	spl
pH (lab)	SM4500H+ B									
pH		1	3.1	H	*	units	0.1	0.1	09/01/16 0:00	sck
pH measured at		1	22.5			C	0.1	0.1	09/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.02	0.05	09/08/16 23:45	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	106		*	mg/L	10	20	09/02/16 13:07	emk
Sulfate	D516-02/-07 - Turbidimetric	5	68.7		*	mg/L	5	25	09/12/16 11:10	krh
TDS (calculated)	Calculation		92.3			mg/L			09/16/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.15						09/16/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L32682-02***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								09/06/16 13:44	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	4.02			mg/L	0.03	0.2	09/07/16 17:32	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0016	B		mg/L	0.0004	0.002	09/12/16 21:46	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0122			mg/L	0.0002	0.001	09/12/16 21:46	mfm
Barium, dissolved	M200.7 ICP	1	0.061			mg/L	0.003	0.02	09/08/16 10:37	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00263			mg/L	0.00005	0.0003	09/13/16 17:02	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	09/07/16 17:32	gss
Boron, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	09/07/16 17:32	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	09/12/16 21:46	mfm
Calcium, dissolved	M200.7 ICP	1	2.3			mg/L	0.1	0.5	09/07/16 17:32	gss
Chromium, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	09/07/16 17:32	gss
Cobalt, dissolved	M200.7 ICP	1	0.24			mg/L	0.01	0.05	09/07/16 17:32	gss
Copper, dissolved	M200.7 ICP	1	0.23			mg/L	0.01	0.05	09/07/16 17:32	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 17:32	gss
Iron, dissolved	M200.7 ICP	1	17.30		*	mg/L	0.02	0.05	09/08/16 10:37	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	09/12/16 21:46	mfm
Lithium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.008	0.04	09/07/16 17:32	gss
Magnesium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	09/07/16 17:32	gss
Manganese, dissolved	M200.7 ICP	1	1.450			mg/L	0.005	0.03	09/07/16 17:32	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	09/14/16 15:56	scp
Mercury, total	M1631, Atomic Fluorescence	10	91		*	ng/L	2	5	09/16/16 9:08	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	09/07/16 17:32	gss
Nickel, dissolved	M200.7 ICP	1	0.070			mg/L	0.008	0.04	09/07/16 17:32	gss
Potassium, dissolved	M200.7 ICP	1	1.6			mg/L	0.2	1	09/07/16 17:32	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 17:32	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0003	09/12/16 21:46	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	09/07/16 17:32	gss
Sodium, dissolved	M200.7 ICP	1	3.1			mg/L	0.2	1	09/07/16 17:32	gss
Strontium, dissolved	M200.7 ICP	1	0.049			mg/L	0.005	0.03	09/07/16 17:32	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0001	0.0005	09/12/16 21:46	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	09/07/16 17:32	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	09/07/16 17:32	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0103			mg/L	0.0001	0.0005	09/12/16 21:46	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	09/07/16 17:32	gss
Zinc, dissolved	M200.7 ICP	1	0.25			mg/L	0.01	0.05	09/07/16 17:32	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L32682-02***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-26.5			%			09/16/16 0:00	calc
Sum of Anions			3.1			meq/L			09/16/16 0:00	calc
Sum of Cations			1.8			meq/L			09/16/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	09/08/16 13:36	spl
Conductivity @25C	SM2510B	1	782		*	umhos/cm	1	10	09/03/16 14:31	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	09/08/16 14:19	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		7.4			mg/L	0.2	5	09/16/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	09/09/16 23:15	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.06	B	*	mg/L	0.05	0.2	09/12/16 14:16	spl
pH (lab)	SM4500H+ B									
pH		1	2.8	H	*	units	0.1	0.1	09/01/16 0:00	sck
pH measured at		1	22.8			C	0.1	0.1	09/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	09/08/16 23:46	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	174		*	mg/L	10	20	09/02/16 13:10	emk
Sulfate	D516-02/-07 - Turbidimetric	5	145		*	mg/L	5	25	09/12/16 11:38	krh
TDS (calculated)	Calculation		176			mg/L			09/16/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.99						09/16/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L32682-03***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								09/06/16 13:52	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	2	34.50			mg/L	0.06	0.3	09/07/16 17:40	gss
Antimony, dissolved	M200.8 ICP-MS	2	0.0044			mg/L	0.0008	0.004	09/12/16 21:49	mfm
Arsenic, dissolved	M200.8 ICP-MS	50	5.16			mg/L	0.01	0.05	09/13/16 17:05	enb
Barium, dissolved	M200.7 ICP	2		U		mg/L	0.006	0.03	09/08/16 10:46	gss
Beryllium, dissolved	M200.8 ICP-MS	50	0.005	B		mg/L	0.003	0.01	09/13/16 17:05	enb
Bismuth, dissolved	M200.7 ICP	2		U	*	mg/L	0.08	0.4	09/07/16 17:40	gss
Boron, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	09/07/16 17:40	gss
Cadmium, dissolved	M200.8 ICP-MS	2	0.0038			mg/L	0.0002	0.001	09/12/16 21:49	mfm
Calcium, dissolved	M200.7 ICP	2	54.2			mg/L	0.2	1	09/07/16 17:40	gss
Chromium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	09/07/16 17:40	gss
Cobalt, dissolved	M200.7 ICP	2	0.37			mg/L	0.02	0.1	09/07/16 17:40	gss
Copper, dissolved	M200.7 ICP	2	0.91			mg/L	0.02	0.1	09/07/16 17:40	gss
Gallium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	09/07/16 17:40	gss
Iron, dissolved	M200.7 ICP	2	749		*	mg/L	0.04	0.1	09/08/16 10:46	gss
Lead, dissolved	M200.8 ICP-MS	2	0.0007	B		mg/L	0.0002	0.001	09/12/16 21:49	mfm
Lithium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.08	09/07/16 17:40	gss
Magnesium, dissolved	M200.7 ICP	2	7			mg/L	0.4	2	09/07/16 17:40	gss
Manganese, dissolved	M200.7 ICP	2	0.44			mg/L	0.01	0.05	09/07/16 17:40	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	09/14/16 15:57	scp
Mercury, total	M1631, Atomic Fluorescence	20	296		*	ng/L	4	10	09/16/16 9:13	mfm
Molybdenum, dissolved	M200.7 ICP	2	0.41			mg/L	0.04	0.2	09/07/16 17:40	gss
Nickel, dissolved	M200.7 ICP	2	0.36			mg/L	0.02	0.08	09/07/16 17:40	gss
Potassium, dissolved	M200.7 ICP	2		U		mg/L	0.4	2	09/07/16 17:40	gss
Scandium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	09/07/16 17:40	gss
Selenium, dissolved	M200.8 ICP-MS	2	0.0127			mg/L	0.0002	0.0005	09/12/16 21:49	mfm
Silver, dissolved	M200.7 ICP	2	0.02	B	*	mg/L	0.02	0.05	09/07/16 17:40	gss
Sodium, dissolved	M200.7 ICP	2		U		mg/L	0.4	2	09/07/16 17:40	gss
Strontium, dissolved	M200.7 ICP	2	0.35			mg/L	0.01	0.05	09/07/16 17:40	gss
Thallium, dissolved	M200.8 ICP-MS	2	0.0006	B		mg/L	0.0002	0.001	09/12/16 21:49	mfm
Tin, dissolved	M200.7 ICP	2		U		mg/L	0.08	0.4	09/07/16 17:40	gss
Titanium, dissolved	M200.7 ICP	2		U	*	mg/L	0.01	0.05	09/07/16 17:40	gss
Uranium, dissolved	M200.8 ICP-MS	2	0.0081			mg/L	0.0002	0.001	09/12/16 21:49	mfm
Vanadium, dissolved	M200.7 ICP	2	0.02	B		mg/L	0.01	0.05	09/07/16 17:40	gss
Zinc, dissolved	M200.7 ICP	2	0.61			mg/L	0.02	0.1	09/07/16 17:40	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L32682-03***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-1.1			%			09/16/16 0:00	calc
Sum of Anions			48			meq/L			09/16/16 0:00	calc
Sum of Cations			47			meq/L			09/16/16 0:00	calc
Chloride	SM4500Cl-E	1	0.7	B		mg/L	0.5	2	09/08/16 13:36	spl
Conductivity @25C	SM2510B	1	4840		*	umhos/cm	1	10	09/03/16 14:32	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	09/08/16 14:24	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		164			mg/L	0.5	10	09/16/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	09/09/16 23:16	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.10	B	*	mg/L	0.05	0.2	09/12/16 14:17	spl
pH (lab)	SM4500H+ B									
pH		1	2.1	H	*	units	0.1	0.1	09/01/16 0:00	sck
pH measured at		1	23.2			C	0.1	0.1	09/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	10	3.7		*	mg/L	0.2	0.5	09/09/16 0:03	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	3490		*	mg/L	10	20	09/02/16 13:13	emk
Sulfate	D516-02/-07 - Turbidimetric	100	2270		*	mg/L	100	500	09/12/16 11:54	krh
TDS (calculated)	Calculation		3120			mg/L			09/16/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.12						09/16/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L32682-04***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								09/06/16 14:00	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	6.22			mg/L	0.03	0.2	09/07/16 17:43	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0004	0.002	09/12/16 21:52	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0717			mg/L	0.0002	0.001	09/12/16 21:52	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	09/08/16 10:49	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00063			mg/L	0.00005	0.0003	09/13/16 17:08	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	09/07/16 17:43	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 17:43	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	09/12/16 21:52	mfm
Calcium, dissolved	M200.7 ICP	1	0.5			mg/L	0.1	0.5	09/07/16 17:43	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 17:43	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	09/07/16 17:43	gss
Copper, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	09/07/16 17:43	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 17:43	gss
Iron, dissolved	M200.7 ICP	1	54.40		*	mg/L	0.02	0.05	09/08/16 10:49	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0005	09/12/16 21:52	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	09/07/16 17:43	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	09/07/16 17:43	gss
Manganese, dissolved	M200.7 ICP	1	0.152			mg/L	0.005	0.03	09/07/16 17:43	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	09/14/16 15:58	scp
Mercury, total	M1631, Atomic Fluorescence	10	147		*	ng/L	2	5	09/16/16 9:18	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	09/07/16 17:43	gss
Nickel, dissolved	M200.7 ICP	1	0.040			mg/L	0.008	0.04	09/07/16 17:43	gss
Potassium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	09/07/16 17:43	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 17:43	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	09/12/16 21:52	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	09/07/16 17:43	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	09/07/16 17:43	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	09/07/16 17:43	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	09/12/16 21:52	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	09/07/16 17:43	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	09/07/16 17:43	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0128			mg/L	0.0001	0.0005	09/12/16 21:52	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	09/07/16 17:43	gss
Zinc, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	09/07/16 17:43	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L32682-04***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-27.3			%			09/16/16 0:00	calc
Sum of Anions			6.3			meq/L			09/16/16 0:00	calc
Sum of Cations			3.6			meq/L			09/16/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	09/08/16 13:36	spl
Conductivity @25C	SM2510B	1	1650		*	umhos/cm	1	10	09/03/16 14:34	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	09/08/16 14:30	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.3	B		mg/L	0.2	5	09/16/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	09/09/16 23:18	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.13	B	*	mg/L	0.05	0.2	09/12/16 13:15	spl
pH (lab)	SM4500H+ B									
pH		1	2.5	H	*	units	0.1	0.1	09/01/16 0:00	sck
pH measured at		1	23.5			C	0.1	0.1	09/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.07		*	mg/L	0.02	0.05	09/08/16 23:48	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	290		*	mg/L	10	20	09/02/16 13:15	emk
Sulfate	D516-02/-07 - Turbidimetric	10	298		*	mg/L	10	50	09/12/16 11:55	krh
TDS (calculated)	Calculation		360			mg/L			09/16/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.81						09/16/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L32682-05***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								09/08/16 15:44	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.05			mg/L	0.03	0.2	09/07/16 17:46	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0004	0.002	09/12/16 21:55	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0118			mg/L	0.0002	0.001	09/12/16 21:55	mfm
Barium, dissolved	M200.7 ICP	1	0.019	B		mg/L	0.003	0.02	09/08/16 10:52	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00184			mg/L	0.00005	0.0003	09/13/16 17:11	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	09/07/16 17:46	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 17:46	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0005	09/12/16 21:55	mfm
Calcium, dissolved	M200.7 ICP	1	12.7			mg/L	0.1	0.5	09/07/16 17:46	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 17:46	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	09/07/16 17:46	gss
Copper, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	09/07/16 17:46	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 17:46	gss
Iron, dissolved	M200.7 ICP	1	2.19		*	mg/L	0.02	0.05	09/08/16 10:52	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0005	09/12/16 21:55	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	09/07/16 17:46	gss
Magnesium, dissolved	M200.7 ICP	1	2.4			mg/L	0.2	1	09/07/16 17:46	gss
Manganese, dissolved	M200.7 ICP	1	0.371			mg/L	0.005	0.03	09/07/16 17:46	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	09/14/16 15:59	scp
Mercury, total	M1631, Atomic Fluorescence	2	11.3		*	ng/L	0.4	1	09/13/16 14:24	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	09/07/16 17:46	gss
Nickel, dissolved	M200.7 ICP	1	0.040			mg/L	0.008	0.04	09/07/16 17:46	gss
Potassium, dissolved	M200.7 ICP	1	1.3			mg/L	0.2	1	09/07/16 17:46	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 17:46	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	09/12/16 21:55	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	09/07/16 17:46	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	09/07/16 17:46	gss
Strontium, dissolved	M200.7 ICP	1	0.035			mg/L	0.005	0.03	09/07/16 17:46	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	09/12/16 21:55	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	09/07/16 17:46	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	09/07/16 17:46	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0075			mg/L	0.0001	0.0005	09/12/16 21:55	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	09/07/16 17:46	gss
Zinc, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	09/07/16 17:46	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L32682-05***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-33.3			%			09/16/16 0:00	calc
Sum of Anions			2.2			meq/L			09/16/16 0:00	calc
Sum of Cations			1.1			meq/L			09/16/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	09/08/16 13:36	spl
Conductivity @25C	SM2510B	1	570		*	umhos/cm	1	10	09/03/16 14:35	sck
Fluoride	SM4500F-C	40	2	B	*	mg/L	2	10	09/09/16 11:30	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		42			mg/L	0.2	5	09/16/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	09/09/16 23:20	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.08	B	*	mg/L	0.05	0.2	09/12/16 13:17	spl
pH (lab)	SM4500H+ B									
pH		1	3.0	H	*	units	0.1	0.1	09/01/16 0:00	sck
pH measured at		1	23.6			C	0.1	0.1	09/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	09/13/16 23:23	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	116		*	mg/L	10	20	09/02/16 13:18	emk
Sulfate	D516-02/-07 - Turbidimetric	5	99.1		*	mg/L	5	25	09/12/16 11:38	krh
TDS (calculated)	Calculation		121			mg/L			09/16/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.96						09/16/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L32682-06***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								09/08/16 15:58	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.05	B		mg/L	0.03	0.2	09/07/16 17:49	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	09/12/16 22:11	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0002	0.001	09/12/16 22:11	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	09/08/16 10:55	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00014	B		mg/L	0.00005	0.0003	09/13/16 17:21	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	09/07/16 17:49	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 17:49	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	09/12/16 22:11	mfm
Calcium, dissolved	M200.7 ICP	1	6.3			mg/L	0.1	0.5	09/07/16 17:49	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 17:49	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 17:49	gss
Copper, dissolved	M200.7 ICP	1	0.26			mg/L	0.01	0.05	09/07/16 17:49	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 17:49	gss
Iron, dissolved	M200.7 ICP	1	0.44		*	mg/L	0.02	0.05	09/08/16 10:55	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	09/12/16 22:11	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	09/07/16 17:49	gss
Magnesium, dissolved	M200.7 ICP	1	1.2			mg/L	0.2	1	09/07/16 17:49	gss
Manganese, dissolved	M200.7 ICP	1	0.033			mg/L	0.005	0.03	09/07/16 17:49	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	09/14/16 16:00	scp
Mercury, total	M1631, Atomic Fluorescence	10	108		*	ng/L	2	5	09/16/16 9:23	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	09/07/16 17:49	gss
Nickel, dissolved	M200.7 ICP	1	0.061			mg/L	0.008	0.04	09/07/16 17:49	gss
Potassium, dissolved	M200.7 ICP	1	2.9			mg/L	0.2	1	09/07/16 17:49	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 17:49	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0044			mg/L	0.0001	0.0003	09/12/16 22:11	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	09/07/16 17:49	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	09/07/16 17:49	gss
Strontium, dissolved	M200.7 ICP	1	0.066			mg/L	0.005	0.03	09/07/16 17:49	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	09/12/16 22:11	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	09/07/16 17:49	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	09/07/16 17:49	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0005	09/12/16 22:11	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	09/07/16 17:49	gss
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	09/07/16 17:49	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L32682-06***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-8.3			%			09/16/16 0:00	calc
Sum of Anions			0.636			meq/L			09/16/16 0:00	calc
Sum of Cations			0.538			meq/L			09/16/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	09/08/16 13:37	spl
Conductivity @25C	SM2510B	1	106		*	umhos/cm	1	10	09/03/16 14:37	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	09/08/16 14:48	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		21			mg/L	0.2	5	09/16/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	09/09/16 23:23	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.10	B	*	mg/L	0.05	0.2	09/12/16 14:20	spl
pH (lab)	SM4500H+ B									
pH		1	4.2	H	*	units	0.1	0.1	09/01/16 0:00	sck
pH measured at		1	23.6			C	0.1	0.1	09/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	09/13/16 23:25	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	38		*	mg/L	10	20	09/02/16 13:20	emk
Sulfate	D516-02/-07 - Turbidimetric	1	30.3		*	mg/L	1	5	09/12/16 11:32	krh
TDS (calculated)	Calculation		41.7			mg/L			09/16/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.91						09/16/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L32682-07***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								09/08/16 16:13	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	3.96			mg/L	0.03	0.2	09/07/16 17:52	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0020			mg/L	0.0004	0.002	09/12/16 22:14	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.3749			mg/L	0.0002	0.001	09/12/16 22:14	mfm
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	09/08/16 10:58	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00149			mg/L	0.00005	0.0003	09/13/16 17:24	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	09/07/16 17:52	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 17:52	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	09/12/16 22:14	mfm
Calcium, dissolved	M200.7 ICP	1	1.9			mg/L	0.1	0.5	09/07/16 17:52	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 17:52	gss
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	09/07/16 17:52	gss
Copper, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	09/07/16 17:52	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 17:52	gss
Iron, dissolved	M200.7 ICP	1	39.90		*	mg/L	0.02	0.05	09/08/16 10:58	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0019			mg/L	0.0001	0.0005	09/12/16 22:14	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	09/07/16 17:52	gss
Magnesium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	09/07/16 17:52	gss
Manganese, dissolved	M200.7 ICP	1	0.028	B		mg/L	0.005	0.03	09/07/16 17:52	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	09/14/16 16:01	scp
Mercury, total	M1631, Atomic Fluorescence	1	1.5		*	ng/L	0.2	0.5	09/13/16 14:34	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	09/07/16 17:52	gss
Nickel, dissolved	M200.7 ICP	1	0.018	B		mg/L	0.008	0.04	09/07/16 17:52	gss
Potassium, dissolved	M200.7 ICP	1	5			mg/L	0.2	1	09/07/16 17:52	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 17:52	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	09/12/16 22:14	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	09/07/16 17:52	gss
Sodium, dissolved	M200.7 ICP	1	1.9			mg/L	0.2	1	09/07/16 17:52	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	09/07/16 17:52	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0001	0.0005	09/12/16 22:14	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	09/07/16 17:52	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	09/07/16 17:52	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	09/12/16 22:14	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	09/07/16 17:52	gss
Zinc, dissolved	M200.7 ICP	1	0.36			mg/L	0.01	0.05	09/07/16 17:52	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L32682-07***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-12.1			%			09/16/16 0:00	calc
Sum of Anions			3.7			meq/L			09/16/16 0:00	calc
Sum of Cations			2.9			meq/L			09/16/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	09/08/16 13:37	spl
Conductivity @25C	SM2510B	1	823		*	umhos/cm	1	10	09/03/16 14:38	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	09/08/16 14:56	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		6.4			mg/L	0.2	5	09/16/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	09/09/16 23:29	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	09/12/16 13:21	spl
pH (lab)	SM4500H+ B									
pH		1	2.8	H	*	units	0.1	0.1	09/01/16 0:00	sck
pH measured at		1	23.7			C	0.1	0.1	09/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.06		*	mg/L	0.02	0.05	09/13/16 23:27	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	228		*	mg/L	10	20	09/02/16 13:23	emk
Sulfate	D516-02/-07 - Turbidimetric	5	174		*	mg/L	5	25	09/12/16 11:38	krh
TDS (calculated)	Calculation		228			mg/L			09/16/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.00						09/16/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L32682-08***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								09/08/16 16:20	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	09/07/16 18:01	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0004	0.002	09/12/16 22:17	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0147			mg/L	0.0002	0.001	09/12/16 22:17	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	09/08/16 11:07	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	09/13/16 17:27	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	09/07/16 18:01	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 18:01	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	09/12/16 22:17	mfm
Calcium, dissolved	M200.7 ICP	1	1.2			mg/L	0.1	0.5	09/07/16 18:01	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 18:01	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 18:01	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 18:01	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 18:01	gss
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.05	09/08/16 11:07	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	09/12/16 22:17	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	09/07/16 18:01	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	09/07/16 18:01	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	09/07/16 18:01	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	09/14/16 16:04	scp
Mercury, total	M1631, Atomic Fluorescence	5	34		*	ng/L	1	3	09/13/16 14:39	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	09/07/16 18:01	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	09/07/16 18:01	gss
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	09/07/16 18:01	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 18:01	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	09/12/16 22:17	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	09/07/16 18:01	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	09/07/16 18:01	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	09/07/16 18:01	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	09/12/16 22:17	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	09/07/16 18:01	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	09/07/16 18:01	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	09/12/16 22:17	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	09/07/16 18:01	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 18:01	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L32682-08***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	2.5	B		mg/L	2	20	09/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Total Alkalinity		1	2.5	B	*	mg/L	2	20	09/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			09/16/16 0:00	calc
Sum of Anions			0.113	B		meq/L			09/16/16 0:00	calc
Sum of Cations				U		meq/L			09/16/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	09/08/16 13:37	spl
Conductivity @25C	SM2510B	1	10.7		*	umhos/cm	1	10	09/03/16 14:40	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	09/08/16 15:00	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		3	B		mg/L	0.2	5	09/16/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	09/09/16 23:31	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	09/12/16 13:22	spl
pH (lab)	SM4500H+ B									
pH		1	6.9	H	*	units	0.1	0.1	09/01/16 0:00	sck
pH measured at		1	23.8			C	0.1	0.1	09/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	09/13/16 23:29	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	09/02/16 13:26	emk
Sulfate	D516-02/-07 - Turbidimetric	1	3.0	B	*	mg/L	1	5	09/12/16 11:32	krh
TDS (calculated)	Calculation		5.73			mg/L			09/16/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						09/16/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L32682-09***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								09/08/16 16:27	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	09/07/16 18:04	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0004	0.002	09/12/16 22:20	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0036			mg/L	0.0002	0.001	09/12/16 22:20	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	09/08/16 11:10	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00010	B		mg/L	0.00005	0.0003	09/13/16 17:30	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	09/07/16 18:04	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 18:04	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	09/12/16 22:20	mfm
Calcium, dissolved	M200.7 ICP	1	1.1			mg/L	0.1	0.5	09/07/16 18:04	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 18:04	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 18:04	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 18:04	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 18:04	gss
Iron, dissolved	M200.7 ICP	1	0.05		*	mg/L	0.02	0.05	09/08/16 11:10	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	09/12/16 22:20	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	09/07/16 18:04	gss
Magnesium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	09/07/16 18:04	gss
Manganese, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.005	0.03	09/07/16 18:04	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	09/14/16 16:06	scp
Mercury, total	M1631, Atomic Fluorescence	1	18.3		*	ng/L	0.2	0.5	09/13/16 15:03	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	09/07/16 18:04	gss
Nickel, dissolved	M200.7 ICP	1	0.167			mg/L	0.008	0.04	09/07/16 18:04	gss
Potassium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	09/07/16 18:04	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 18:04	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0001	0.0003	09/12/16 22:20	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	09/07/16 18:04	gss
Sodium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	09/07/16 18:04	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	09/07/16 18:04	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	09/12/16 22:20	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	09/07/16 18:04	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	09/07/16 18:04	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	09/12/16 22:20	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	09/07/16 18:04	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 18:04	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L32682-09***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			09/16/16 0:00	calc
Sum of Anions			0.1	B		meq/L			09/16/16 0:00	calc
Sum of Cations			0.112	B		meq/L			09/16/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	09/08/16 14:09	spl
Conductivity @25C	SM2510B	1	26.2		*	umhos/cm	1	10	09/03/16 14:41	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	09/08/16 15:05	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4	B		mg/L	0.2	5	09/16/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	09/09/16 23:32	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.06	B	*	mg/L	0.05	0.2	09/12/16 13:24	spl
pH (lab)	SM4500H+ B									
pH		1	4.9	H	*	units	0.1	0.1	09/01/16 0:00	sck
pH measured at		1	24.1			C	0.1	0.1	09/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	09/13/16 23:30	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	09/02/16 13:28	emk
Sulfate	D516-02/-07 - Turbidimetric	1	6.2		*	mg/L	1	5	09/12/16 11:32	krh
TDS (calculated)	Calculation		8.52			mg/L			09/16/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						09/16/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L32682-10***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								09/07/16 9:19	bce
Cyanide, WAD	SM4500-CN I- distillation				*				09/06/16 15:54	bce
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								09/08/16 16:34	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	7.02			mg/L	0.03	0.2	09/07/16 18:07	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0004	0.002	09/12/16 22:23	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0002	0.001	09/12/16 22:23	mfm
Barium, dissolved	M200.7 ICP	1	0.031			mg/L	0.003	0.02	09/08/16 11:13	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00059			mg/L	0.00005	0.0003	09/13/16 17:34	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	09/07/16 18:07	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 18:07	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	09/12/16 22:23	mfm
Calcium, dissolved	M200.7 ICP	1	0.8			mg/L	0.1	0.5	09/07/16 18:07	gss
Chromium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	09/07/16 18:07	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/07/16 18:07	gss
Copper, dissolved	M200.7 ICP	1	0.56			mg/L	0.01	0.05	09/07/16 18:07	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 18:07	gss
Iron, dissolved	M200.7 ICP	1	19.20		*	mg/L	0.02	0.05	09/08/16 11:13	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0034			mg/L	0.0001	0.0005	09/12/16 22:23	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	09/07/16 18:07	gss
Magnesium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	09/07/16 18:07	gss
Manganese, dissolved	M200.7 ICP	1	0.128			mg/L	0.005	0.03	09/07/16 18:07	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	09/14/16 16:07	scp
Mercury, total	M1631, Atomic Fluorescence	1	7.5		*	ng/L	0.2	0.5	09/13/16 15:08	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	09/07/16 18:07	gss
Nickel, dissolved	M200.7 ICP	1	0.024	B		mg/L	0.008	0.04	09/07/16 18:07	gss
Potassium, dissolved	M200.7 ICP	1	3.3			mg/L	0.2	1	09/07/16 18:07	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	09/07/16 18:07	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0001	0.0003	09/12/16 22:23	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	09/07/16 18:07	gss
Sodium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	09/07/16 18:07	gss
Strontium, dissolved	M200.7 ICP	1	0.021	B		mg/L	0.005	0.03	09/07/16 18:07	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0005	09/12/16 22:23	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	09/07/16 18:07	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	09/07/16 18:07	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0072			mg/L	0.0001	0.0005	09/12/16 22:23	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	09/07/16 18:07	gss
Zinc, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	09/07/16 18:07	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L32682-10***
Date Sampled: *08/31/16 00:00*
Date Received: *09/01/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/01/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/01/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-9.1			%			09/16/16 0:00	calc
Sum of Anions			2.4			meq/L			09/16/16 0:00	calc
Sum of Cations			2			meq/L			09/16/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	09/08/16 14:09	spl
Conductivity @25C	SM2510B	1	513		*	umhos/cm	1	10	09/03/16 14:43	sck
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U		mg/L	0.003	0.01	09/07/16 23:17	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	09/07/16 22:50	pjb
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	09/08/16 15:22	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.8	B		mg/L	0.2	5	09/16/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	09/09/16 23:33	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	09/12/16 13:28	spl
pH (lab)	SM4500H+ B									
pH		1	3.1	H	*	units	0.1	0.1	09/01/16 0:00	sck
pH measured at		1	24.0			C	0.1	0.1	09/01/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.02	0.05	09/13/16 23:31	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	198		*	mg/L	10	20	09/02/16 13:34	emk
Sulfate	D516-02/-07 - Turbidimetric	5	115		*	mg/L	5	25	09/12/16 11:39	krh
TDS (calculated)	Calculation		147			mg/L			09/16/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.35						09/16/16 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409220													
WG409220PBW1	PBW	09/01/16 16:03				U	mg/L		-20	20			
WG409220LCSW3	LCSW	09/01/16 16:20	WC160824-1	820.0001		761	mg/L	93	90	110			
WG409220LCSW6	LCSW	09/01/16 18:52	WC160824-1	820.0001		765	mg/L	93	90	110			
WG409220PBW2	PBW	09/01/16 18:59				U	mg/L		-20	20			
L32682-10DUP	DUP	09/01/16 19:51			U	U	mg/L				0	20	RA
WG409220LCSW9	LCSW	09/01/16 20:07	WC160824-1	820.0001		780	mg/L	95	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		2.019	mg/L	101	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.09	0.09			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	1.0013		.98	mg/L	98	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	1.0013	4.02	4.884	mg/L	86	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	1.0013	4.02	4.883	mg/L	86	85	115	0	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409686													
WG409686ICV	ICV	09/12/16 20:50	MS160823-2	.02		.02193	mg/L	110	90	110			
WG409686ICB	ICB	09/12/16 20:53				.00067	mg/L		-0.0012	0.0012			
WG409686LFB	LFB	09/12/16 20:56	MS160826-3	.009980001		.0095	mg/L	95	85	115			
L32682-05AS	AS	09/12/16 21:58	MS160826-3	.009980001	.0008	.0088	mg/L	80	70	130			
L32682-05ASD	ASD	09/12/16 22:01	MS160826-3	.009980001	.0008	.00959	mg/L	88	70	130	9	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409686													
WG409686ICV	ICV	09/12/16 20:50	MS160823-2	.05		.05172	mg/L	103	90	110			
WG409686ICB	ICB	09/12/16 20:53				U	mg/L		-0.0006	0.0006			
WG409686LFB	LFB	09/12/16 20:56	MS160826-3	.0501		.05037	mg/L	101	85	115			
L32682-05AS	AS	09/12/16 21:58	MS160826-3	.0501	.0118	.06697	mg/L	110	70	130			
L32682-05ASD	ASD	09/12/16 22:01	MS160826-3	.0501	.0118	.06027	mg/L	97	70	130	11	20	
WG409734													
WG409734ICV	ICV	09/13/16 16:02	MS160823-2	.05		.05441	mg/L	109	90	110			
WG409734ICB	ICB	09/13/16 16:05				U	mg/L		-0.0006	0.0006			
WG409734LFB	LFB	09/13/16 16:08	MS160826-3	.0501		.05211	mg/L	104	85	115			
L32670-04AS	AS	09/13/16 16:53	MS160826-3	.0501	.0011	.05309	mg/L	104	70	130			
L32670-04ASD	ASD	09/13/16 16:56	MS160826-3	.0501	.0011	.05352	mg/L	105	70	130	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409468													
WG409468ICV	ICV	09/08/16 10:13	II160816-1	2		1.963	mg/L	98	95	105			
WG409468ICB	ICB	09/08/16 10:19				U	mg/L		-0.009	0.009			
WG409468LFB	LFB	09/08/16 10:31	II160831-5	.5005		.4803	mg/L	96	85	115			
L32682-02AS	AS	09/08/16 10:40	II160831-5	.5005	.061	.5264	mg/L	93	85	115			
L32682-02ASD	ASD	09/08/16 10:43	II160831-5	.5005	.061	.5254	mg/L	93	85	115	0	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409734													
WG409734ICV	ICV	09/13/16 16:02	MS160823-2	.05		.05177	mg/L	104	90	110			
WG409734ICB	ICB	09/13/16 16:05				.000061	mg/L		-0.00015	0.00015			
WG409734LFB	LFB	09/13/16 16:08	MS160826-3	.0501		.05009	mg/L	100	85	115			
L32542-02AS	AS	09/13/16 16:15	MS160826-3	.1002	U	.09604	mg/L	96	70	130			
L32542-02ASD	ASD	09/13/16 16:18	MS160826-3	.1002	U	.09784	mg/L	98	70	130	2	20	
L32670-04AS	AS	09/13/16 16:53	MS160826-3	.0501	.01458	.06103	mg/L	93	70	130			
L32670-04ASD	ASD	09/13/16 16:56	MS160826-3	.0501	.01458	.06128	mg/L	93	70	130	0	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		2.01	mg/L	101	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.12	0.12			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	1		.968	mg/L	97	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	1	U	.937	mg/L	94	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	1	U	.982	mg/L	98	85	115	5	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		2	mg/L	100	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.03	0.03			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	.5005		.505	mg/L	101	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	.5005	.08	.557	mg/L	95	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	.5005	.08	.571	mg/L	98	85	115	2	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409686													
WG409686ICV	ICV	09/12/16 20:50	MS160823-2	.05		.05242	mg/L	105	90	110			
WG409686ICB	ICB	09/12/16 20:53				U	mg/L		-0.0003	0.0003			
WG409686LFB	LFB	09/12/16 20:56	MS160826-3	.05005		.04784	mg/L	96	85	115			
L32682-05AS	AS	09/12/16 21:58	MS160826-3	.05005	.001	.04981	mg/L	98	70	130			
L32682-05ASD	ASD	09/12/16 22:01	MS160826-3	.05005	.001	.0466	mg/L	91	70	130	7	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L32682***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	100		99.23	mg/L	99	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.3	0.3			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	67.98044		67.52	mg/L	99	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	67.98044	2.3	69.88	mg/L	99	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	67.98044	2.3	70.43	mg/L	100	85	115	1	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409503													
WG409503ICB	ICB	09/08/16 12:44				U	mg/L		-1.5	1.5			
WG409503ICV	ICV	09/08/16 12:44	WI160701-1	55.055		58.19	mg/L	106	90	110			
WG409503LFB1	LFB	09/08/16 12:55	WI160415-1	29.97		31.22	mg/L	104	90	110			
L32681-03AS	AS	09/08/16 13:36	WI160415-1	29.97	10.7	43.45	mg/L	109	90	110			
L32681-04DUP	DUP	09/08/16 13:36			40	40.19	mg/L				0	20	
WG409503LFB2	LFB	09/08/16 13:37	WI160415-1	29.97		31.42	mg/L	105	90	110			
L32699-03AS	AS	09/08/16 14:09	WI160415-1	29.97	.8	34.12	mg/L	111	90	110			M1
L32700-01DUP	DUP	09/08/16 14:09			1.5	1.18	mg/L				24	20	RA

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		1.963	mg/L	98	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.03	0.03			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	.5005		.51	mg/L	102	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	.5005	.05	.539	mg/L	98	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	.5005	.05	.552	mg/L	100	85	115	2	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2.002		1.952	mg/L	98	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.03	0.03			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	.5015		.511	mg/L	102	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	.5015	.24	.727	mg/L	97	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	.5015	.24	.735	mg/L	99	85	115	1	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409295													
WG409295LCSW2	LCSW	09/03/16 13:19	PCN50212	1409		1500	umhos/cm	106	90	110			
L32681-05DUP	DUP	09/03/16 14:27			3290	3280	umhos/cm				0	20	
L32688-01DUP	DUP	09/03/16 15:14			545	535	umhos/cm				2	20	
WG409295LCSW5	LCSW	09/03/16 15:19	PCN50212	1409		1460	umhos/cm	104	90	110			
WG409295LCSW8	LCSW	09/03/16 18:18	PCN50212	1409		1420	umhos/cm	101	90	110			
WG409295LCSW11	LCSW	09/03/16 21:02	PCN50212	1409		1420	umhos/cm	101	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		1.987	mg/L	99	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.03	0.03			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	.501		.488	mg/L	97	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	.501	.23	.7	mg/L	94	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	.501	.23	.702	mg/L	94	85	115	0	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409448													
WG409448ICV	ICV	09/07/16 22:41	WI160830-9	.3003		.2893	mg/L	96	90	110			
WG409448ICB	ICB	09/07/16 22:42				U	mg/L		-0.003	0.003			
WG409450													
WG409368LRB	LRB	09/07/16 23:16				U	mg/L		-0.003	0.003			
WG409368LFB	LFB	09/07/16 23:16	WI160830-5	.2		.1918	mg/L	96	90	110			
L32693-01DUP	DUP	09/07/16 23:19			.135	.1468	mg/L				8	20	
L32699-01LFM	LFM	09/07/16 23:21	WI160830-5	.2	U	.1928	mg/L	96	90	110			

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409448													
WG409448ICV	ICV	09/07/16 22:41	WI160830-9	.3003		.2893	mg/L	96	90	110			
WG409448ICB	ICB	09/07/16 22:42				U	mg/L		-0.003	0.003			
WG409350LRB	LRB	09/07/16 22:43				U	mg/L		-0.003	0.003			
WG409350LFB	LFB	09/07/16 22:43	WI160830-7	.2002		.1958	mg/L	98	90	110			
L32638-05DUP	DUP	09/07/16 22:45			U	U	mg/L				0	20	RA
L32638-06LFM	LFM	09/07/16 22:47	WI160830-7	.2002	U	.1944	mg/L	97	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409480													
WG409480ICV	ICV	09/08/16 13:05	WC160903-7	2		1.895	mg/L	95	95	105			
WG409480ICB	ICB	09/08/16 13:11				U	mg/L		-0.15	0.15			
WG409480LFB1	LFB	09/08/16 13:18	WC160419-8	4.995		4.885	mg/L	98	90	110			
L32645-01AS	AS	09/08/16 13:26	WC160419-8	4.995	.25	5.07	mg/L	96	90	110			
L32645-01DUP	DUP	09/08/16 13:30			.25	.24	mg/L				4	20	RA
L32682-05AS	AS	09/08/16 14:40	WC160419-8	199.8	U	179.7	mg/L	90	90	110			
L32682-05DUP	DUP	09/08/16 14:44			U	3	mg/L				200	20	RA
WG409480LFB2	LFB	09/08/16 15:41	WC160419-8	4.995		4.707	mg/L	94	90	110			
WG409547													
WG409547ICV	ICV	09/09/16 11:12	WC160903-7	2		1.928	mg/L	96	95	105			
WG409547ICB	ICB	09/09/16 11:17				.057	mg/L		-0.15	0.15			
WG409547LFB1	LFB	09/09/16 11:25	WC160419-8	4.995		4.929	mg/L	99	90	110			
L32733-01AS	AS	09/09/16 11:38	WC160419-8	4.995	1.27	6.062	mg/L	96	90	110			
L32733-01DUP	DUP	09/09/16 11:45			1.27	1.306	mg/L				3	20	
WG409547LFB2	LFB	09/09/16 13:44	WC160419-8	4.995		4.725	mg/L	95	90	110			

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		1.99	mg/L	100	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.3	0.3			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	1		.99	mg/L	99	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	1	U	.97	mg/L	97	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	1	U	.97	mg/L	97	85	115	0	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409468													
WG409468ICV	ICV	09/08/16 10:13	II160816-1	2		1.947	mg/L	97	95	105			
WG409468ICB	ICB	09/08/16 10:19				U	mg/L		-0.06	0.06			
WG409468LFB	LFB	09/08/16 10:31	II160831-5	1.0017		.973	mg/L	97	85	115			
L32682-02AS	AS	09/08/16 10:40	II160831-5	1.0017	17.4	17.22	mg/L	-8	85	115			M3
L32682-02ASD	ASD	09/08/16 10:43	II160831-5	1.0017	17.4	16.96	mg/L	-34	85	115	2	20	M3

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409686													
WG409686ICV	ICV	09/12/16 20:50	MS160823-2	.05		.05149	mg/L	103	90	110			
WG409686ICB	ICB	09/12/16 20:53				U	mg/L		-0.0003	0.0003			
WG409686LFB	LFB	09/12/16 20:56	MS160826-3	.05005		.04597	mg/L	92	85	115			
L32682-05AS	AS	09/12/16 21:58	MS160826-3	.05005	.0024	.04775	mg/L	91	70	130			
L32682-05ASD	ASD	09/12/16 22:01	MS160826-3	.05005	.0024	.04455	mg/L	84	70	130	7	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		1.9885	mg/L	99	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.024	0.024			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	1.002		.9341	mg/L	93	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	1.002	.011	.9404	mg/L	93	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	1.002	.011	.9489	mg/L	94	85	115	1	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	100		98.51	mg/L	99	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.6	0.6			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	50.01136		44.15	mg/L	88	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	50.01136	.4	44.51	mg/L	88	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	50.01136	.4	44.82	mg/L	89	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L32682***

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		1.9545	mg/L	98	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.015	0.015			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	.5		.5237	mg/L	105	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	.5	1.45	1.876	mg/L	85	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	.5	1.45	1.882	mg/L	86	85	115	0	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409688													
WG409688ICV	ICV	09/14/16 14:56	HG160805-4	.005		.00515	mg/L	103	90	110			
WG409688ICB	ICB	09/14/16 14:57				U	mg/L		-0.0006	0.0006			
WG409689													
WG409689LRB	LRB	09/14/16 15:42				U	mg/L		-0.00044	0.00044			
WG409689LFB	LFB	09/14/16 15:44	HG160913-2	.002002		.00224	mg/L	112	85	115			
L32586-01LFM	LFM	09/14/16 15:49	HG160913-2	.002002	U	.00246	mg/L	123	85	115			MA
L32586-01LFMD	LFMD	09/14/16 15:50	HG160913-2	.002002	U	.00217	mg/L	108	85	115	13	20	
L32682-07LFM	LFM	09/14/16 16:02	HG160913-2	.002002	U	.00269	mg/L	134	85	115			M1
L32682-07LFMD	LFMD	09/14/16 16:03	HG160913-2	.002002	U	.00237	mg/L	118	85	115	13	20	M1

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG406554													
WG406554ICV	ICV	07/27/16 12:51	HG160525-4	10		9.37	ng/L	94	79	121			
WG406554ICB	ICB	07/27/16 12:56				U	ng/L		-0.5	0.5			
WG409700													
WG409700CCV1	CCV	09/13/16 13:45	HG160824-4	10		10.5	ng/L	105	76.5	123.4			
WG409700CCB1	CCB	09/13/16 13:50				U	ng/L		-0.5	0.5			
WG409700PQV	PQV	09/13/16 13:55	HG160824-5	.5		.52	ng/L	104	70	130			
WG409700LFB	LFB	09/13/16 14:00	HG160824-6	2		2	ng/L	100	71	125			
WG409700CCV2	CCV	09/13/16 14:44	HG160824-4	10		11	ng/L	110	76.5	123.4			
WG409700CCB2	CCB	09/13/16 14:49				U	ng/L		-0.5	0.5			
L32682-08MS	MS	09/13/16 14:54	HG5XPREP	50	34	45.7	ng/L	117	71	125			
L32682-08MSD	MSD	09/13/16 14:58	HG5XPREP	50	34	45.1	ng/L	111	71	125	1	24	
WG409700CCV3	CCV	09/13/16 15:42	HG160824-4	10		10.9	ng/L	109	76.5	123.4			
WG409700CCB3	CCB	09/13/16 15:47				U	ng/L		-0.5	0.5			
WG409700CCV4	CCV	09/13/16 15:57	HG160824-4	10		11.5	ng/L	115	76.5	123.4			
WG409700CCB4	CCB	09/13/16 16:02				U	ng/L		-0.5	0.5			
WG409927													
WG409927CCV1	CCV	09/16/16 8:39	HG160824-4	10		11.5	ng/L	115	76.5	123.4			
WG409927CCB1	CCB	09/16/16 8:44				U	ng/L		-0.5	0.5			
WG409927PQV	PQV	09/16/16 8:49	HG160824-5	.5		.57	ng/L	114	70	130			
WG409927LFB	LFB	09/16/16 8:54	HG160824-6	2		2.05	ng/L	103	71	125			
L32793-01MS	MS	09/16/16 9:33	HG160824-6	2	.5	2.56	ng/L	103	71	125			
WG409927CCV2	CCV	09/16/16 9:38	HG160824-4	10		11	ng/L	110	76.5	123.4			
WG409927CCB2	CCB	09/16/16 9:43				U	ng/L		-0.5	0.5			
L32793-01MSD	MSD	09/16/16 9:48	HG160824-6	2	.5	2.46	ng/L	98	71	125	4	24	
WG409927CCV3	CCV	09/16/16 9:57	HG160824-4	10		11.7	ng/L	117	76.5	123.4			
WG409927CCB3	CCB	09/16/16 10:02				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		2.035	mg/L	102	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.06	0.06			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	.4995		.49	mg/L	98	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	.4995	U	.479	mg/L	96	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	.4995	U	.488	mg/L	98	85	115	2	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		2.0053	mg/L	100	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.024	0.024			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	.501		.5126	mg/L	102	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	.501	.07	.5575	mg/L	97	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	.501	.07	.569	mg/L	100	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409585													
WG409585ICV	ICV	09/09/16 20:26	WI160908-7	2.416		2.347	mg/L	97	90	110			
WG409585ICB	ICB	09/09/16 20:27				U	mg/L		-0.02	0.02			
WG409587													
WG409587LFB1	LFB	09/09/16 22:39	WI160616-3	2		1.985	mg/L	99	90	110			
L32583-01AS	AS	09/09/16 23:01	WI160616-3	2	.32	2.354	mg/L	102	90	110			
L32584-01DUP	DUP	09/09/16 23:03			U	U	mg/L				0	20	RA
WG409587LFB2	LFB	09/09/16 23:19	WI160616-3	2		1.928	mg/L	96	90	110			
L32682-05AS	AS	09/09/16 23:21	WI160616-3	2	U	1.966	mg/L	98	90	110			
L32682-06DUP	DUP	09/09/16 23:24			U	U	mg/L				0	20	RA

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409631													
WG409631ICV	ICV	09/12/16 12:06	WI160829-1	11.988		12.06	mg/L	101	90	110			
WG409631ICB	ICB	09/12/16 12:08				U	mg/L		-0.05	0.05			
WG409631LFB1	LFB	09/12/16 12:09	WI160121-1	10		9.933	mg/L	99	90	110			
L32681-01AS	AS	09/12/16 12:59	WI160121-1	10	U	11.229	mg/L	112	90	110			M1
L32707-02DUP	DUP	09/12/16 13:39			.09	.088	mg/L				2	20	RA
WG409631LFB2	LFB	09/12/16 14:19	WI160121-1	10		10.023	mg/L	100	90	110			
L32681-02DUP	DUP	09/12/16 14:29			U	U	mg/L				0	20	RA
L32707-01AS	AS	09/12/16 14:35	WI160121-1	10	U	10.807	mg/L	108	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409220													
WG409220LCSW1	LCSW	09/01/16 16:07	PCN49792	5.99		6	units	100	5.9	6.1			
WG409220LCSW4	LCSW	09/01/16 18:39	PCN49792	5.99		6	units	100	5.9	6.1			
L32682-10DUP	DUP	09/01/16 19:51			3.1	3.1	units				0	20	
WG409220LCSW7	LCSW	09/01/16 19:54	PCN49792	5.99		6	units	100	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409527													
WG409527ICV	ICV	09/08/16 22:29	WI160908-3	.65228		.626	mg/L	96	90	110			
WG409527ICB	ICB	09/08/16 22:32				U	mg/L		-0.02	0.02			
WG409529													
WG409322LRB	LRB	09/08/16 23:15				U	mg/L		-0.02	0.02			
WG409322LFB	LFB	09/08/16 23:16	WI160906-2	.5		.491	mg/L	98	90	110			
L32681-01DUP	DUP	09/08/16 23:37			U	U	mg/L				0	20	RA
L32633-01LFM	LFM	09/08/16 23:50	WI160906-2	.5	3.5	3.85	mg/L	70	90	110			M3
WG409765													
WG409765ICV	ICV	09/13/16 23:17	WI160908-3	.65228		.589	mg/L	90	90	110			
WG409765ICB	ICB	09/13/16 23:19				U	mg/L		-0.02	0.02			
WG409463LRB	LRB	09/13/16 23:21				U	mg/L		-0.02	0.02			
WG409463LFB	LFB	09/13/16 23:22	WI160906-2	.5		.473	mg/L	95	90	110			
L32682-05LFM	LFM	09/13/16 23:24	WI160906-2	.5	U	.477	mg/L	95	90	110			
L32682-06DUP	DUP	09/13/16 23:26			U	U	mg/L				0	20	RA

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	20		19.87	mg/L	99	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.6	0.6			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	99.96112		93.11	mg/L	93	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	99.96112	1.6	94.86	mg/L	93	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	99.96112	1.6	95.5	mg/L	94	85	115	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409266													
WG409266PBW	PBW	09/02/16 13:00				U	mg/L		-20	20			
WG409266LCSW	LCSW	09/02/16 13:02	PCN51173	260		250	mg/L	96	80	120			
L32682-09DUP	DUP	09/02/16 13:31			U	U	mg/L				0	10	RA
L32701-02DUP	DUP	09/02/16 14:00			760	760	mg/L				0	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		1.98	mg/L	99	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.3	0.3			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	1.0009		.97	mg/L	97	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	1.0009	U	.97	mg/L	97	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	1.0009	U	.98	mg/L	98	85	115	1	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409686													
WG409686ICV	ICV	09/12/16 20:50	MS160823-2	.05		.05104	mg/L	102	90	110			
WG409686ICB	ICB	09/12/16 20:53				U	mg/L		-0.0003	0.0003			
WG409686LFB	LFB	09/12/16 20:56	MS160826-3	.0501		.04791	mg/L	96	85	115			
L32682-05AS	AS	09/12/16 21:58	MS160826-3	.0501	.0004	.05564	mg/L	110	70	130			
L32682-05ASD	ASD	09/12/16 22:01	MS160826-3	.0501	.0004	.0514	mg/L	102	70	130	8	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	1.001		1.034	mg/L	103	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.03	0.03			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	.501		.479	mg/L	96	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	.501	U	.238	mg/L	48	85	115			M2 ZA
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	.501	U	.276	mg/L	55	85	115	15	20	M2 ZA

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	100		98.57	mg/L	99	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.6	0.6			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	100.007		92.51	mg/L	93	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	100.007	3.1	95.32	mg/L	92	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	100.007	3.1	96.11	mg/L	93	85	115	1	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		1.9595	mg/L	98	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.015	0.015			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	.5		.4715	mg/L	94	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	.5	.049	.5241	mg/L	95	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	.5	.049	.5277	mg/L	96	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409625													
WG409625ICB	ICB	09/12/16 10:52				U	mg/L		-3	3			
WG409625ICV	ICV	09/12/16 10:52	WI160830-11	20		19.5	mg/L	98	90	110			
WG409625LFB	LFB	09/12/16 11:01	WI160815-8	10		9.7	mg/L	97	90	110			
L32682-01DUP	DUP	09/12/16 11:38			68.7	74.9	mg/L				9	20	
L32682-02AS	AS	09/12/16 11:38	SO4TURB5X	10	145	153	mg/L	80	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409686													
WG409686ICV	ICV	09/12/16 20:50	MS160823-2	.05		.05452	mg/L	109	90	110			
WG409686ICB	ICB	09/12/16 20:53				U	mg/L		-0.0003	0.0003			
WG409686LFB	LFB	09/12/16 20:56	MS160826-3	.0501		.04899	mg/L	98	85	115			
L32682-05AS	AS	09/12/16 21:58	MS160826-3	.0501	.0005	.04921	mg/L	97	70	130			
L32682-05ASD	ASD	09/12/16 22:01	MS160826-3	.0501	.0005	.0455	mg/L	90	70	130	8	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		2.052	mg/L	103	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.12	0.12			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	1.001		.988	mg/L	99	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	1.001	U	1.005	mg/L	100	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	1.001	U	.975	mg/L	97	85	115	3	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		2.0278	mg/L	101	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.015	0.015			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	1.001		.9956	mg/L	99	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	1.001	U	.9904	mg/L	99	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	1.001	U	.994	mg/L	99	85	115	0	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409686													
WG409686ICV	ICV	09/12/16 20:50	MS160823-2	.05		.05416	mg/L	108	90	110			
WG409686ICB	ICB	09/12/16 20:53				U	mg/L		-0.0003	0.0003			
WG409686LFB	LFB	09/12/16 20:56	MS160826-3	.05		.04998	mg/L	100	85	115			
L32682-05AS	AS	09/12/16 21:58	MS160826-3	.05	.0075	.05662	mg/L	98	70	130			
L32682-05ASD	ASD	09/12/16 22:01	MS160826-3	.05	.0075	.05419	mg/L	93	70	130	4	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		2.0015	mg/L	100	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.015	0.015			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	.502		.4926	mg/L	98	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	.502	U	.4927	mg/L	98	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	.502	U	.4963	mg/L	99	85	115	1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG409397													
WG409397ICV	ICV	09/07/16 17:08	II160816-1	2		2.012	mg/L	101	95	105			
WG409397ICB	ICB	09/07/16 17:14				U	mg/L		-0.03	0.03			
WG409397LFB	LFB	09/07/16 17:26	II160831-5	.4995		.522	mg/L	105	85	115			
L32682-02AS	AS	09/07/16 17:34	II160831-5	.4995	.25	.735	mg/L	97	85	115			
L32682-02ASD	ASD	09/07/16 17:37	II160831-5	.4995	.25	.744	mg/L	99	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32682-01	WG409468	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409689	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG409927	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG409397	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG409295	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409480	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409587	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409631	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409220	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409529	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409266	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409625	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409220	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32682-02	WG409468	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409689	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG409927	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG409397	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG409295	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409480	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409587	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409631	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409220	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409529	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409266	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409625	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409220	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32682-03	WG409468	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409689	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG409927	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG409397	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG409295	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409480	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409587	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409631	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409220	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409529	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409266	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409625	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409220	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32682-04	WG409468	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409689	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG409927	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG409397	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG409295	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409480	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409587	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409631	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409220	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409529	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409266	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409625	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409220	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32682-05	WG409468	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409689	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409700	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG409397	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG409295	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409547	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
	WG409587	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409631	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409220	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409765	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409266	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409625	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409220	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32682-06	WG409468	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409689	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409927	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG409397	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG409295	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409480	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409587	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409631	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409220	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409765	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409266	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409625	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409220	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32682-07	WG409468	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409689	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409700	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG409397	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG409503	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409295	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409480	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409587	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409631	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409220	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409765	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409266	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409625	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409220	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32682-08	WG409468	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409689	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409700	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG409397	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG409503	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409295	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409480	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409587	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409631	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409220	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409765	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409266	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409625	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409220	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32682-09	WG409468	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409689	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409700	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG409397	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG409503	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409295	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409480	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409587	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409631	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409220	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409765	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409266	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409625	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409220	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L32682***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L32682-10	WG409468	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409689	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409700	Mercury, total	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG409397	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG409503	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409295	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409448	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409480	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409587	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409631	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409220	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG409765	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409266	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG409625	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG409220	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L32682
Date Received:	09/01/2016 11:13
Received By:	kmo
Date Printed:	9/2/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA24633	3.6	<=6.0	14	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L32682
Date Received:	09/01/2016 11:13
Received By:	kmo
Date Printed:	9/2/2016

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L32682

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500	Mercury by 1631E				
CAL-002 (86-95)	8/31/16	WW	1	X			X				
CAL-004 (860-875)		WW	1	X			X				
CAL-003 (675-685)		WW	1	X			X				
GMC-012 (832-851)		WW	1	X			X				
CAL-004 (295-315)		WW	1	X			X				
CAL-001 (750-762)		WW	1	X			X				
GMC-014 (176-184)		WW	1	X			X				
CAL-001 (380-400)		WW	1	X			X				
CAL-002 (177-187)		WW	1	X			X				
Calico Leach Res. after CN Destruct		WW	1	X	X	X	X				

Matrix: SW (Surface Water) · GW (Ground Water) WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 40
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	8/31/16 9AM	[signature]	9-1-16 1100

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L32682 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide-Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide-Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

****Gray out Analyses DOESN'T get done on all Samples, just 1 of the Sample SEE COC****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

October 12, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L33233

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on September 29, 2016. This project has been assigned to ACZ's project number, L33233. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L33233. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after November 11, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACCREDITED IN ACCORDANCE WITH nelac

ACIL

McClelland Laboratories, Inc. October 12, 2016

Project ID: 3981
ACZ Project ID: L33233

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 10 miscellaneous samples from McClelland Laboratories, Inc. on September 29, 2016. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L33233. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

1. (N1) Total Dissolved Solids. Sample and Duplicate were overdiluted, but passing within QC limits. Re-assigned associated samples to L33233-02DUP and redo sx/dup using more sx volume.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L33233-01***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								10/03/16 15:30	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	2.76			mg/L	0.03	0.2	10/08/16 4:01	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0224			mg/L	0.0004	0.002	10/10/16 13:18	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.1671			mg/L	0.0002	0.001	10/06/16 20:52	mfm
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	10/08/16 4:01	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00025	B		mg/L	0.00005	0.0003	10/06/16 20:52	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	10/10/16 16:51	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/10/16 16:51	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	10/06/16 20:52	mfm
Calcium, dissolved	M200.7 ICP	1	1			mg/L	0.1	0.5	10/08/16 4:01	aeb
Chromium, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	10/08/16 4:01	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:01	aeb
Copper, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	10/08/16 4:01	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:01	aeb
Iron, dissolved	M200.7 ICP	1	22.20		*	mg/L	0.02	0.05	10/08/16 4:01	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	10/06/16 20:52	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	10/08/16 4:01	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:01	aeb
Manganese, dissolved	M200.7 ICP	1	0.028	B		mg/L	0.005	0.03	10/08/16 4:01	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	10/05/16 15:24	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	10/08/16 4:01	aeb
Nickel, dissolved	M200.7 ICP	1	0.045			mg/L	0.008	0.04	10/08/16 4:01	aeb
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	10/08/16 4:01	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:01	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	10/06/16 20:52	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	10/08/16 4:01	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:01	aeb
Strontium, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.005	0.03	10/08/16 4:01	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0042			mg/L	0.0001	0.0005	10/06/16 20:52	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	10/08/16 4:01	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	10/08/16 4:01	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0020			mg/L	0.0001	0.0005	10/06/16 20:52	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	10/08/16 4:01	aeb
Zinc, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	10/08/16 4:01	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: *L33233-01*
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/30/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-5.9			%			10/12/16 0:00	calc
Sum of Anions			1.8			meq/L			10/12/16 0:00	calc
Sum of Cations			1.6			meq/L			10/12/16 0:00	calc
Chloride	SM4500Cl-E	1	0.9	B	*	mg/L	0.5	2	10/07/16 12:33	spl
Conductivity @25C	SM2510B	1	452		*	umhos/cm	1	10	09/30/16 4:09	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	10/06/16 13:09	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.5	B		mg/L	0.2	5	10/12/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	10/08/16 0:21	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	10/11/16 15:45	krh
pH (lab)	SM4500H+ B									
pH		1	3.0	H	*	units	0.1	0.1	09/30/16 0:00	sck
pH measured at		1	24.0			C	0.1	0.1	09/30/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.08		*	mg/L	0.02	0.05	10/06/16 0:07	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	128		*	mg/L	10	20	09/30/16 10:26	sck
Sulfate	D516-02/-07 - Turbidimetric	5	83.0		*	mg/L	5	25	10/05/16 14:45	spl
TDS (calculated)	Calculation		110			mg/L			10/12/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.16						10/12/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L33233-02***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								10/03/16 13:49	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.45			mg/L	0.03	0.2	10/08/16 4:04	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0010	B		mg/L	0.0004	0.002	10/10/16 13:26	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0002	0.001	10/06/16 21:01	mfm
Barium, dissolved	M200.7 ICP	1	0.071			mg/L	0.003	0.02	10/08/16 4:04	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00103			mg/L	0.00005	0.0003	10/06/16 21:01	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	10/10/16 16:54	aeb
Boron, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	10/10/16 16:54	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	10/06/16 21:01	mfm
Calcium, dissolved	M200.7 ICP	1	1			mg/L	0.1	0.5	10/08/16 4:04	aeb
Chromium, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	10/08/16 4:04	aeb
Cobalt, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	10/08/16 4:04	aeb
Copper, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	10/08/16 4:04	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:04	aeb
Iron, dissolved	M200.7 ICP	1	4.25		*	mg/L	0.02	0.05	10/08/16 4:04	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0045			mg/L	0.0001	0.0005	10/06/16 21:01	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	10/08/16 4:04	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:04	aeb
Manganese, dissolved	M200.7 ICP	1	0.325			mg/L	0.005	0.03	10/08/16 4:04	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	10/05/16 15:25	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	10/08/16 4:04	aeb
Nickel, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.008	0.04	10/08/16 4:04	aeb
Potassium, dissolved	M200.7 ICP	1	1.5			mg/L	0.2	1	10/08/16 4:04	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:04	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	10/06/16 21:01	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	10/08/16 4:04	aeb
Sodium, dissolved	M200.7 ICP	1	3.1			mg/L	0.2	1	10/08/16 4:04	aeb
Strontium, dissolved	M200.7 ICP	1	0.029	B		mg/L	0.005	0.03	10/08/16 4:04	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0001	0.0005	10/06/16 21:01	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	10/08/16 4:04	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	10/08/16 4:04	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0001	0.0005	10/06/16 21:01	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	10/08/16 4:04	aeb
Zinc, dissolved	M200.7 ICP	1	0.19			mg/L	0.01	0.05	10/08/16 4:04	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L33233-02***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/30/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-33.7			%			10/12/16 0:00	calc
Sum of Anions			1.3			meq/L			10/12/16 0:00	calc
Sum of Cations			0.645			meq/L			10/12/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	10/07/16 12:33	spl
Conductivity @25C	SM2510B	1	450		*	umhos/cm	1	10	09/30/16 4:13	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	10/06/16 13:15	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.5	B		mg/L	0.2	5	10/12/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B		mg/L	0.02	0.1	10/08/16 0:22	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	10/11/16 15:49	krh
pH (lab)	SM4500H+ B									
pH		1	3.0	H	*	units	0.1	0.1	09/30/16 0:00	sck
pH measured at		1	23.9			C	0.1	0.1	09/30/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	10/06/16 0:23	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	62		*	mg/L	10	20	09/30/16 10:28	sck
Sulfate	D516-02/-07 - Turbidimetric	5	61.0		*	mg/L	5	25	10/05/16 15:50	spl
TDS (calculated)	Calculation		72.9			mg/L			10/12/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.85						10/12/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L33233-03***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								10/03/16 14:08	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	2	39.70			mg/L	0.06	0.3	10/08/16 4:08	aeb
Antimony, dissolved	M200.8 ICP-MS	50		U		mg/L	0.02	0.1	10/10/16 13:29	mfm
Arsenic, dissolved	M200.8 ICP-MS	50	6.30			mg/L	0.01	0.05	10/10/16 13:29	mfm
Barium, dissolved	M200.7 ICP	2		U		mg/L	0.006	0.03	10/08/16 4:08	aeb
Beryllium, dissolved	M200.8 ICP-MS	2	0.0055			mg/L	0.0001	0.0005	10/06/16 21:04	mfm
Bismuth, dissolved	M200.7 ICP	2	0.10	B	*	mg/L	0.08	0.4	10/10/16 16:58	aeb
Boron, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	10/10/16 16:58	aeb
Cadmium, dissolved	M200.8 ICP-MS	2	0.0042			mg/L	0.0002	0.001	10/06/16 21:04	mfm
Calcium, dissolved	M200.7 ICP	2	60.8			mg/L	0.2	1	10/08/16 4:08	aeb
Chromium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	10/08/16 4:08	aeb
Cobalt, dissolved	M200.7 ICP	2	0.38			mg/L	0.02	0.1	10/08/16 4:08	aeb
Copper, dissolved	M200.7 ICP	2	0.97			mg/L	0.02	0.1	10/08/16 4:08	aeb
Gallium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	10/08/16 4:08	aeb
Iron, dissolved	M200.7 ICP	2	872		*	mg/L	0.04	0.1	10/08/16 4:08	aeb
Lead, dissolved	M200.8 ICP-MS	2	0.0012			mg/L	0.0002	0.001	10/06/16 21:04	mfm
Lithium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.08	10/08/16 4:08	aeb
Magnesium, dissolved	M200.7 ICP	2	7.2			mg/L	0.4	2	10/08/16 4:08	aeb
Manganese, dissolved	M200.7 ICP	2	0.49			mg/L	0.01	0.05	10/08/16 4:08	aeb
Mercury, dissolved	M245.1 CVAA	1	0.0005	B		mg/L	0.0002	0.001	10/05/16 15:26	scp
Molybdenum, dissolved	M200.7 ICP	2	0.47			mg/L	0.04	0.2	10/08/16 4:08	aeb
Nickel, dissolved	M200.7 ICP	2	0.34			mg/L	0.02	0.08	10/08/16 4:08	aeb
Potassium, dissolved	M200.7 ICP	2		U		mg/L	0.4	2	10/08/16 4:08	aeb
Scandium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	10/08/16 4:08	aeb
Selenium, dissolved	M200.8 ICP-MS	2	0.0165			mg/L	0.0002	0.0005	10/06/16 21:04	mfm
Silver, dissolved	M200.7 ICP	2		U	*	mg/L	0.02	0.05	10/08/16 4:08	aeb
Sodium, dissolved	M200.7 ICP	2		U		mg/L	0.4	2	10/08/16 4:08	aeb
Strontium, dissolved	M200.7 ICP	2	0.39			mg/L	0.01	0.05	10/08/16 4:08	aeb
Thallium, dissolved	M200.8 ICP-MS	2	0.0008	B		mg/L	0.0002	0.001	10/06/16 21:04	mfm
Tin, dissolved	M200.7 ICP	2		U		mg/L	0.08	0.4	10/08/16 4:08	aeb
Titanium, dissolved	M200.7 ICP	2		U	*	mg/L	0.01	0.05	10/08/16 4:08	aeb
Uranium, dissolved	M200.8 ICP-MS	2	0.0086			mg/L	0.0002	0.001	10/06/16 21:04	mfm
Vanadium, dissolved	M200.7 ICP	2		U		mg/L	0.01	0.05	10/08/16 4:08	aeb
Zinc, dissolved	M200.7 ICP	2	0.68			mg/L	0.02	0.1	10/08/16 4:08	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L33233-03***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/30/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.9			%			10/12/16 0:00	calc
Sum of Anions			53			meq/L			10/12/16 0:00	calc
Sum of Cations			54			meq/L			10/12/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	10/07/16 12:38	spl
Conductivity @25C	SM2510B	1	4800		*	umhos/cm	1	10	09/30/16 4:17	sck
Fluoride	SM4500F-C	400		U	*	mg/L	20	100	10/06/16 13:21	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		181			mg/L	0.5	10	10/12/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B		mg/L	0.02	0.1	10/08/16 0:24	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.06	B		mg/L	0.05	0.2	10/11/16 15:50	krh
pH (lab)	SM4500H+ B									
pH		1	2.0	H	*	units	0.1	0.1	09/30/16 0:00	sck
pH measured at		1	24.0			C	0.1	0.1	09/30/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	10	4.6			mg/L	0.2	0.5	10/06/16 0:51	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	3920		*	mg/L	10	20	09/30/16 10:34	sck
Sulfate	D516-02/-07 - Turbidimetric	100	2510		*	mg/L	100	500	10/05/16 16:02	spl
TDS (calculated)	Calculation		3490			mg/L			10/12/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.12						10/12/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L33233-04***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								10/03/16 14:27	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	2.91			mg/L	0.03	0.2	10/08/16 4:11	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0010	B		mg/L	0.0004	0.002	10/10/16 13:31	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0275			mg/L	0.0002	0.001	10/06/16 21:07	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	10/08/16 4:11	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00041			mg/L	0.00005	0.0003	10/06/16 21:07	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	10/10/16 17:01	aeb
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	10/10/16 17:01	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	10/06/16 21:07	mfm
Calcium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.1	0.5	10/08/16 4:11	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:11	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:11	aeb
Copper, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	10/08/16 4:11	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:11	aeb
Iron, dissolved	M200.7 ICP	1	25.80		*	mg/L	0.02	0.05	10/08/16 4:11	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0005	10/06/16 21:07	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	10/08/16 4:11	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:11	aeb
Manganese, dissolved	M200.7 ICP	1	0.077			mg/L	0.005	0.03	10/08/16 4:11	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	10/05/16 15:27	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	10/08/16 4:11	aeb
Nickel, dissolved	M200.7 ICP	1	0.019	B		mg/L	0.008	0.04	10/08/16 4:11	aeb
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:11	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:11	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0003	10/06/16 21:07	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	10/08/16 4:11	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:11	aeb
Strontium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	10/08/16 4:11	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	10/06/16 21:07	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	10/08/16 4:11	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	10/08/16 4:11	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0078			mg/L	0.0001	0.0005	10/06/16 21:07	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	10/08/16 4:11	aeb
Zinc, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	10/08/16 4:11	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L33233-04***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/30/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-32.0			%			10/12/16 0:00	calc
Sum of Anions			3.3			meq/L			10/12/16 0:00	calc
Sum of Cations			1.7			meq/L			10/12/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	10/07/16 12:34	spl
Conductivity @25C	SM2510B	1	1080		*	umhos/cm	1	10	09/30/16 4:21	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	10/06/16 13:27	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.749	B		mg/L	0.2	5	10/12/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.18			mg/L	0.02	0.1	10/08/16 0:29	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	10/11/16 15:52	krh
pH (lab)	SM4500H+ B									
pH		1	2.6	H	*	units	0.1	0.1	09/30/16 0:00	sck
pH measured at		1	24.1			C	0.1	0.1	09/30/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B		mg/L	0.02	0.05	10/06/16 0:27	pjb
Residue, Filterable (TDS) @180C	SM2540C	2	168		*	mg/L	20	40	09/30/16 10:36	sck
Sulfate	D516-02/-07 - Turbidimetric	5	158		*	mg/L	5	25	10/05/16 15:50	spl
TDS (calculated)	Calculation		187			mg/L			10/12/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.90						10/12/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L33233-05***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								10/03/16 14:36	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.61			mg/L	0.03	0.2	10/08/16 4:14	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0008	B	*	mg/L	0.0004	0.002	10/10/16 13:34	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0043			mg/L	0.0002	0.001	10/06/16 21:10	mfm
Barium, dissolved	M200.7 ICP	1	0.023			mg/L	0.003	0.02	10/08/16 4:14	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00214			mg/L	0.00005	0.0003	10/06/16 21:10	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	10/10/16 17:04	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/10/16 17:04	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	10/06/16 21:10	mfm
Calcium, dissolved	M200.7 ICP	1	14.3			mg/L	0.1	0.5	10/08/16 4:14	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:14	aeb
Cobalt, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	10/08/16 4:14	aeb
Copper, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	10/08/16 4:14	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:14	aeb
Iron, dissolved	M200.7 ICP	1	3.04		*	mg/L	0.02	0.05	10/08/16 4:14	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0001	0.0005	10/06/16 21:10	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	10/08/16 4:14	aeb
Magnesium, dissolved	M200.7 ICP	1	2.4			mg/L	0.2	1	10/08/16 4:14	aeb
Manganese, dissolved	M200.7 ICP	1	0.431			mg/L	0.005	0.03	10/08/16 4:14	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	10/05/16 15:31	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	10/08/16 4:14	aeb
Nickel, dissolved	M200.7 ICP	1	0.040			mg/L	0.008	0.04	10/08/16 4:14	aeb
Potassium, dissolved	M200.7 ICP	1	1.2			mg/L	0.2	1	10/08/16 4:14	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:14	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	10/06/16 21:10	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	10/08/16 4:14	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:14	aeb
Strontium, dissolved	M200.7 ICP	1	0.050			mg/L	0.005	0.03	10/08/16 4:14	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	10/06/16 21:10	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	10/08/16 4:14	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	10/08/16 4:14	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0096			mg/L	0.0001	0.0005	10/06/16 21:10	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	10/08/16 4:14	aeb
Zinc, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	10/08/16 4:14	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L33233-05***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/30/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-29.7			%			10/12/16 0:00	calc
Sum of Anions			2.4			meq/L			10/12/16 0:00	calc
Sum of Cations			1.3			meq/L			10/12/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	10/07/16 13:03	spl
Conductivity @25C	SM2510B	1	634		*	umhos/cm	1	10	09/30/16 4:26	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	10/06/16 13:40	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		46			mg/L	0.2	5	10/12/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	10/08/16 0:30	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	10/11/16 15:53	krh
pH (lab)	SM4500H+ B									
pH		1	2.9	H	*	units	0.1	0.1	09/30/16 0:00	sck
pH measured at		1	24.0			C	0.1	0.1	09/30/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	10/06/16 0:28	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	138		*	mg/L	10	20	09/30/16 10:39	sck
Sulfate	D516-02/-07 - Turbidimetric	5	114		*	mg/L	5	25	10/05/16 15:50	spl
TDS (calculated)	Calculation		137			mg/L			10/12/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.01						10/12/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L33233-06***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								10/03/16 14:46	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.08	B		mg/L	0.03	0.2	10/08/16 4:24	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	10/10/16 13:36	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0002	0.001	10/06/16 21:13	mfm
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	10/08/16 4:24	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00012	B		mg/L	0.00005	0.0003	10/06/16 21:13	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	10/10/16 17:13	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/10/16 17:13	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	10/06/16 21:13	mfm
Calcium, dissolved	M200.7 ICP	1	5			mg/L	0.1	0.5	10/08/16 4:24	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:24	aeb
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	10/08/16 4:24	aeb
Copper, dissolved	M200.7 ICP	1	0.24			mg/L	0.01	0.05	10/08/16 4:24	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:24	aeb
Iron, dissolved	M200.7 ICP	1	0.40		*	mg/L	0.02	0.05	10/08/16 4:24	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	10/06/16 21:13	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	10/08/16 4:24	aeb
Magnesium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	10/08/16 4:24	aeb
Manganese, dissolved	M200.7 ICP	1	0.028	B		mg/L	0.005	0.03	10/08/16 4:24	aeb
Mercury, dissolved	M245.1 CVAA	1	0.0002	B		mg/L	0.0002	0.001	10/05/16 15:32	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	10/08/16 4:24	aeb
Nickel, dissolved	M200.7 ICP	1	0.050			mg/L	0.008	0.04	10/08/16 4:24	aeb
Potassium, dissolved	M200.7 ICP	1	2.7			mg/L	0.2	1	10/08/16 4:24	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:24	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0033			mg/L	0.0001	0.0003	10/06/16 21:13	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	10/08/16 4:24	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:24	aeb
Strontium, dissolved	M200.7 ICP	1	0.063			mg/L	0.005	0.03	10/08/16 4:24	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	10/06/16 21:13	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	10/08/16 4:24	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	10/08/16 4:24	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0005	10/06/16 21:13	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	10/08/16 4:24	aeb
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	10/08/16 4:24	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L33233-06***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/30/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-16.4			%			10/12/16 0:00	calc
Sum of Anions			0.596			meq/L			10/12/16 0:00	calc
Sum of Cations			0.428	B		meq/L			10/12/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	10/07/16 13:03	spl
Conductivity @25C	SM2510B	1	96.4		*	umhos/cm	1	10	09/30/16 4:30	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	10/06/16 13:47	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		16			mg/L	0.2	5	10/12/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	10/08/16 0:31	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	10/11/16 15:55	krh
pH (lab)	SM4500H+ B									
pH		1	4.2	H	*	units	0.1	0.1	09/30/16 0:00	sck
pH measured at		1	24.0			C	0.1	0.1	09/30/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	10/06/16 0:29	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	34		*	mg/L	10	20	09/30/16 10:41	sck
Sulfate	D516-02/-07 - Turbidimetric	1	28.4		*	mg/L	1	5	10/05/16 15:43	spl
TDS (calculated)	Calculation		37.7			mg/L			10/12/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.90						10/12/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L33233-07***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								10/03/16 14:55	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	5.47			mg/L	0.03	0.2	10/08/16 4:27	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0018	B	*	mg/L	0.0004	0.002	10/10/16 13:39	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.1638			mg/L	0.0002	0.001	10/06/16 21:16	mfm
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	10/08/16 4:27	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00116			mg/L	0.00005	0.0003	10/06/16 21:16	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	10/10/16 17:17	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/10/16 17:17	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	10/06/16 21:16	mfm
Calcium, dissolved	M200.7 ICP	1	1.2			mg/L	0.1	0.5	10/08/16 4:27	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:27	aeb
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	10/08/16 4:27	aeb
Copper, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	10/08/16 4:27	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:27	aeb
Iron, dissolved	M200.7 ICP	1	35.90		*	mg/L	0.02	0.05	10/08/16 4:27	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0037			mg/L	0.0001	0.0005	10/06/16 21:16	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	10/08/16 4:27	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:27	aeb
Manganese, dissolved	M200.7 ICP	1	0.025	B		mg/L	0.005	0.03	10/08/16 4:27	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	10/05/16 15:33	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	10/08/16 4:27	aeb
Nickel, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.008	0.04	10/08/16 4:27	aeb
Potassium, dissolved	M200.7 ICP	1	2.2			mg/L	0.2	1	10/08/16 4:27	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:27	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	10/06/16 21:16	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	10/08/16 4:27	aeb
Sodium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	10/08/16 4:27	aeb
Strontium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.005	0.03	10/08/16 4:27	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	10/06/16 21:16	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	10/08/16 4:27	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	10/08/16 4:27	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0020			mg/L	0.0001	0.0005	10/06/16 21:16	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	10/08/16 4:27	aeb
Zinc, dissolved	M200.7 ICP	1	0.33			mg/L	0.01	0.05	10/08/16 4:27	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L33233-07***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/30/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-12.9			%			10/12/16 0:00	calc
Sum of Anions			3.5			meq/L			10/12/16 0:00	calc
Sum of Cations			2.7			meq/L			10/12/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	10/07/16 13:03	spl
Conductivity @25C	SM2510B	1	795		*	umhos/cm	1	10	09/30/16 4:34	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	10/06/16 13:53	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		3	B		mg/L	0.2	5	10/12/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.11		*	mg/L	0.02	0.1	10/08/16 0:33	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	10/11/16 15:57	krh
pH (lab)	SM4500H+ B									
pH		1	2.8	H	*	units	0.1	0.1	09/30/16 0:00	sck
pH measured at		1	24.0			C	0.1	0.1	09/30/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.04	B		mg/L	0.02	0.05	10/06/16 0:31	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	202		*	mg/L	10	20	09/30/16 10:44	sck
Sulfate	D516-02/-07 - Turbidimetric	5	168		*	mg/L	5	25	10/05/16 15:50	spl
TDS (calculated)	Calculation		214			mg/L			10/12/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.94						10/12/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L33233-08***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								10/03/16 15:05	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	10/08/16 4:37	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0006	B	*	mg/L	0.0004	0.002	10/10/16 13:42	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0073			mg/L	0.0002	0.001	10/06/16 21:19	mfm
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	10/08/16 4:37	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	10/06/16 21:19	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	10/10/16 17:26	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/10/16 17:26	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	10/06/16 21:19	mfm
Calcium, dissolved	M200.7 ICP	1	1.2			mg/L	0.1	0.5	10/08/16 4:37	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:37	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:37	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:37	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:37	aeb
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.05	10/08/16 4:37	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	10/06/16 21:19	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	10/08/16 4:37	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:37	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	10/08/16 4:37	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	10/05/16 15:34	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	10/08/16 4:37	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	10/08/16 4:37	aeb
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:37	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:37	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	10/06/16 21:19	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	10/08/16 4:37	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:37	aeb
Strontium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	10/08/16 4:37	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	10/06/16 21:19	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	10/08/16 4:37	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	10/08/16 4:37	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	10/06/16 21:19	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	10/08/16 4:37	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:37	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L33233-08***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	2.7	B		mg/L	2	20	09/30/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Total Alkalinity		1	2.7	B	*	mg/L	2	20	09/30/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			10/12/16 0:00	calc
Sum of Anions			0.136	B		meq/L			10/12/16 0:00	calc
Sum of Cations				U		meq/L			10/12/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	10/07/16 13:03	spl
Conductivity @25C	SM2510B	1	11.6		*	umhos/cm	1	10	09/30/16 4:43	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	10/06/16 13:59	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		3	B		mg/L	0.2	5	10/12/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	10/08/16 0:35	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	10/11/16 16:00	krh
pH (lab)	SM4500H+ B									
pH		1	6.9	H	*	units	0.1	0.1	09/30/16 0:00	sck
pH measured at		1	24.0			C	0.1	0.1	09/30/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	10/06/16 0:34	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	09/30/16 10:47	sck
Sulfate	D516-02/-07 - Turbidimetric	1	3.9	B	*	mg/L	1	5	10/05/16 15:43	spl
TDS (calculated)	Calculation		6.76			mg/L			10/12/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						10/12/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L33233-09***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								10/03/16 15:15	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	10/08/16 4:40	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0009	B	*	mg/L	0.0004	0.002	10/10/16 13:49	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0030			mg/L	0.0002	0.001	10/06/16 21:28	mfm
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	10/08/16 4:40	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00012	B		mg/L	0.00005	0.0003	10/06/16 21:28	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	10/10/16 17:29	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/10/16 17:29	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	10/06/16 21:28	mfm
Calcium, dissolved	M200.7 ICP	1	0.9			mg/L	0.1	0.5	10/08/16 4:40	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:40	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:40	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:40	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:40	aeb
Iron, dissolved	M200.7 ICP	1	0.07		*	mg/L	0.02	0.05	10/08/16 4:40	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	10/06/16 21:28	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	10/08/16 4:40	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:40	aeb
Manganese, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.005	0.03	10/08/16 4:40	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	10/05/16 15:35	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	10/08/16 4:40	aeb
Nickel, dissolved	M200.7 ICP	1	0.141			mg/L	0.008	0.04	10/08/16 4:40	aeb
Potassium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	10/08/16 4:40	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:40	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0003	10/06/16 21:28	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	10/08/16 4:40	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:40	aeb
Strontium, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.005	0.03	10/08/16 4:40	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	10/06/16 21:28	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	10/08/16 4:40	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	10/08/16 4:40	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	10/06/16 21:28	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	10/08/16 4:40	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:40	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L33233-09***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/30/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			10/12/16 0:00	calc
Sum of Anions				U		meq/L			10/12/16 0:00	calc
Sum of Cations				U		meq/L			10/12/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	10/07/16 13:03	spl
Conductivity @25C	SM2510B	1	23.9		*	umhos/cm	1	10	09/30/16 4:48	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	10/06/16 14:05	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.3	B		mg/L	0.2	5	10/12/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	10/08/16 0:38	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	10/11/16 16:06	krh
pH (lab)	SM4500H+ B									
pH		1	4.9	H	*	units	0.1	0.1	09/30/16 0:00	sck
pH measured at		1	24.0			C	0.1	0.1	09/30/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	10/06/16 0:35	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	12	B	*	mg/L	10	20	09/30/16 10:49	sck
Sulfate	D516-02/-07 - Turbidimetric	1	4.5	B	*	mg/L	1	5	10/05/16 15:44	spl
TDS (calculated)	Calculation		5.89			mg/L			10/12/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.04						10/12/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L33233-10***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								10/06/16 12:55	bce
Cyanide, WAD	SM4500-CN I- distillation				*				10/07/16 10:17	bce
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								10/03/16 15:24	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	6.20			mg/L	0.03	0.2	10/08/16 4:43	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0004	B	*	mg/L	0.0004	0.002	10/10/16 13:57	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0002	0.001	10/06/16 21:38	mfm
Barium, dissolved	M200.7 ICP	1	0.033			mg/L	0.003	0.02	10/08/16 4:43	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00045			mg/L	0.00005	0.0003	10/06/16 21:38	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	10/10/16 17:32	aeb
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	10/10/16 17:32	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	10/06/16 21:38	mfm
Calcium, dissolved	M200.7 ICP	1	0.6			mg/L	0.1	0.5	10/08/16 4:43	aeb
Chromium, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	10/08/16 4:43	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	10/08/16 4:43	aeb
Copper, dissolved	M200.7 ICP	1	0.37			mg/L	0.01	0.05	10/08/16 4:43	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:43	aeb
Iron, dissolved	M200.7 ICP	1	14.10		*	mg/L	0.02	0.05	10/08/16 4:43	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	10/06/16 21:38	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	10/08/16 4:43	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	10/08/16 4:43	aeb
Manganese, dissolved	M200.7 ICP	1	0.093			mg/L	0.005	0.03	10/08/16 4:43	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	10/05/16 15:36	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	10/08/16 4:43	aeb
Nickel, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.008	0.04	10/08/16 4:43	aeb
Potassium, dissolved	M200.7 ICP	1	3.1			mg/L	0.2	1	10/08/16 4:43	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	10/08/16 4:43	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0003	10/06/16 21:38	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	10/08/16 4:43	aeb
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	10/08/16 4:43	aeb
Strontium, dissolved	M200.7 ICP	1	0.024	B		mg/L	0.005	0.03	10/08/16 4:43	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0005	10/06/16 21:38	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	10/08/16 4:43	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	10/08/16 4:43	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0058			mg/L	0.0001	0.0005	10/06/16 21:38	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	10/08/16 4:43	aeb
Zinc, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	10/08/16 4:43	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L33233-10***
Date Sampled: *09/28/16 00:00*
Date Received: *09/29/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	09/30/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	09/30/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-11.1			%			10/12/16 0:00	calc
Sum of Anions			2.0			meq/L			10/12/16 0:00	calc
Sum of Cations			1.6			meq/L			10/12/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	10/07/16 13:03	spl
Conductivity @25C	SM2510B	1	531		*	umhos/cm	1	10	09/30/16 4:53	sck
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	10/07/16 11:00	krh
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	10/07/16 15:50	bce
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	10/06/16 14:16	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	10/12/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	10/08/16 0:39	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	10/11/16 16:07	krh
pH (lab)	SM4500H+ B									
pH		1	3.0	H	*	units	0.1	0.1	09/30/16 0:00	sck
pH measured at		1	24.0			C	0.1	0.1	09/30/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	10/06/16 0:36	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	156		*	mg/L	10	20	09/30/16 10:52	sck
Sulfate	D516-02/-07 - Turbidimetric	5	96.5		*	mg/L	5	25	10/05/16 15:51	spl
TDS (calculated)	Calculation		122			mg/L			10/12/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.28						10/12/16 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L33233***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG410687													
WG410687PBW1	PBW	09/29/16 17:16				U	mg/L		-20	20			
WG410687LCSW3	LCSW	09/29/16 17:32	WC160914-3	820.0001		772	mg/L	94	90	110			
WG410687LCSW6	LCSW	09/29/16 21:04	WC160914-3	820.0001		777	mg/L	95	90	110			
WG410687PBW2	PBW	09/29/16 21:10				U	mg/L		-20	20			
WG410687LCSW9	LCSW	09/29/16 23:53	WC160914-3	820.0001		765	mg/L	93	90	110			
WG410687PBW3	PBW	09/30/16 0:00				U	mg/L		-20	20			
WG410687LCSW12	LCSW	09/30/16 2:35	WC160914-3	820.0001		777	mg/L	95	90	110			
WG410687PBW4	PBW	09/30/16 2:43				2.7	mg/L		-20	20			
L33233-10DUP	DUP	09/30/16 4:57			U	U	mg/L				0	20	RA
WG410687LCSW15	LCSW	09/30/16 5:14	WC160914-3	820.0001		785	mg/L	96	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		2.016	mg/L	101	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.09	0.09			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	1.0013		1.054	mg/L	105	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	1.0013	1.61	2.595	mg/L	98	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	1.0013	1.61	2.6	mg/L	99	85	115	0	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411170													
WG411170ICV	ICV	10/10/16 12:50	MS160920-1	.02		.01928	mg/L	96	90	110			
WG411170ICB	ICB	10/10/16 12:52				.00105	mg/L		-0.0012	0.0012			
WG411170LFB	LFB	10/10/16 12:55	MS160928-2	.009980001		.00871	mg/L	87	85	115			
L33226-01AS	AS	10/10/16 13:03	MS160928-2	.009980001	.0008	.00805	mg/L	73	70	130			
L33226-01ASD	ASD	10/10/16 13:05	MS160928-2	.009980001	.0008	.0089	mg/L	81	70	130	10	20	
L33233-08AS	AS	10/10/16 13:44	MS160928-2	.009980001	.0006	.00691	mg/L	63	70	130			M2
L33233-08ASD	ASD	10/10/16 13:47	MS160928-2	.009980001	.0006	.00716	mg/L	66	70	130	4	20	M2

McClelland Laboratories, Inc.

ACZ Project ID: ***L33233***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411073													
WG411073ICV	ICV	10/06/16 20:17	MS160920-1	.05		.0501	mg/L	100	90	110			
WG411073ICB	ICB	10/06/16 20:21				U	mg/L		-0.0006	0.0006			
WG411073LFB	LFB	10/06/16 20:24	MS160928-2	.0501		.05001	mg/L	100	85	115			
L33226-02AS	AS	10/06/16 20:36	MS160928-2	.0501	.0015	.05332	mg/L	103	70	130			
L33226-02ASD	ASD	10/06/16 20:39	MS160928-2	.0501	.0015	.05467	mg/L	106	70	130	3	20	
L33233-08AS	AS	10/06/16 21:22	MS160928-2	.0501	.0073	.05578	mg/L	97	70	130			
L33233-08ASD	ASD	10/06/16 21:25	MS160928-2	.0501	.0073	.06055	mg/L	106	70	130	8	20	
WG411170													
WG411170ICV	ICV	10/10/16 12:50	MS160920-1	.05		.05394	mg/L	108	90	110			
WG411170ICB	ICB	10/10/16 12:52				U	mg/L		-0.0006	0.0006			
WG411170LFB	LFB	10/10/16 12:55	MS160928-2	.0501		.0499	mg/L	100	85	115			
L33226-01AS	AS	10/10/16 13:03	MS160928-2	.0501	.0016	.0512	mg/L	99	70	130			
L33226-01ASD	ASD	10/10/16 13:05	MS160928-2	.0501	.0016	.05277	mg/L	102	70	130	3	20	
L33233-08AS	AS	10/10/16 13:44	MS160928-2	.0501	.0069	.05579	mg/L	98	70	130			
L33233-08ASD	ASD	10/10/16 13:47	MS160928-2	.0501	.0069	.05629	mg/L	99	70	130	1	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		1.9778	mg/L	99	95	105			
WG411129ICB	ICB	10/08/16 3:45				.0034	mg/L		-0.009	0.009			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	.5005		.5094	mg/L	102	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	.5005	.023	.507	mg/L	97	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	.5005	.023	.513	mg/L	98	85	115	1	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411073													
WG411073ICV	ICV	10/06/16 20:17	MS160920-1	.05		.05178	mg/L	104	90	110			
WG411073ICB	ICB	10/06/16 20:21				U	mg/L		-0.00015	0.00015			
WG411073LFB	LFB	10/06/16 20:24	MS160928-2	.0501		.04994	mg/L	100	85	115			
L33226-02AS	AS	10/06/16 20:36	MS160928-2	.0501	U	.04553	mg/L	91	70	130			
L33226-02ASD	ASD	10/06/16 20:39	MS160928-2	.0501	U	.04303	mg/L	86	70	130	6	20	
L33233-08AS	AS	10/06/16 21:22	MS160928-2	.0501	U	.05121	mg/L	102	70	130			
L33233-08ASD	ASD	10/06/16 21:25	MS160928-2	.0501	U	.04854	mg/L	97	70	130	5	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411186													
WG411186ICV	ICV	10/10/16 16:29	II161007-2	2		1.962	mg/L	98	95	105			
WG411186ICB	ICB	10/10/16 16:36				U	mg/L		-0.12	0.12			
WG411186LFB	LFB	10/10/16 16:48	II160929-3	1		1.043	mg/L	104	85	115			
L33233-05AS	AS	10/10/16 17:07	II160929-3	1	U	1.068	mg/L	107	85	115			
L33233-05ASD	ASD	10/10/16 17:10	II160929-3	1	U	1.015	mg/L	102	85	115	5	20	

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ACZ Project ID: ***L33233***

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411186													
WG411186ICV	ICV	10/10/16 16:29	II161007-2	2		2.009	mg/L	100	95	105			
WG411186ICB	ICB	10/10/16 16:36				.018	mg/L		-0.03	0.03			
WG411186LFB	LFB	10/10/16 16:48	II160929-3	.5005		.543	mg/L	108	85	115			
L33233-05AS	AS	10/10/16 17:07	II160929-3	.5005	U	.513	mg/L	102	85	115			
L33233-05ASD	ASD	10/10/16 17:10	II160929-3	.5005	U	.519	mg/L	104	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411073													
WG411073ICV	ICV	10/06/16 20:17	MS160920-1	.05		.05094	mg/L	102	90	110			
WG411073ICB	ICB	10/06/16 20:21				U	mg/L		-0.0003	0.0003			
WG411073LFB	LFB	10/06/16 20:24	MS160928-2	.05005		.04802	mg/L	96	85	115			
L33226-02AS	AS	10/06/16 20:36	MS160928-2	.05005	U	.04774	mg/L	95	70	130			
L33226-02ASD	ASD	10/06/16 20:39	MS160928-2	.05005	U	.04656	mg/L	93	70	130	3	20	
L33233-08AS	AS	10/06/16 21:22	MS160928-2	.05005	U	.04979	mg/L	99	70	130			
L33233-08ASD	ASD	10/06/16 21:25	MS160928-2	.05005	U	.04812	mg/L	96	70	130	3	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	100		99.77	mg/L	100	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.3	0.3			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	67.98044		69.7	mg/L	103	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	67.98044	14.3	83.08	mg/L	101	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	67.98044	14.3	82.5	mg/L	100	85	115	1	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411100													
WG411100ICB	ICB	10/07/16 11:09				U	mg/L		-1.5	1.5			
WG411100ICV	ICV	10/07/16 11:09	WI160701-1	55.055		58.08	mg/L	105	90	110			
WG411100LFB1	LFB	10/07/16 11:20	WI160415-1	29.97		32.45	mg/L	108	90	110			
WG411100LFB2	LFB	10/07/16 12:08	WI160415-1	29.97		32.37	mg/L	108	90	110			
L33268-03AS	AS	10/07/16 12:34	WI160415-1	29.97	22.4	56.41	mg/L	113	90	110			M1
L33268-04DUP	DUP	10/07/16 12:34			51.5	50.9	mg/L				1	20	
WG411101													
WG411101ICB	ICB	10/07/16 11:09				U	mg/L		-1.5	1.5			
WG411101ICV	ICV	10/07/16 11:09	WI160701-1	55.055		58.08	mg/L	105	90	110			
WG411101LFB1	LFB	10/07/16 13:03	WI160415-1	29.97		32.06	mg/L	107	90	110			
L33233-05AS	AS	10/07/16 13:03	WI160415-1	29.97	U	31.41	mg/L	105	90	110			
L33233-06DUP	DUP	10/07/16 13:03			U	U	mg/L				0	20	RA
WG411101LFB2	LFB	10/07/16 14:35	WI160415-1	29.97		32.76	mg/L	109	90	110			

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ACZ Project ID: ***L33233***

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		1.949	mg/L	97	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.03	0.03			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	.5025		.514	mg/L	102	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	.5025	U	.497	mg/L	99	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	.5025	U	.502	mg/L	100	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2.002		1.932	mg/L	97	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.03	0.03			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	.5015		.502	mg/L	100	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	.5015	.03	.499	mg/L	94	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	.5015	.03	.511	mg/L	96	85	115	2	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG410687													
WG410687LCSW2	LCSW	09/29/16 17:20	PCN50212	1409		1500	umhos/cm	106	90	110			
WG410687LCSW5	LCSW	09/29/16 20:52	PCN50212	1409		1500	umhos/cm	106	90	110			
WG410687LCSW8	LCSW	09/29/16 23:40	PCN50212	1409		1460	umhos/cm	104	90	110			
WG410687LCSW11	LCSW	09/30/16 2:23	PCN50212	1409		1410	umhos/cm	100	90	110			
L33233-10DUP	DUP	09/30/16 4:57			531	553	umhos/cm				4	20	
WG410687LCSW14	LCSW	09/30/16 5:01	PCN50212	1409		1450	umhos/cm	103	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		1.965	mg/L	98	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.03	0.03			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	.501		.508	mg/L	101	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	.501	.1	.58	mg/L	96	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	.501	.1	.59	mg/L	98	85	115	2	20	

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ACZ Project ID: ***L33233***

Cyanide, total — M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411089													
WG411061ICV1	ICV	10/07/16 10:23	WI160929-6	.3003		.2817	mg/L	94	90	110			
WG411089ICB	ICB	10/07/16 10:24				U	mg/L		-0.003	0.003			
WG411061ICV2	ICV	10/07/16 10:26	WI161006-6	.04		.0378	mg/L	95	90	110			
WG411061ICV4	ICV	10/07/16 10:27	WI161006-6	.04		.03765	mg/L	94	90	110			
WG411089ICV	ICV	10/07/16 10:39	WI161006-6	.04		.03765	mg/L	94	90	110			
WG411061ICV4	ICV	10/07/16 10:40	WI161006-6	.04		.0377	mg/L	94	90	110			
WG411092													
WG411032LRB	LRB	10/07/16 10:53				U	mg/L		-0.003	0.003			
WG411032LFB	LFB	10/07/16 10:54	WI160929-2	.2		.1873	mg/L	94	90	110			
L33180-04DUP	DUP	10/07/16 10:55			U	U	mg/L				0	20	RA
L33180-05LFM	LFM	10/07/16 10:57	WI160929-2	.2	U	.1806	mg/L	90	90	110			

Cyanide, WAD — SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411115													
WG411115ICV	ICV	10/07/16 15:46	WI160929-6	.3003		.2875	mg/L	96	90	110			
WG411115ICB	ICB	10/07/16 15:47				U	mg/L		-0.003	0.003			
WG411058LRB	LRB	10/07/16 15:48				U	mg/L		-0.003	0.003			
WG411058LFB	LFB	10/07/16 15:49	WI160929-4	.2002		.1935	mg/L	97	90	110			
L33265-01DUP	DUP	10/07/16 15:52			.035	.0364	mg/L				4	20	
L33295-01LFM	LFM	10/07/16 15:54	WI160929-4	.2002	U	.1926	mg/L	96	90	110			

Fluoride — SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411027													
WG411027ICV	ICV	10/06/16 11:35	WC160929-7	2		1.949	mg/L	97	95	105			
WG411027ICB	ICB	10/06/16 11:39				.057	mg/L		-0.15	0.15			
WG411027LFB1	LFB	10/06/16 11:46	WC160923-7	4.995		4.909	mg/L	98	90	110			
L33228-03AS	AS	10/06/16 12:54	WC160923-7	4.995	U	4.711	mg/L	94	90	110			
L33228-03DUP	DUP	10/06/16 13:01			U	U	mg/L				0	20	RA
L33233-10AS	AS	10/06/16 14:20	WC160923-7	199.8	U	172	mg/L	86	90	110			M2
L33233-10DUP	DUP	10/06/16 14:24			U	3.6	mg/L				200	20	RA
WG411027LFB2	LFB	10/06/16 14:29	WC160923-7	4.995		4.648	mg/L	93	90	110			

Gallium, dissolved — M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		1.99	mg/L	100	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.3	0.3			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	1		1.01	mg/L	101	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	1	U	.99	mg/L	99	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	1	U	1	mg/L	100	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L33233***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		1.988	mg/L	99	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.06	0.06			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	1.0017		1.026	mg/L	102	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	1.0017	3.04	3.824	mg/L	78	85	115			M3
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	1.0017	3.04	3.848	mg/L	81	85	115	1	20	M3

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411073													
WG411073ICV	ICV	10/06/16 20:17	MS160920-1	.05		.049	mg/L	98	90	110			
WG411073ICB	ICB	10/06/16 20:21				U	mg/L		-0.0003	0.0003			
WG411073LFB	LFB	10/06/16 20:24	MS160928-2	.0501		.04522	mg/L	90	85	115			
L33226-02AS	AS	10/06/16 20:36	MS160928-2	.0501	.0007	.04584	mg/L	90	70	130			
L33226-02ASD	ASD	10/06/16 20:39	MS160928-2	.0501	.0007	.04448	mg/L	87	70	130	3	20	
L33233-08AS	AS	10/06/16 21:22	MS160928-2	.0501	.0001	.04677	mg/L	93	70	130			
L33233-08ASD	ASD	10/06/16 21:25	MS160928-2	.0501	.0001	.04508	mg/L	90	70	130	4	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		1.9562	mg/L	98	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.024	0.024			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	1.001		.978	mg/L	98	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	1.001	U	.9702	mg/L	97	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	1.001	U	.9739	mg/L	97	85	115	0	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	100		99.15	mg/L	99	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.6	0.6			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	50.01136		46.41	mg/L	93	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	50.01136	2.4	48.75	mg/L	93	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	50.01136	2.4	48.22	mg/L	92	85	115	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		1.954	mg/L	98	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.015	0.015			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	.5		.5196	mg/L	104	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	.5	.431	.9085	mg/L	96	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	.5	.431	.9134	mg/L	96	85	115	1	20	

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ACZ Project ID: ***L33233***

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG410894													
WG410894ICV	ICV	10/05/16 13:59	HG160805-4	.005		.00501	mg/L	100	95	105			
WG410894ICB	ICB	10/05/16 14:00				U	mg/L		-0.0002	0.0002			
WG410897													
WG410897LRB	LRB	10/05/16 15:09				U	mg/L		-0.00044	0.00044			
WG410897LFB	LFB	10/05/16 15:10	HG161003-5	.002002		.00199	mg/L	99	85	115			
L33233-04LFM	LFM	10/05/16 15:28	HG161003-5	.002002	U	.0019	mg/L	95	85	115			
L33233-04LFMD	LFMD	10/05/16 15:29	HG161003-5	.002002	U	.00191	mg/L	95	85	115	1	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		2.017	mg/L	101	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.06	0.06			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	.4995		.505	mg/L	101	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	.4995	U	.502	mg/L	101	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	.4995	U	.494	mg/L	99	85	115	2	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2.002		2.004	mg/L	100	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.024	0.024			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	.498		.4957	mg/L	100	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	.498	.04	.5047	mg/L	93	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	.498	.04	.5177	mg/L	96	85	115	3	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411132													
WG411132ICV	ICV	10/07/16 20:31	WI160908-7	2.416		2.337	mg/L	97	90	110			
WG411132ICB	ICB	10/07/16 20:32				U	mg/L		-0.02	0.02			
WG411137													
WG411137LFB1	LFB	10/08/16 0:12	WI160616-3	2		1.888	mg/L	94	90	110			
L33083-01AS	AS	10/08/16 0:15	WI160616-3	2	U	1.971	mg/L	99	90	110			
L33084-01DUP	DUP	10/08/16 0:17			.54	.539	mg/L				0	20	
L33233-07AS	AS	10/08/16 0:34	WI160616-3	2	.11	2.02	mg/L	96	90	110			
L33233-08DUP	DUP	10/08/16 0:37			U	U	mg/L				0	20	RA
WG411137LFB2	LFB	10/08/16 0:52	WI160616-3	2		1.867	mg/L	93	90	110			

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ACZ Project ID: ***L33233***

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411257													
WG411257ICV	ICV	10/11/16 15:12	WI161004-4	11.988		11.781	mg/L	98	90	110			
WG411257ICB	ICB	10/11/16 15:13				U	mg/L		-0.05	0.05			
WG411257LFB1	LFB	10/11/16 15:15	WI160121-1	10		10.075	mg/L	101	90	110			
L33199-03AS	AS	10/11/16 15:37	WI160121-1	50	7.3	58.27	mg/L	102	90	110			
L33229-08DUP	DUP	10/11/16 15:40			1.51	1.501	mg/L				1	20	
WG411257LFB2	LFB	10/11/16 15:56	WI160121-1	10		10.157	mg/L	102	90	110			
L33233-07AS	AS	10/11/16 15:59	WI160121-1	10	U	9.965	mg/L	100	90	110			
L33233-08DUP	DUP	10/11/16 16:02			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG410687													
WG410687LCSW1	LCSW	09/29/16 17:19	PCN49792	5.99		6	units	100	5.9	6.1			
WG410687LCSW4	LCSW	09/29/16 20:50	PCN49792	5.99		6	units	100	5.9	6.1			
WG410687LCSW7	LCSW	09/29/16 23:39	PCN49792	5.99		6	units	100	5.9	6.1			
WG410687LCSW10	LCSW	09/30/16 2:21	PCN49792	5.99		6	units	100	5.9	6.1			
L33233-10DUP	DUP	09/30/16 4:57			3	3	units				0	20	
WG410687LCSW13	LCSW	09/30/16 5:00	PCN49792	5.99		6	units	100	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411003													
WG411003ICV	ICV	10/05/16 23:31	WI160908-3	.65228		.632	mg/L	97	90	110			
WG411003ICB	ICB	10/05/16 23:33				U	mg/L		-0.02	0.02			
WG410800LRB	LRB	10/05/16 23:35				U	mg/L		-0.02	0.02			
WG410800LFB	LFB	10/05/16 23:36	WI160921-2	.5		.488	mg/L	98	90	110			
L33214-01LFM	LFM	10/05/16 23:54	WI160921-2	.5	.03	.521	mg/L	98	90	110			
L33224-01DUP	DUP	10/05/16 23:56			.04	.045	mg/L				12	20	RA
WG411005													
WG410826LRB	LRB	10/06/16 0:20				U	mg/L		-0.02	0.02			
WG410826LFB	LFB	10/06/16 0:21	WI160921-2	.5		.493	mg/L	99	90	110			
L33233-02LFM	LFM	10/06/16 0:24	WI160921-2	.5	U	.502	mg/L	100	90	110			
L33233-03DUP	DUP	10/06/16 0:52			4.6	4.51	mg/L				2	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	20		19.94	mg/L	100	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.6	0.6			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	99.96112		100.3	mg/L	100	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	99.96112	1.2	101.2	mg/L	100	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	99.96112	1.2	100.1	mg/L	99	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L33233***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG410709													
WG410709PBW	PBW	09/30/16 10:00				U	mg/L		-20	20			
WG410709LCSW	LCSW	09/30/16 10:02	PCN51572	260		264	mg/L	102	80	120			
L33233-02DUP	DUP	09/30/16 10:31			62	70	mg/L				12	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		1.98	mg/L	99	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.3	0.3			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	.9868		1	mg/L	101	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	.9868	U	.99	mg/L	100	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	.9868	U	.99	mg/L	100	85	115	0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411073													
WG411073ICV	ICV	10/06/16 20:17	MS160920-1	.05		.04968	mg/L	99	90	110			
WG411073ICB	ICB	10/06/16 20:21				U	mg/L		-0.0003	0.0003			
WG411073LFB	LFB	10/06/16 20:24	MS160928-2	.05005		.04816	mg/L	96	85	115			
L33226-02AS	AS	10/06/16 20:36	MS160928-2	.05005	.0001	.049	mg/L	98	70	130			
L33226-02ASD	ASD	10/06/16 20:39	MS160928-2	.05005	.0001	.04998	mg/L	100	70	130	2	20	
L33233-08AS	AS	10/06/16 21:22	MS160928-2	.05005	.0002	.05034	mg/L	100	70	130			
L33233-08ASD	ASD	10/06/16 21:25	MS160928-2	.05005	.0002	.04927	mg/L	98	70	130	2	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	1.001		1.026	mg/L	102	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.03	0.03			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	.501		.5	mg/L	100	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	.501	U	.373	mg/L	74	85	115			M2 ZA
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	.501	U	.372	mg/L	74	85	115	0	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	100		98.95	mg/L	99	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.6	0.6			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	100.007		99.51	mg/L	100	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	100.007	U	99.4	mg/L	99	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	100.007	U	98.57	mg/L	99	85	115	1	20	

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ACZ Project ID: ***L33233***

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		1.9692	mg/L	98	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.015	0.015			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	.5		.5101	mg/L	102	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	.5	.05	.5525	mg/L	101	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	.5	.05	.5493	mg/L	100	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG410985													
WG410985ICB	ICB	10/05/16 13:42				U	mg/L		-3	3			
WG410985ICV	ICV	10/05/16 13:42	WI161004-1	20		20.1	mg/L	101	90	110			
WG410985LFB	LFB	10/05/16 14:04	WI160815-8	10		10	mg/L	100	90	110			
L33223-02AS	AS	10/05/16 15:17	SO4TURB10X	10	373	378	mg/L	50	90	110			M3
L33223-01DUP	DUP	10/05/16 15:27			442	441	mg/L				0	20	
WG410986													
WG410986ICB	ICB	10/05/16 13:42				U	mg/L		-3	3			
WG410986ICV	ICV	10/05/16 13:42	WI161004-1	20		20.1	mg/L	101	90	110			
WG410986LFB	LFB	10/05/16 15:43	WI160815-8	10		10.3	mg/L	103	90	110			
L33233-02DUP	DUP	10/05/16 15:50			61	66.5	mg/L				9	20	
L33233-03AS	AS	10/05/16 16:02	SO4TURB	10	2510	2890	mg/L	3800	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411073													
WG411073ICV	ICV	10/06/16 20:17	MS160920-1	.05		.05462	mg/L	109	90	110			
WG411073ICB	ICB	10/06/16 20:21				U	mg/L		-0.0003	0.0003			
WG411073LFB	LFB	10/06/16 20:24	MS160928-2	.0501		.05163	mg/L	103	85	115			
L33226-02AS	AS	10/06/16 20:36	MS160928-2	.0501	U	.05227	mg/L	104	70	130			
L33226-02ASD	ASD	10/06/16 20:39	MS160928-2	.0501	U	.05078	mg/L	101	70	130	3	20	
L33233-08AS	AS	10/06/16 21:22	MS160928-2	.0501	U	.05391	mg/L	108	70	130			
L33233-08ASD	ASD	10/06/16 21:25	MS160928-2	.0501	U	.05251	mg/L	105	70	130	3	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		2.081	mg/L	104	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.12	0.12			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	1.001		1.003	mg/L	100	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	1.001	U	.979	mg/L	98	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	1.001	U	1.003	mg/L	100	85	115	2	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L33233***

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		2.0348	mg/L	102	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.015	0.015			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	1.002		.9958	mg/L	99	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	1.002	U	.989	mg/L	99	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	1.002	U	.9904	mg/L	99	85	115	0	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411073													
WG411073ICV	ICV	10/06/16 20:17	MS160920-1	.05		.05327	mg/L	107	90	110			
WG411073ICB	ICB	10/06/16 20:21				U	mg/L		-0.0003	0.0003			
WG411073LFB	LFB	10/06/16 20:24	MS160928-2	.05		.05114	mg/L	102	85	115			
L33226-02AS	AS	10/06/16 20:36	MS160928-2	.05	U	.05373	mg/L	107	70	130			
L33226-02ASD	ASD	10/06/16 20:39	MS160928-2	.05	U	.05142	mg/L	103	70	130	4	20	
L33233-08AS	AS	10/06/16 21:22	MS160928-2	.05	U	.0526	mg/L	105	70	130			
L33233-08ASD	ASD	10/06/16 21:25	MS160928-2	.05	U	.05014	mg/L	100	70	130	5	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		1.9702	mg/L	99	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.015	0.015			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	.502		.5106	mg/L	102	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	.502	U	.5035	mg/L	100	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	.502	U	.5018	mg/L	100	85	115	0	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG411129													
WG411129ICV	ICV	10/08/16 3:39	II160912-1	2		1.981	mg/L	99	95	105			
WG411129ICB	ICB	10/08/16 3:45				U	mg/L		-0.03	0.03			
WG411129LFB	LFB	10/08/16 3:58	II160929-3	.4995		.53	mg/L	106	85	115			
L33233-05AS	AS	10/08/16 4:17	II160929-3	.4995	.09	.605	mg/L	103	85	115			
L33233-05ASD	ASD	10/08/16 4:21	II160929-3	.4995	.09	.611	mg/L	104	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L33233***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33233-01	WG411129	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG411100	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG410687	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG411027	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG411003	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410709	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410985	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG410687	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L33233***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33233-02	WG411129	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG411100	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG410687	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG411027	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG410709	Residue, Filterable (TDS) @180C	SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410986	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG410687	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L33233***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33233-03	WG411129	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG411100	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG410687	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG411027	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG410709	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410986	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG410687	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc.

ACZ Project ID: ***L33233***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33233-04	WG411129	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG411100	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG410687	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG411027	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG410709	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410986	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG410687	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

ACZ Laboratories, Inc.
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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L33233***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33233-05	WG411170	Antimony, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG411129	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG411101	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG411027	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG410709	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410986	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG410687	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc. ACZ Project ID: ***L33233***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33233-06	WG411170	Antimony, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG411129	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG411101	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG411027	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG410709	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410986	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG410687	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L33233***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33233-07	WG411170	Antimony, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG411129	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG411101	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG411027	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG411137	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG411257	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG410709	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410986	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG410687	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L33233***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33233-08	WG411170	Antimony, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG411129	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG411101	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG411027	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG411137	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG411257	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG410709	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410986	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG410687	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L33233***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33233-09	WG411170	Antimony, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG411129	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG411101	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG411027	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG411137	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG411257	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG410709	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410986	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG410687	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L33233***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33233-10	WG411170	Antimony, dissolved	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG411129	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG411101	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	Conductivity @25C	SM2510B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG411092	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG411027	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG411137	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG411257	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410687	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG410709	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG410986	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG410687	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
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Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L33233
Date Received: 09/29/2016 10:32
Received By: pjs
Date Printed: 9/29/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA24808	0.8	<=6.0	17	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L33233
Date Received:	09/29/2016 10:32
Received By:	pjs
Date Printed:	9/29/2016

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L33233

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	9/28/16	WW	1	x							
CAL-004 (860-875)		WW	1	x							
CAL-003 (675-685)		WW	1	x							
GMC-012 (832-851)		WW	1	x							
CAL-004 (295-315)		WW	1	x							
CAL-001 (750-762)		WW	1	x							
GMC-014 (176-184)		WW	1	x							
CAL-001 (380-400)		WW	1	x							
CAL-002 (177-187)		WW	1	x							
Calico Leach Res. after CN Destruct		WW	1	x	x	x					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 44
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	9/28/16 9AM	DUP	9/29/16 1030

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L33233 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

Gray out Analyses DOESN'T get done on all Samples, Just 1 of the Sample SEE COC

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

November 18, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L33820

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on October 27, 2016. This project has been assigned to ACZ's project number, L33820. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L33820. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after December 18, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L33820-01***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								11/03/16 10:37	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.37			mg/L	0.03	0.2	11/03/16 15:54	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0209			mg/L	0.0004	0.002	11/03/16 13:35	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0914			mg/L	0.0002	0.001	11/02/16 17:36	enb
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	11/03/16 15:54	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00032			mg/L	0.00005	0.0003	11/02/16 17:36	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	11/03/16 15:54	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 15:54	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	11/02/16 17:36	enb
Calcium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.1	0.5	11/03/16 15:54	aeb
Chromium, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	11/03/16 15:54	aeb
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	11/03/16 15:54	aeb
Copper, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	11/03/16 15:54	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/04/16 15:41	aeb
Iron, dissolved	M200.7 ICP	1	13.90			mg/L	0.02	0.05	11/03/16 15:54	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	11/02/16 17:36	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	11/03/16 15:54	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/03/16 15:54	aeb
Manganese, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	11/03/16 15:54	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	11/09/16 15:47	pta
Mercury, total	M1631, Atomic Fluorescence	10	153			ng/L	2	5	11/14/16 14:41	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	11/03/16 15:54	aeb
Nickel, dissolved	M200.7 ICP	1	0.028	B		mg/L	0.008	0.04	11/03/16 15:54	aeb
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/03/16 15:54	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/03/16 15:54	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0003	11/02/16 17:36	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	11/03/16 15:54	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/03/16 15:54	aeb
Strontium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	11/03/16 15:54	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0044			mg/L	0.0001	0.0005	11/02/16 17:36	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	11/04/16 15:41	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	11/03/16 15:54	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0005	11/02/16 17:36	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	11/03/16 15:54	aeb
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	11/03/16 15:54	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L33820-01***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	10/29/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-17.1			%			11/14/16 0:00	calc
Sum of Anions			1.3			meq/L			11/14/16 0:00	calc
Sum of Cations			0.921			meq/L			11/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	11/04/16 13:44	krh
Conductivity @25C	SM2510B	1	369		*	umhos/cm	1	10	10/29/16 21:38	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	11/05/16 15:13	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.999	B		mg/L	0.2	5	11/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	11/04/16 21:18	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.14	B	*	mg/L	0.05	0.2	11/07/16 14:54	bsu
pH (lab)	SM4500H+ B									
pH		1	3.1	H	*	units	0.1	0.1	10/29/16 0:00	sck
pH measured at		1	23.2			C	0.1	0.1	10/29/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.03	B	*	mg/L	0.02	0.05	11/07/16 11:27	krh
Residue, Filterable (TDS) @180C	SM2540C	1	96		*	mg/L	10	20	10/28/16 13:26	emk
Sulfate	D516-02/-07 - Turbidimetric	5	60.0		*	mg/L	5	25	11/07/16 14:16	krh
TDS (calculated)	Calculation		75.9			mg/L			11/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.26						11/14/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L33820-02***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								11/03/16 10:49	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.65			mg/L	0.03	0.2	11/03/16 15:57	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0004	0.002	11/02/16 17:39	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0029			mg/L	0.0002	0.001	11/02/16 17:39	enb
Barium, dissolved	M200.7 ICP	1	0.083			mg/L	0.003	0.02	11/03/16 15:57	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00067			mg/L	0.00005	0.0003	11/02/16 17:39	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	11/03/16 15:57	aeb
Boron, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	11/03/16 15:57	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	11/02/16 17:39	enb
Calcium, dissolved	M200.7 ICP	1	0.6			mg/L	0.1	0.5	11/03/16 15:57	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 15:57	aeb
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	11/03/16 15:57	aeb
Copper, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	11/03/16 15:57	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/04/16 15:44	aeb
Iron, dissolved	M200.7 ICP	1	1.52			mg/L	0.02	0.05	11/03/16 15:57	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0020			mg/L	0.0001	0.0005	11/02/16 17:39	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	11/03/16 15:57	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/03/16 15:57	aeb
Manganese, dissolved	M200.7 ICP	1	0.117			mg/L	0.005	0.03	11/03/16 15:57	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	11/09/16 15:48	pta
Mercury, total	M1631, Atomic Fluorescence	1	13.8		*	ng/L	0.2	0.5	11/09/16 14:58	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	11/03/16 15:57	aeb
Nickel, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.008	0.04	11/03/16 15:57	aeb
Potassium, dissolved	M200.7 ICP	1	1			mg/L	0.2	1	11/03/16 15:57	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/03/16 15:57	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	11/02/16 17:39	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	11/03/16 15:57	aeb
Sodium, dissolved	M200.7 ICP	1	3			mg/L	0.2	1	11/03/16 15:57	aeb
Strontium, dissolved	M200.7 ICP	1	0.019	B		mg/L	0.005	0.03	11/03/16 15:57	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	11/02/16 17:39	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	11/04/16 15:44	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	11/03/16 15:57	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	11/02/16 17:39	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	11/03/16 15:57	aeb
Zinc, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	11/03/16 15:57	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L33820-02***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	10/29/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-34.5			%			11/14/16 0:00	calc
Sum of Anions			0.745			meq/L			11/14/16 0:00	calc
Sum of Cations			0.363	B		meq/L			11/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	11/04/16 13:44	krh
Conductivity @25C	SM2510B	1	246		*	umhos/cm	1	10	10/29/16 21:42	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	11/05/16 15:24	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	11/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.08	B	*	mg/L	0.02	0.1	11/04/16 21:19	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.12	B	*	mg/L	0.05	0.2	11/07/16 14:55	bsu
pH (lab)	SM4500H+ B									
pH		1	3.3	H	*	units	0.1	0.1	10/29/16 0:00	sck
pH measured at		1	23.3			C	0.1	0.1	10/29/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	11/07/16 11:28	krh
Residue, Filterable (TDS) @180C	SM2540C	1	56		*	mg/L	10	20	10/28/16 13:28	emk
Sulfate	D516-02/-07 - Turbidimetric	5	35.5		*	mg/L	5	25	11/07/16 14:16	krh
TDS (calculated)	Calculation		42.7			mg/L			11/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.31						11/14/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L33820-03***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								11/03/16 11:00	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	2	32.30			mg/L	0.06	0.3	11/03/16 16:00	aeb
Antimony, dissolved	M200.8 ICP-MS	2	0.0047			mg/L	0.0008	0.004	11/02/16 17:42	enb
Arsenic, dissolved	M200.8 ICP-MS	20	4.00			mg/L	0.004	0.02	11/03/16 13:38	enb
Barium, dissolved	M200.7 ICP	2		U		mg/L	0.006	0.03	11/03/16 16:00	aeb
Beryllium, dissolved	M200.8 ICP-MS	2	0.0050			mg/L	0.0001	0.0005	11/02/16 17:42	enb
Bismuth, dissolved	M200.7 ICP	2		U	*	mg/L	0.08	0.4	11/03/16 16:00	aeb
Boron, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	11/03/16 16:00	aeb
Cadmium, dissolved	M200.8 ICP-MS	2	0.0034			mg/L	0.0002	0.001	11/02/16 17:42	enb
Calcium, dissolved	M200.7 ICP	2	58.5			mg/L	0.2	1	11/03/16 16:00	aeb
Chromium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	11/03/16 16:00	aeb
Cobalt, dissolved	M200.7 ICP	2	0.29			mg/L	0.02	0.1	11/03/16 16:00	aeb
Copper, dissolved	M200.7 ICP	2	0.74			mg/L	0.02	0.1	11/03/16 16:00	aeb
Gallium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	11/04/16 15:47	aeb
Iron, dissolved	M200.7 ICP	2	709		*	mg/L	0.04	0.1	11/03/16 16:00	aeb
Lead, dissolved	M200.8 ICP-MS	2	0.0023			mg/L	0.0002	0.001	11/02/16 17:42	enb
Lithium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.08	11/03/16 16:00	aeb
Magnesium, dissolved	M200.7 ICP	2	4.7			mg/L	0.4	2	11/03/16 16:00	aeb
Manganese, dissolved	M200.7 ICP	2	0.39			mg/L	0.01	0.05	11/03/16 16:00	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	11/09/16 15:49	pta
Mercury, total	M1631, Atomic Fluorescence	50	490			ng/L	10	30	11/14/16 14:46	mfm
Molybdenum, dissolved	M200.7 ICP	2	0.39			mg/L	0.04	0.2	11/03/16 16:00	aeb
Nickel, dissolved	M200.7 ICP	2	0.24			mg/L	0.02	0.08	11/03/16 16:00	aeb
Potassium, dissolved	M200.7 ICP	2		U		mg/L	0.4	2	11/03/16 16:00	aeb
Scandium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	11/03/16 16:00	aeb
Selenium, dissolved	M200.8 ICP-MS	2	0.0125			mg/L	0.0002	0.0005	11/02/16 17:42	enb
Silver, dissolved	M200.7 ICP	2	0.03	B	*	mg/L	0.02	0.05	11/03/16 16:00	aeb
Sodium, dissolved	M200.7 ICP	2		U		mg/L	0.4	2	11/03/16 16:00	aeb
Strontium, dissolved	M200.7 ICP	2	0.26			mg/L	0.01	0.05	11/03/16 16:00	aeb
Thallium, dissolved	M200.8 ICP-MS	2	0.0007	B		mg/L	0.0002	0.001	11/02/16 17:42	enb
Tin, dissolved	M200.7 ICP	2		U		mg/L	0.08	0.4	11/04/16 15:47	aeb
Titanium, dissolved	M200.7 ICP	2		U	*	mg/L	0.01	0.05	11/03/16 16:00	aeb
Uranium, dissolved	M200.8 ICP-MS	2	0.0073			mg/L	0.0002	0.001	11/02/16 17:42	enb
Vanadium, dissolved	M200.7 ICP	2		U		mg/L	0.01	0.05	11/03/16 16:00	aeb
Zinc, dissolved	M200.7 ICP	2	0.58			mg/L	0.02	0.1	11/03/16 16:00	aeb

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L33820-03***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	10/29/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			11/18/16 0:00	calc
Sum of Anions			45			meq/L			11/18/16 0:00	calc
Sum of Cations			45			meq/L			11/18/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	11/04/16 13:44	krh
Conductivity @25C	SM2510B	1	4170		*	umhos/cm	1	10	10/29/16 21:46	sck
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	11/05/16 15:31	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		165			mg/L	0.5	10	11/18/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.52		*	mg/L	0.02	0.1	11/04/16 21:22	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.19	B	*	mg/L	0.05	0.2	11/07/16 15:00	bsu
pH (lab)	SM4500H+ B									
pH		1	2.1	H	*	units	0.1	0.1	10/29/16 0:00	sck
pH measured at		1	23.4			C	0.1	0.1	10/29/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	5	3.1		*	mg/L	0.1	0.3	11/07/16 11:58	krh
Residue, Filterable (TDS) @180C	SM2540C	1	3250		*	mg/L	10	20	10/28/16 13:34	emk
Sulfate	D516-02/-07 - Turbidimetric	100	2130		*	mg/L	100	500	11/17/16 11:28	bsu
TDS (calculated)	Calculation		2940			mg/L			11/18/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.11						11/18/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L33820-04***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								11/03/16 11:12	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.92			mg/L	0.03	0.2	11/03/16 16:03	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0004	0.002	11/02/16 17:45	enb
Arsenic, dissolved	M200.8 ICP-MS	5	0.003	B	*	mg/L	0.001	0.005	11/03/16 13:41	enb
Barium, dissolved	M200.7 ICP	1	0.020			mg/L	0.003	0.02	11/03/16 16:03	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00150			mg/L	0.00005	0.0003	11/02/16 17:45	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	11/03/16 16:03	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:03	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	11/02/16 17:45	enb
Calcium, dissolved	M200.7 ICP	1	9			mg/L	0.1	0.5	11/03/16 16:03	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:03	aeb
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	11/03/16 16:03	aeb
Copper, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	11/03/16 16:03	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/04/16 15:50	aeb
Iron, dissolved	M200.7 ICP	1	1.75		*	mg/L	0.02	0.05	11/03/16 16:03	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0040			mg/L	0.0001	0.0005	11/02/16 17:45	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	11/03/16 16:03	aeb
Magnesium, dissolved	M200.7 ICP	1	1.4			mg/L	0.2	1	11/03/16 16:03	aeb
Manganese, dissolved	M200.7 ICP	1	0.279			mg/L	0.005	0.03	11/03/16 16:03	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	11/09/16 15:52	pta
Mercury, total	M1631, Atomic Fluorescence	1	12.1		*	ng/L	0.2	0.5	11/09/16 15:21	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	11/03/16 16:03	aeb
Nickel, dissolved	M200.7 ICP	1	0.029	B		mg/L	0.008	0.04	11/03/16 16:03	aeb
Potassium, dissolved	M200.7 ICP	1	0.9	B		mg/L	0.2	1	11/03/16 16:03	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/03/16 16:03	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	11/02/16 17:45	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	11/03/16 16:03	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/03/16 16:03	aeb
Strontium, dissolved	M200.7 ICP	1	0.032			mg/L	0.005	0.03	11/03/16 16:03	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	11/02/16 17:45	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	11/04/16 15:50	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	11/03/16 16:03	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0062			mg/L	0.0001	0.0005	11/02/16 17:45	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	11/03/16 16:03	aeb
Zinc, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	11/03/16 16:03	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L33820-04***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	10/29/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-32.9			%			11/14/16 0:00	calc
Sum of Anions			1.6			meq/L			11/14/16 0:00	calc
Sum of Cations			0.808			meq/L			11/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	11/04/16 13:45	krh
Conductivity @25C	SM2510B	1	486		*	umhos/cm	1	10	10/29/16 22:20	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	11/05/16 15:37	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		28			mg/L	0.2	5	11/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	11/04/16 21:24	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	11/07/16 15:01	bsu
pH (lab)	SM4500H+ B									
pH		1	3.0	H	*	units	0.1	0.1	10/29/16 0:00	sck
pH measured at		1	23.2			C	0.1	0.1	10/29/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	11/07/16 11:30	krh
Residue, Filterable (TDS) @180C	SM2540C	1	86		*	mg/L	10	20	10/28/16 15:07	emk
Sulfate	D516-02/-07 - Turbidimetric	5	75.2		*	mg/L	5	25	11/07/16 14:16	krh
TDS (calculated)	Calculation		89.6			mg/L			11/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.96						11/14/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L33820-05***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								11/03/16 11:23	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.06	B		mg/L	0.03	0.2	11/03/16 16:13	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	11/02/16 18:01	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0002	0.001	11/02/16 18:01	enb
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	11/03/16 16:13	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00021	B		mg/L	0.00005	0.0003	11/02/16 18:01	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	11/03/16 16:13	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:13	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	11/02/16 18:01	enb
Calcium, dissolved	M200.7 ICP	1	5.2			mg/L	0.1	0.5	11/03/16 16:13	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:13	aeb
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	11/03/16 16:13	aeb
Copper, dissolved	M200.7 ICP	1	0.25			mg/L	0.01	0.05	11/03/16 16:13	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/04/16 16:00	aeb
Iron, dissolved	M200.7 ICP	1	0.42		*	mg/L	0.02	0.05	11/03/16 16:13	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0005	11/02/16 18:01	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	11/03/16 16:13	aeb
Magnesium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	11/03/16 16:13	aeb
Manganese, dissolved	M200.7 ICP	1	0.029	B		mg/L	0.005	0.03	11/03/16 16:13	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	11/09/16 15:53	pta
Mercury, total	M1631, Atomic Fluorescence	20	260			ng/L	4	10	11/14/16 14:50	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	11/03/16 16:13	aeb
Nickel, dissolved	M200.7 ICP	1	0.054			mg/L	0.008	0.04	11/03/16 16:13	aeb
Potassium, dissolved	M200.7 ICP	1	2.6			mg/L	0.2	1	11/03/16 16:13	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/03/16 16:13	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0001	0.0003	11/02/16 18:01	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	11/03/16 16:13	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/03/16 16:13	aeb
Strontium, dissolved	M200.7 ICP	1	0.064			mg/L	0.005	0.03	11/03/16 16:13	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	11/02/16 18:01	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	11/04/16 16:00	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	11/03/16 16:13	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	11/02/16 18:01	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	11/03/16 16:13	aeb
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	11/03/16 16:13	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L33820-05***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	10/29/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-12.9			%			11/14/16 0:00	calc
Sum of Anions			0.519			meq/L			11/14/16 0:00	calc
Sum of Cations			0.4	B		meq/L			11/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	11/04/16 13:45	krh
Conductivity @25C	SM2510B	1	94.5		*	umhos/cm	1	10	10/29/16 22:24	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	11/05/16 15:40	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		16			mg/L	0.2	5	11/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	11/04/16 21:31	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.20		*	mg/L	0.05	0.2	11/07/16 15:03	bsu
pH (lab)	SM4500H+ B									
pH		1	4.2	H	*	units	0.1	0.1	10/29/16 0:00	sck
pH measured at		1	23.2			C	0.1	0.1	10/29/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	11/07/16 11:31	krh
Residue, Filterable (TDS) @180C	SM2540C	1	24		*	mg/L	10	20	10/28/16 15:10	emk
Sulfate	D516-02/-07 - Turbidimetric	1	24.7		*	mg/L	1	5	11/07/16 14:14	krh
TDS (calculated)	Calculation		34.3			mg/L			11/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.70						11/14/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L33820-06***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								11/03/16 11:34	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	7.13			mg/L	0.03	0.2	11/03/16 16:16	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0013	B		mg/L	0.0004	0.002	11/02/16 18:04	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.1508			mg/L	0.0002	0.001	11/02/16 18:04	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	11/03/16 16:16	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00127			mg/L	0.00005	0.0003	11/02/16 18:04	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	11/03/16 16:16	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:16	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	11/02/16 18:04	enb
Calcium, dissolved	M200.7 ICP	1	0.9			mg/L	0.1	0.5	11/03/16 16:16	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:16	aeb
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	11/03/16 16:16	aeb
Copper, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	11/03/16 16:16	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/04/16 16:03	aeb
Iron, dissolved	M200.7 ICP	1	33.10		*	mg/L	0.02	0.05	11/03/16 16:16	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0039			mg/L	0.0001	0.0005	11/02/16 18:04	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	11/03/16 16:16	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/03/16 16:16	aeb
Manganese, dissolved	M200.7 ICP	1	0.023	B		mg/L	0.005	0.03	11/03/16 16:16	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	11/09/16 15:54	pta
Mercury, total	M1631, Atomic Fluorescence	1	1.3		*	ng/L	0.2	0.5	11/09/16 15:40	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	11/03/16 16:16	aeb
Nickel, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.008	0.04	11/03/16 16:16	aeb
Potassium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	11/03/16 16:16	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/03/16 16:16	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	11/02/16 18:04	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	11/03/16 16:16	aeb
Sodium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	11/03/16 16:16	aeb
Strontium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	11/03/16 16:16	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	11/02/16 18:04	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	11/04/16 16:03	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	11/03/16 16:16	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0005	11/02/16 18:04	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	11/03/16 16:16	aeb
Zinc, dissolved	M200.7 ICP	1	0.30			mg/L	0.01	0.05	11/03/16 16:16	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L33820-06***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	10/29/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-18.8			%			11/14/16 0:00	calc
Sum of Anions			3.8			meq/L			11/14/16 0:00	calc
Sum of Cations			2.6			meq/L			11/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	11/04/16 13:45	krh
Conductivity @25C	SM2510B	1	853		*	umhos/cm	1	10	10/29/16 22:28	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	11/05/16 15:44	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.3	B		mg/L	0.2	5	11/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	11/04/16 21:32	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	11/07/16 15:30	bsu
pH (lab)	SM4500H+ B									
pH		1	2.8	H	*	units	0.1	0.1	10/29/16 0:00	sck
pH measured at		1	23.2			C	0.1	0.1	10/29/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.04	B	*	mg/L	0.02	0.05	11/07/16 11:32	krh
Residue, Filterable (TDS) @180C	SM2540C	1	198		*	mg/L	10	20	10/28/16 15:13	emk
Sulfate	D516-02/-07 - Turbidimetric	5	183		*	mg/L	5	25	11/07/16 14:17	krh
TDS (calculated)	Calculation		226			mg/L			11/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.88						11/14/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L33820-07***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								11/03/16 11:46	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	11/03/16 16:19	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0004	0.002	11/02/16 18:07	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0066			mg/L	0.0002	0.001	11/02/16 18:07	enb
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	11/03/16 16:19	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	11/02/16 18:07	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	11/03/16 16:19	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:19	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	11/02/16 18:07	enb
Calcium, dissolved	M200.7 ICP	1	1.1			mg/L	0.1	0.5	11/03/16 16:19	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:19	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:19	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:19	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/04/16 16:12	aeb
Iron, dissolved	M200.7 ICP	1	0.02	B	*	mg/L	0.02	0.05	11/03/16 16:19	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	11/02/16 18:07	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	11/03/16 16:19	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/03/16 16:19	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	11/03/16 16:19	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	11/09/16 15:58	pta
Mercury, total	M1631, Atomic Fluorescence	2	36.2			ng/L	0.4	1	11/14/16 14:55	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	11/03/16 16:19	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	11/03/16 16:19	aeb
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/03/16 16:19	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/03/16 16:19	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0003	11/02/16 18:07	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	11/03/16 16:19	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/03/16 16:19	aeb
Strontium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	11/03/16 16:19	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	11/02/16 18:07	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	11/04/16 16:12	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	11/03/16 16:19	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	11/02/16 18:07	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	11/03/16 16:19	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:19	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L33820-07***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	2.5	B		mg/L	2	20	10/29/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Total Alkalinity		1	2.5	B	*	mg/L	2	20	10/29/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			11/14/16 0:00	calc
Sum of Anions				U		meq/L			11/14/16 0:00	calc
Sum of Cations				U		meq/L			11/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	11/04/16 13:45	krh
Conductivity @25C	SM2510B	1	10.9		*	umhos/cm	1	10	10/29/16 22:37	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	11/05/16 15:48	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.8	B		mg/L	0.2	5	11/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	11/04/16 21:34	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	11/07/16 15:05	bsu
pH (lab)	SM4500H+ B									
pH		1	6.9	H	*	units	0.1	0.1	10/29/16 0:00	sck
pH measured at		1	23.3			C	0.1	0.1	10/29/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	11/07/16 11:33	krh
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	10/28/16 15:15	emk
Sulfate	D516-02/-07 - Turbidimetric	1		U	*	mg/L	1	5	11/07/16 14:14	krh
TDS (calculated)	Calculation		2.65			mg/L			11/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						11/14/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L33820-08***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								11/03/16 11:57	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	11/03/16 16:28	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0004	0.002	11/02/16 18:11	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0002	0.001	11/02/16 18:11	enb
Barium, dissolved	M200.7 ICP	1	0.003	B		mg/L	0.003	0.02	11/03/16 16:28	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00010	B		mg/L	0.00005	0.0003	11/02/16 18:11	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	11/03/16 16:28	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:28	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	11/02/16 18:11	enb
Calcium, dissolved	M200.7 ICP	1	0.8			mg/L	0.1	0.5	11/03/16 16:28	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:28	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:28	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:28	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/04/16 16:16	aeb
Iron, dissolved	M200.7 ICP	1	0.05		*	mg/L	0.02	0.05	11/03/16 16:28	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	11/02/16 18:11	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	11/03/16 16:28	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/03/16 16:28	aeb
Manganese, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.005	0.03	11/03/16 16:28	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	11/09/16 15:59	pta
Mercury, total	M1631, Atomic Fluorescence	1	19.2		*	ng/L	0.2	0.5	11/09/16 15:59	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	11/03/16 16:28	aeb
Nickel, dissolved	M200.7 ICP	1	0.130			mg/L	0.008	0.04	11/03/16 16:28	aeb
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	11/03/16 16:28	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/03/16 16:28	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0003	11/02/16 18:11	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	11/03/16 16:28	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/03/16 16:28	aeb
Strontium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	11/03/16 16:28	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	11/02/16 18:11	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	11/04/16 16:16	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	11/03/16 16:28	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	11/02/16 18:11	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	11/03/16 16:28	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:28	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L33820-08***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	10/29/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			11/14/16 0:00	calc
Sum of Anions				U		meq/L			11/14/16 0:00	calc
Sum of Cations				U		meq/L			11/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	11/04/16 14:05	krh
Conductivity @25C	SM2510B	1	21.9		*	umhos/cm	1	10	10/29/16 22:43	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	11/05/16 16:02	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2	B		mg/L	0.2	5	11/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	11/04/16 21:35	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.15	B	*	mg/L	0.05	0.2	11/07/16 15:07	bsu
pH (lab)	SM4500H+ B									
pH		1	4.9	H	*	units	0.1	0.1	10/29/16 0:00	sck
pH measured at		1	23.5			C	0.1	0.1	10/29/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	11/07/16 11:35	krh
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	10/28/16 15:18	emk
Sulfate	D516-02/-07 - Turbidimetric	1	4.0	B	*	mg/L	1	5	11/07/16 14:14	krh
TDS (calculated)	Calculation		5.32			mg/L			11/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						11/14/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L33820-09***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								11/04/16 14:07	bce
Cyanide, WAD	SM4500-CN I- distillation				*				11/06/16 9:19	bce
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								11/07/16 14:17	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	5.74			mg/L	0.03	0.2	11/03/16 16:32	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	11/02/16 18:14	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0034			mg/L	0.0002	0.001	11/02/16 18:14	enb
Barium, dissolved	M200.7 ICP	1	0.032			mg/L	0.003	0.02	11/03/16 16:32	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00041			mg/L	0.00005	0.0003	11/02/16 18:14	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	11/03/16 16:32	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/03/16 16:32	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0010			mg/L	0.0001	0.0005	11/02/16 18:14	enb
Calcium, dissolved	M200.7 ICP	1	0.5			mg/L	0.1	0.5	11/03/16 16:32	aeb
Chromium, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	11/03/16 16:32	aeb
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	11/03/16 16:32	aeb
Copper, dissolved	M200.7 ICP	1	0.31			mg/L	0.01	0.05	11/03/16 16:32	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/04/16 16:19	aeb
Iron, dissolved	M200.7 ICP	1	11.70		*	mg/L	0.02	0.05	11/03/16 16:32	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	11/02/16 18:14	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	11/03/16 16:32	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/03/16 16:32	aeb
Manganese, dissolved	M200.7 ICP	1	0.090			mg/L	0.005	0.03	11/03/16 16:32	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	11/09/16 16:00	pta
Mercury, total	M1631, Atomic Fluorescence	1	4		*	ng/L	0.2	0.5	11/09/16 16:04	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	11/03/16 16:32	aeb
Nickel, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.008	0.04	11/03/16 16:32	aeb
Potassium, dissolved	M200.7 ICP	1	3.3			mg/L	0.2	1	11/03/16 16:32	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/03/16 16:32	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0003	11/02/16 18:14	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	11/03/16 16:32	aeb
Sodium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	11/03/16 16:32	aeb
Strontium, dissolved	M200.7 ICP	1	0.022	B		mg/L	0.005	0.03	11/03/16 16:32	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0001	0.0005	11/02/16 18:14	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	11/04/16 16:19	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	11/03/16 16:32	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0054			mg/L	0.0001	0.0005	11/02/16 18:14	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	11/03/16 16:32	aeb
Zinc, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	11/03/16 16:32	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L33820-09***
Date Sampled: *10/26/16 00:00*
Date Received: *10/27/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	10/29/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	10/29/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-17.6			%			11/14/16 0:00	calc
Sum of Anions			2			meq/L			11/14/16 0:00	calc
Sum of Cations			1.4			meq/L			11/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	11/04/16 14:05	krh
Conductivity @25C	SM2510B	1	597		*	umhos/cm	1	10	10/29/16 22:47	sck
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	11/04/16 20:56	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	11/07/16 16:37	spl
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	11/05/16 16:08	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.3	B		mg/L	0.2	5	11/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	11/04/16 21:36	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	11/07/16 15:08	bsu
pH (lab)	SM4500H+ B									
pH		1	2.9	H	*	units	0.1	0.1	10/29/16 0:00	sck
pH measured at		1	23.5			C	0.1	0.1	10/29/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	11/08/16 14:13	krh
Residue, Filterable (TDS) @180C	SM2540C	1	152		*	mg/L	10	20	10/28/16 15:20	emk
Sulfate	D516-02/-07 - Turbidimetric	5	94.7		*	mg/L	5	25	11/07/16 14:58	krh
TDS (calculated)	Calculation		117			mg/L			11/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.30						11/14/16 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412379													
WG412379PBW1	PBW	10/29/16 12:28				U	mg/L		-20	20			
WG412379LCSW3	LCSW	10/29/16 12:46	WC161018-9	820.0001		798	mg/L	97	90	110			
WG412379LCSW6	LCSW	10/29/16 15:23	WC161018-9	820.0001		811	mg/L	99	90	110			
WG412379PBW2	PBW	10/29/16 15:29				U	mg/L		-20	20			
WG412379LCSW9	LCSW	10/29/16 18:56	WC161018-9	820.0001		815	mg/L	99	90	110			
WG412379PBW3	PBW	10/29/16 19:03				U	mg/L		-20	20			
L33820-03DUP	DUP	10/29/16 21:51			U	U	mg/L				0	20	RA
WG412379LCSW12	LCSW	10/29/16 22:09	WC161018-9	820.0001		818	mg/L	100	90	110			
WG412379PBW4	PBW	10/29/16 22:15				U	mg/L		-20	20			
L33824-04DUP	DUP	10/29/16 23:33			310	309	mg/L				0	20	
WG412379LCSW15	LCSW	10/30/16 1:56	WC161018-9	820.0001		808	mg/L	99	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		2.04	mg/L	102	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.09	0.09			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	1.0013		1.135	mg/L	113	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	1.0013	.06	1.187	mg/L	113	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	1.0013	.06	1.175	mg/L	111	85	115	1	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	1.0013	.92	1.959	mg/L	104	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	1.0013	.92	1.92	mg/L	100	85	115	2	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412582													
WG412582ICV	ICV	11/02/16 17:20	MS160920-1	.02		.02176	mg/L	109	90	110			
WG412582ICB	ICB	11/02/16 17:23				U	mg/L		-0.0012	0.0012			
WG412582LFB	LFB	11/02/16 17:26	MS160928-2	.009980001		.01033	mg/L	104	85	115			
L33820-04AS	AS	11/02/16 17:49	MS160928-2	.009980001	.0008	.01035	mg/L	96	70	130			
L33820-04ASD	ASD	11/02/16 17:52	MS160928-2	.009980001	.0008	.01058	mg/L	98	70	130	2	20	
L33825-05AS	AS	11/02/16 18:40	MS160928-2	.009980001	U	.00873	mg/L	87	70	130			
L33825-05ASD	ASD	11/02/16 18:43	MS160928-2	.009980001	U	.00921	mg/L	92	70	130	5	20	
WG412641													
WG412641ICV	ICV	11/03/16 13:19	MS160920-1	.02		.01968	mg/L	98	90	110			
WG412641ICB	ICB	11/03/16 13:22				.00049	mg/L		-0.0012	0.0012			
WG412641LFB	LFB	11/03/16 13:25	MS160928-2	.009980001		.01062	mg/L	106	85	115			
L33825-01AS	AS	11/03/16 13:48	MS160928-2	.019960002	U	.02212	mg/L	111	70	130			
L33825-01ASD	ASD	11/03/16 13:51	MS160928-2	.019960002	U	.02296	mg/L	115	70	130	4	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L33820***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412582													
WG412582ICV	ICV	11/02/16 17:20	MS160920-1	.05		.05492	mg/L	110	90	110			
WG412582ICB	ICB	11/02/16 17:23				U	mg/L		-0.0006	0.0006			
WG412582LFB	LFB	11/02/16 17:26	MS160928-2	.0501		.0445	mg/L	89	85	115			
L33820-04AS	AS	11/02/16 17:49	MS160928-2	.0501	.0041	.05282	mg/L	97	70	130			
L33820-04ASD	ASD	11/02/16 17:52	MS160928-2	.0501	.0041	.0547	mg/L	101	70	130	3	20	
L33825-05AS	AS	11/02/16 18:40	MS160928-2	.0501	U	.04764	mg/L	95	70	130			
L33825-05ASD	ASD	11/02/16 18:43	MS160928-2	.0501	U	.0521	mg/L	104	70	130	9	20	
WG412641													
WG412641ICV	ICV	11/03/16 13:19	MS160920-1	.05		.04824	mg/L	96	90	110			
WG412641ICB	ICB	11/03/16 13:22				U	mg/L		-0.0006	0.0006			
WG412641LFB	LFB	11/03/16 13:25	MS160928-2	.0501		.04622	mg/L	92	85	115			
L33825-01AS	AS	11/03/16 13:48	MS160928-2	.1002	U	.10186	mg/L	102	70	130			
L33825-01ASD	ASD	11/03/16 13:51	MS160928-2	.1002	U	.10356	mg/L	103	70	130	2	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		1.9875	mg/L	99	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.009	0.009			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	.5005		.5053	mg/L	101	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	.5005	.032	.5331	mg/L	100	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	.5005	.032	.5344	mg/L	100	85	115	0	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	.5005	.02	.5083	mg/L	98	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	.5005	.02	.5051	mg/L	97	85	115	1	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412582													
WG412582ICV	ICV	11/02/16 17:20	MS160920-1	.05		.05126	mg/L	103	90	110			
WG412582ICB	ICB	11/02/16 17:23				.000111	mg/L		-0.00015	0.00015			
WG412582LFB	LFB	11/02/16 17:26	MS160928-2	.0501		.04798	mg/L	96	85	115			
L33820-04AS	AS	11/02/16 17:49	MS160928-2	.0501	.0015	.05389	mg/L	105	70	130			
L33820-04ASD	ASD	11/02/16 17:52	MS160928-2	.0501	.0015	.05415	mg/L	105	70	130	0	20	
L33825-05AS	AS	11/02/16 18:40	MS160928-2	.0501	U	.05016	mg/L	100	70	130			
L33825-05ASD	ASD	11/02/16 18:43	MS160928-2	.0501	U	.05047	mg/L	101	70	130	1	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		1.965	mg/L	98	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.12	0.12			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	1		1.036	mg/L	104	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	1	U	1.049	mg/L	105	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	1	U	1.03	mg/L	103	85	115	2	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	1	U	1.012	mg/L	101	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	1	U	1.016	mg/L	102	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		2.028	mg/L	101	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.03	0.03			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	.5005		.516	mg/L	103	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	.5005	.1	.617	mg/L	103	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	.5005	.1	.613	mg/L	102	85	115	1	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	.5005	U	.509	mg/L	102	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	.5005	U	.508	mg/L	101	85	115	0	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412582													
WG412582ICV	ICV	11/02/16 17:20	MS160920-1	.05		.05362	mg/L	107	90	110			
WG412582ICB	ICB	11/02/16 17:23				U	mg/L		-0.0003	0.0003			
WG412582LFB	LFB	11/02/16 17:26	MS160928-2	.05005		.0469	mg/L	94	85	115			
L33820-04AS	AS	11/02/16 17:49	MS160928-2	.05005	.0008	.05121	mg/L	101	70	130			
L33820-04ASD	ASD	11/02/16 17:52	MS160928-2	.05005	.0008	.05204	mg/L	102	70	130	2	20	
L33825-05AS	AS	11/02/16 18:40	MS160928-2	.05005	U	.04953	mg/L	99	70	130			
L33825-05ASD	ASD	11/02/16 18:43	MS160928-2	.05005	U	.05036	mg/L	101	70	130	2	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	100		101.63	mg/L	102	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.3	0.3			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	67.98044		75.62	mg/L	111	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	67.98044	164	235	mg/L	104	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	67.98044	164	232.7	mg/L	101	85	115	1	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	67.98044	9	81.7	mg/L	107	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	67.98044	9	79.8	mg/L	104	85	115	2	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412712													
WG412712ICB	ICB	11/04/16 9:48				U	mg/L		-1.5	1.5			
WG412712ICV	ICV	11/04/16 9:48	WI160701-1	55.055		57.27	mg/L	104	90	110			
WG412712LFB1	LFB	11/04/16 13:43	WI161020-2	30.03		32.18	mg/L	107	90	110			
L33801-01AS	AS	11/04/16 13:44	WI161020-2	30.03	4	35.35	mg/L	104	90	110			
L33795-03DUP	DUP	11/04/16 13:52			332	332	mg/L				0	20	
L33820-08AS	AS	11/04/16 14:05	WI161020-2	30.03	U	31.63	mg/L	105	90	110			
L33820-09DUP	DUP	11/04/16 14:05			U	U	mg/L				0	20	RA

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		1.954	mg/L	98	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.03	0.03			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	.5025		.513	mg/L	102	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	.5025	U	.501	mg/L	100	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	.5025	U	.505	mg/L	100	85	115	1	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	.5025	U	.5	mg/L	100	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	.5025	U	.498	mg/L	99	85	115	0	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2.002		1.915	mg/L	96	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.03	0.03			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	.5025		.501	mg/L	100	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	.5025	U	.49	mg/L	98	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	.5025	U	.491	mg/L	98	85	115	0	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	.5025	.02	.503	mg/L	96	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	.5025	.02	.495	mg/L	95	85	115	2	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412379													
WG412379LCSW2	LCSW	10/29/16 12:33	PCN50213	1409		1550	umhos/cm	110	90	110			
WG412379LCSW5	LCSW	10/29/16 15:10	PCN50213	1409		1490	umhos/cm	106	90	110			
WG412379LCSW8	LCSW	10/29/16 18:43	PCN50213	1409		1440	umhos/cm	102	90	110			
L33820-03DUP	DUP	10/29/16 21:51			4170	4260	umhos/cm				2	20	
WG412379LCSW11	LCSW	10/29/16 21:56	PCN50213	1409		1480	umhos/cm	105	90	110			
L33824-04DUP	DUP	10/29/16 23:33			1240	1240	umhos/cm				0	20	
WG412379LCSW14	LCSW	10/30/16 1:44	PCN50213	1409		1470	umhos/cm	104	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		1.966	mg/L	98	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.03	0.03			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	.5005		.499	mg/L	100	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	.5005	U	.493	mg/L	99	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	.5005	U	.491	mg/L	98	85	115	0	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	.5005	.07	.549	mg/L	96	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	.5005	.07	.538	mg/L	94	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412735													
WG412735ICV	ICV	11/04/16 20:12	WI161031-6	.3006		.2943	mg/L	98	90	110			
WG412735ICB	ICB	11/04/16 20:12				U	mg/L		-0.003	0.003			
WG412737													
WG412701LRB	LRB	11/04/16 20:49				U	mg/L		-0.003	0.003			
WG412701LFB	LFB	11/04/16 20:50	WI161031-2	.2		.1841	mg/L	92	90	110			
L33799-01DUP	DUP	11/04/16 20:53			U	U	mg/L				0	20	RA
L33799-02LFM	LFM	11/04/16 20:54	WI161031-2	.2	U	.1741	mg/L	87	90	110			M2

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412813													
WG412813ICV	ICV	11/07/16 16:34	WI161031-6	.3006		.2874	mg/L	96	90	110			
WG412813ICB	ICB	11/07/16 16:35				U	mg/L		-0.003	0.003			
WG412702LRB	LRB	11/07/16 16:36				U	mg/L		-0.003	0.003			
WG412702LFB	LFB	11/07/16 16:36	WI161031-4	.2004		.1879	mg/L	94	90	110			
L33825-01DUP	DUP	11/07/16 16:39			U	U	mg/L				0	20	RA
L33825-02LFM	LFM	11/07/16 16:41	WI161031-4	.2004	U	.1909	mg/L	95	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412744													
WG412744ICV	ICV	11/05/16 14:56	WC161028-7	2.006		1.912	mg/L	95	95	105			
WG412744ICB	ICB	11/05/16 15:01				.05	mg/L		-0.15	0.15			
WG412744LFB1	LFB	11/05/16 15:08	WC160923-7	4.995		5.024	mg/L	101	90	110			
L33820-01AS	AS	11/05/16 15:17	WC160923-7	199.8	U	183.9	mg/L	92	90	110			
L33820-01DUP	DUP	11/05/16 15:21			U	3	mg/L				200	20	RA
WG412744LFB2	LFB	11/05/16 17:10	WC160923-7	4.995		4.772	mg/L	96	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412705													
WG412705ICV	ICV	11/04/16 15:16	II161031-1	2		1.94	mg/L	97	95	105			
WG412705ICB	ICB	11/04/16 15:22				U	mg/L		-0.3	0.3			
WG412705LFB	LFB	11/04/16 15:35	II161031-3	1		1.04	mg/L	104	85	115			
L33820-04AS	AS	11/04/16 15:54	II161031-3	1	U	1.04	mg/L	104	85	115			
L33820-04ASD	ASD	11/04/16 15:57	II161031-3	1	U	1.01	mg/L	101	85	115	3	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		1.967	mg/L	98	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.06	0.06			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	1.0017		1.034	mg/L	103	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	1.0017	.14	1.141	mg/L	100	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	1.0017	.14	1.14	mg/L	100	85	115	0	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	1.0017	1.75	2.444	mg/L	69	85	115			M2
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	1.0017	1.75	2.398	mg/L	65	85	115	2	20	M2

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412582													
WG412582ICV	ICV	11/02/16 17:20	MS160920-1	.05		.05507	mg/L	110	90	110			
WG412582ICB	ICB	11/02/16 17:23				U	mg/L		-0.0003	0.0003			
WG412582LFB	LFB	11/02/16 17:26	MS160928-2	.0501		.04766	mg/L	95	85	115			
L33820-04AS	AS	11/02/16 17:49	MS160928-2	.0501	.004	.05612	mg/L	104	70	130			
L33820-04ASD	ASD	11/02/16 17:52	MS160928-2	.0501	.004	.05681	mg/L	105	70	130	1	20	
L33825-05AS	AS	11/02/16 18:40	MS160928-2	.0501	U	.05076	mg/L	101	70	130			
L33825-05ASD	ASD	11/02/16 18:43	MS160928-2	.0501	U	.05125	mg/L	102	70	130	1	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		1.9615	mg/L	98	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.024	0.024			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	1.001		1.001	mg/L	100	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	1.001	.036	1.046	mg/L	101	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	1.001	.036	1.04	mg/L	100	85	115	1	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	1.001	U	.9801	mg/L	98	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	1.001	U	.9726	mg/L	97	85	115	1	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	100		99.74	mg/L	100	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.6	0.6			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	50.01136		49.73	mg/L	99	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	50.01136	46.3	95.34	mg/L	98	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	50.01136	46.3	93.89	mg/L	95	85	115	2	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	50.01136	1.4	49.6	mg/L	96	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	50.01136	1.4	48.31	mg/L	94	85	115	3	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		1.9402	mg/L	97	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.015	0.015			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	.5		.5214	mg/L	104	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	.5	U	.5133	mg/L	103	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	.5	U	.5156	mg/L	103	85	115	0	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	.5	.279	.7647	mg/L	97	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	.5	.279	.7581	mg/L	96	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412848													
WG412848ICV1	ICV	11/09/16 15:44	HG161031-2	.005005		.00495	mg/L	99	95	105			
WG412848ICB	ICB	11/09/16 15:45				U	mg/L		-0.0002	0.0002			
WG412848LRB	LRB	11/09/16 15:45				U	mg/L		-0.00044	0.00044			
L33820-03LFM	LFM	11/09/16 15:50	HG161107-2	.002002	U	.0025	mg/L	125	85	115			M1
L33820-03LFMD	LFMD	11/09/16 15:51	HG161107-2	.002002	U	.00249	mg/L	124	85	115	0	20	M1
WG412848LFB	LFB	11/09/16 15:56	HG161107-2	.002002		.0021	mg/L	105	85	115			

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412000													
WG412000ICV	ICV	10/26/16 10:39	HG161024-7	10		9.93	ng/L	99	79	121			
WG412000ICB	ICB	10/26/16 10:44				U	ng/L		-0.5	0.5			
WG412950													
WG412950CCV1	CCV	11/09/16 14:34	HG161024-7	10		10.7	ng/L	107	76.5	123.4			
WG412950CCB1	CCB	11/09/16 14:39				U	ng/L		-0.5	0.5			
WG412950PQV	PQV	11/09/16 14:43	HG161024-9	.5		.49	ng/L	98	70	130			
WG412950LFB	LFB	11/09/16 14:48	HG161024-8	2		2.04	ng/L	102	71	125			
L33820-05MS	MS	11/09/16 15:30	HG2XPREP	8	266	286	ng/L	500	71	125			M3
L33820-05MSD	MSD	11/09/16 15:35	HG2XPREP	8	266	282	ng/L	400	71	125	1	24	M3
WG412950CCV2	CCV	11/09/16 15:45	HG161024-7	10		10.7	ng/L	107	76.5	123.4			
WG412950CCB2	CCB	11/09/16 15:50				U	ng/L		-0.5	0.5			
WG412950CCV3	CCV	11/09/16 16:43	HG161024-7	10		9.75	ng/L	98	76.5	123.4			
WG412950CCB3	CCB	11/09/16 16:48				U	ng/L		-0.5	0.5			
WG412950CCV4	CCV	11/09/16 17:07	HG161024-7	10		9.65	ng/L	97	76.5	123.4			
WG412950CCB4	CCB	11/09/16 17:12				U	ng/L		-0.5	0.5			
WG413128													
WG413128ICV	ICV	11/14/16 14:07	HG161024-7	10		9.33	ng/L	93	79	121			
WG413128ICB	ICB	11/14/16 14:12				U	ng/L		-0.5	0.5			
WG413128PQV1	PQV	11/14/16 14:26	HG161024-9	.5		.44	ng/L	88	70	130			
WG413128LFB	LFB	11/14/16 14:31	HG161024-8	2		1.91	ng/L	96	71	125			
L33908-01MS	MS	11/14/16 15:05	HG161024-8	2	.6	2.46	ng/L	93	71	125			
L33908-01MSD	MSD	11/14/16 15:10	HG161024-8	2	.6	2.44	ng/L	92	71	125	1	24	
WG413128CCV1	CCV	11/14/16 15:15	HG161024-7	10		9.22	ng/L	92	76.5	123.4			
WG413128CCB1	CCB	11/14/16 15:20				U	ng/L		-0.5	0.5			
WG413128CCV2	CCV	11/14/16 15:44	HG161024-7	10		9.25	ng/L	93	76.5	123.4			
WG413128CCB2	CCB	11/14/16 15:49				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		2.003	mg/L	100	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.06	0.06			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	.4995		.541	mg/L	108	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	.4995	U	.547	mg/L	110	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	.4995	U	.54	mg/L	108	85	115	1	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	.4995	U	.516	mg/L	103	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	.4995	U	.509	mg/L	102	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2.002		2.0077	mg/L	100	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.024	0.024			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	.498		.5041	mg/L	101	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	.498	U	.4962	mg/L	100	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	.498	U	.4984	mg/L	100	85	115	0	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	.498	.029	.5111	mg/L	97	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	.498	.029	.5127	mg/L	97	85	115	0	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412734													
WG412734ICV	ICV	11/04/16 19:27	WI160908-7	2.416		2.354	mg/L	97	90	110			
WG412734ICB	ICB	11/04/16 19:28				U	mg/L		-0.02	0.02			
WG412736													
WG412736LFB1	LFB	11/04/16 20:40	WI160616-3	2		2.075	mg/L	104	90	110			
L33764-08AS	AS	11/04/16 21:02	WI160616-3	2	.59	2.755	mg/L	108	90	110			
L33808-01DUP	DUP	11/04/16 21:05			U	U	mg/L				0	20	RA
WG412736LFB2	LFB	11/04/16 21:20	WI160616-3	2		1.998	mg/L	100	90	110			
L33820-03AS	AS	11/04/16 21:23	WI160616-3	2	.52	2.443	mg/L	96	90	110			
L33820-04DUP	DUP	11/04/16 21:25			.02	.024	mg/L				18	20	RA

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412804													
WG412804ICV	ICV	11/07/16 14:40	WI161031-7	11.988		12.254	mg/L	102	90	110			
WG412804ICB	ICB	11/07/16 14:41				U	mg/L		-0.05	0.05			
WG412804LFB	LFB	11/07/16 14:43	WI161026-1	10		9.98	mg/L	100	90	110			
L33824-02AS	AS	11/07/16 15:13	WI161026-1	10	U	10.598	mg/L	106	90	110			
L33824-03DUP	DUP	11/07/16 15:18			U	U	mg/L				0	20	RA
L33808-01AS	AS	11/07/16 15:25	WI161026-1	10	U	10.322	mg/L	103	90	110			
L33808-02DUP	DUP	11/07/16 15:28			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412379													
WG412379LCSW1	LCSW	10/29/16 12:32	PCN49792	5.99		6	units	100	5.9	6.1			
WG412379LCSW4	LCSW	10/29/16 15:08	PCN49792	5.99		6	units	100	5.9	6.1			
WG412379LCSW7	LCSW	10/29/16 18:42	PCN49792	5.99		6	units	100	5.9	6.1			
L33820-03DUP	DUP	10/29/16 21:51			2.1	2.1	units				0	20	
WG412379LCSW10	LCSW	10/29/16 21:54	PCN49792	5.99		6	units	100	5.9	6.1			
L33824-04DUP	DUP	10/29/16 23:33			8.4	8.4	units				0	20	
WG412379LCSW13	LCSW	10/30/16 1:43	PCN49792	5.99		6.1	units	102	5.9	6.1			

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412768													
WG412768ICV	ICV	11/07/16 10:22	WI160908-3	.65228		.667	mg/L	102	90	110			
WG412768ICB	ICB	11/07/16 10:25				U	mg/L		-0.02	0.02			
WG412770													
WG412612LRB	LRB	11/07/16 11:24				U	mg/L		-0.02	0.02			
WG412612LFB	LFB	11/07/16 11:25	WI161021-2	.5		.495	mg/L	99	90	110			
L33897-01LFM	LFM	11/07/16 11:39	WI161021-2	.5	U	.506	mg/L	101	90	110			
L33897-02DUP	DUP	11/07/16 11:41			.03	.035	mg/L				15	20	RA
WG412843													
WG412843ICV	ICV	11/08/16 10:02	WI161107-3	.65228		.661	mg/L	101	90	110			
WG412843ICB	ICB	11/08/16 10:04				U	mg/L		-0.02	0.02			
WG412844													
WG412748LRB	LRB	11/08/16 11:55				U	mg/L		-0.02	0.02			
WG412748LFB	LFB	11/08/16 11:56	WI161105-2	.5		.497	mg/L	99	90	110			
L33822-03LFM	LFM	11/08/16 12:01	WI161105-2	.5	U	.485	mg/L	97	90	110			
WG412844ICV	ICV	11/08/16 13:49	WI161107-3	.65228		.67	mg/L	103	90	110			
WG412844ICB	ICB	11/08/16 13:52				U	mg/L		-0.02	0.02			
L33820-09DUP	DUP	11/08/16 14:14			U	U	mg/L				0	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	20		20.24	mg/L	101	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.6	0.6			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	99.96112		108.5	mg/L	109	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	99.96112	1.1	111.2	mg/L	110	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	99.96112	1.1	109.5	mg/L	108	85	115	2	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	99.96112	.9	106	mg/L	105	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	99.96112	.9	103.6	mg/L	103	85	115	2	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412340													
WG412340PBW	PBW	10/28/16 13:00				U	mg/L		-20	20			
WG412340LCSW	LCSW	10/28/16 13:02	PCN51578	260		260	mg/L	100	80	120			
L33820-02DUP	DUP	10/28/16 13:31			56	52	mg/L				7	10	RA
L33831-02DUP	DUP	10/28/16 14:00			1020	1020	mg/L				0	10	
WG412354													
WG412354PBW	PBW	10/28/16 15:00				U	mg/L		-20	20			
WG412354LCSW	LCSW	10/28/16 15:02	PCN51579	260		252	mg/L	97	80	120			
L33824-03DUP	DUP	10/28/16 15:31			908	906	mg/L				0	10	

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		1.98	mg/L	99	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.3	0.3			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	.9868		1	mg/L	101	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	.9868	U	.99	mg/L	100	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	.9868	U	.99	mg/L	100	85	115	0	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	.9868	U	.98	mg/L	99	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	.9868	U	.97	mg/L	98	85	115	1	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412582													
WG412582ICV	ICV	11/02/16 17:20	MS160920-1	.05		.04962	mg/L	99	90	110			
WG412582ICB	ICB	11/02/16 17:23				U	mg/L		-0.0003	0.0003			
WG412582LFB	LFB	11/02/16 17:26	MS160928-2	.05005		.04283	mg/L	86	85	115			
L33820-04AS	AS	11/02/16 17:49	MS160928-2	.05005	.0003	.04624	mg/L	92	70	130			
L33820-04ASD	ASD	11/02/16 17:52	MS160928-2	.05005	.0003	.04646	mg/L	92	70	130	0	20	
L33825-05AS	AS	11/02/16 18:40	MS160928-2	.05005	U	.04681	mg/L	94	70	130			
L33825-05ASD	ASD	11/02/16 18:43	MS160928-2	.05005	U	.04838	mg/L	97	70	130	3	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	1.002		.983	mg/L	98	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.03	0.03			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	.501		.504	mg/L	101	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	.501	U	.379	mg/L	76	85	115			M2 ZA
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	.501	U	.359	mg/L	72	85	115	5	20	M2 ZA
L33820-04AS	AS	11/03/16 16:06	II161031-3	.501	U	.345	mg/L	69	85	115			M2 ZA
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	.501	U	.328	mg/L	65	85	115	5	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	100		100.34	mg/L	100	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.6	0.6			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	100.007		106.1	mg/L	106	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	100.007	16	124.6	mg/L	109	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	100.007	16	122	mg/L	106	85	115	2	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	100.007	U	104	mg/L	104	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	100.007	U	101.8	mg/L	102	85	115	2	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		1.9678	mg/L	98	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.015	0.015			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	.5		.5431	mg/L	109	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	.5	2.57	3.057	mg/L	97	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	.5	2.57	3.032	mg/L	92	85	115	1	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	.5	.032	.5539	mg/L	104	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	.5	.032	.5414	mg/L	102	85	115	2	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412755													
WG412755ICB	ICB	11/07/16 11:42				U	mg/L		-3	3			
WG412755ICV	ICV	11/07/16 11:42	WI161107-2	20		20.4	mg/L	102	90	110			
WG412755LFB	LFB	11/07/16 11:50	WI160815-8	10		10.4	mg/L	104	90	110			
L33810-04DUP	DUP	11/07/16 14:14			254	228	mg/L				11	20	
L33820-01AS	AS	11/07/16 14:16	SO4TURB5X	10	60	72.8	mg/L	128	90	110			M3
WG412757													
WG412757ICB	ICB	11/07/16 11:42				U	mg/L		-3	3			
WG412757ICV	ICV	11/07/16 11:42	WI161107-2	20		20.4	mg/L	102	90	110			
WG412757LFB	LFB	11/07/16 14:51	WI160815-8	10		9.7	mg/L	97	90	110			
L33820-09DUP	DUP	11/07/16 14:58			94.7	97.4	mg/L				3	20	
L33822-01AS	AS	11/07/16 14:58	SO4TURB5X	10	145	145	mg/L	0	90	110			M3
WG413387													
WG413387ICB	ICB	11/17/16 10:52				U	mg/L		-3	3			
WG413387ICV	ICV	11/17/16 10:52	WI161116-1	20		20.1	mg/L	101	90	110			
WG413387LFB	LFB	11/17/16 11:00	WI160815-8	10		9.6	mg/L	96	90	110			
L34013-01DUP	DUP	11/17/16 11:29			481	501	mg/L				4	20	
L34013-02AS	AS	11/17/16 11:31	SO4TURB20X	10	229	246	mg/L	170	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412582													
WG412582ICV	ICV	11/02/16 17:20	MS160920-1	.05		.05476	mg/L	110	90	110			
WG412582ICB	ICB	11/02/16 17:23				U	mg/L		-0.0003	0.0003			
WG412582LFB	LFB	11/02/16 17:26	MS160928-2	.0501		.04904	mg/L	98	85	115			
L33820-04AS	AS	11/02/16 17:49	MS160928-2	.0501	.0003	.05361	mg/L	106	70	130			
L33820-04ASD	ASD	11/02/16 17:52	MS160928-2	.0501	.0003	.05402	mg/L	107	70	130	1	20	
L33825-05AS	AS	11/02/16 18:40	MS160928-2	.0501	U	.05197	mg/L	104	70	130			
L33825-05ASD	ASD	11/02/16 18:43	MS160928-2	.0501	U	.05257	mg/L	105	70	130	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412705													
WG412705ICV	ICV	11/04/16 15:16	II161031-1	2		1.977	mg/L	99	95	105			
WG412705ICB	ICB	11/04/16 15:22				U	mg/L		-0.12	0.12			
WG412705LFB	LFB	11/04/16 15:35	II161031-3	1.001		1.012	mg/L	101	85	115			
L33820-04AS	AS	11/04/16 15:54	II161031-3	1.001	U	1.018	mg/L	102	85	115			
L33820-04ASD	ASD	11/04/16 15:57	II161031-3	1.001	U	1.004	mg/L	100	85	115	1	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		1.987	mg/L	99	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.015	0.015			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	1.002		1.026	mg/L	102	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	1.002	.006	1.021	mg/L	101	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	1.002	.006	1.021	mg/L	101	85	115	0	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	1.002	U	1.001	mg/L	100	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	1.002	U	.9933	mg/L	99	85	115	1	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412582													
WG412582ICV	ICV	11/02/16 17:20	MS160920-1	.05		.0549	mg/L	110	90	110			
WG412582ICB	ICB	11/02/16 17:23				U	mg/L		-0.0003	0.0003			
WG412582LFB	LFB	11/02/16 17:26	MS160928-2	.05		.04942	mg/L	99	85	115			
L33820-04AS	AS	11/02/16 17:49	MS160928-2	.05	.0062	.05941	mg/L	106	70	130			
L33820-04ASD	ASD	11/02/16 17:52	MS160928-2	.05	.0062	.06028	mg/L	108	70	130	1	20	
L33825-05AS	AS	11/02/16 18:40	MS160928-2	.05	U	.05243	mg/L	105	70	130			
L33825-05ASD	ASD	11/02/16 18:43	MS160928-2	.05	U	.05304	mg/L	106	70	130	1	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		1.9702	mg/L	99	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.015	0.015			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	.502		.5456	mg/L	109	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	.502	U	.542	mg/L	108	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	.502	U	.5292	mg/L	105	85	115	2	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	.502	U	.5238	mg/L	104	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	.502	U	.5072	mg/L	101	85	115	3	20	

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ACZ Project ID: ***L33820***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412637													
WG412637ICV	ICV	11/03/16 14:54	II161031-1	2		1.916	mg/L	96	95	105			
WG412637ICB	ICB	11/03/16 15:00				U	mg/L		-0.03	0.03			
WG412637LFB	LFB	11/03/16 15:13	II161031-3	.4995		.539	mg/L	108	85	115			
L33797-01AS	AS	11/03/16 15:22	II161031-3	.4995	U	.536	mg/L	107	85	115			
L33797-01ASD	ASD	11/03/16 15:25	II161031-3	.4995	U	.516	mg/L	103	85	115	4	20	
L33820-04AS	AS	11/03/16 16:06	II161031-3	.4995	.06	.591	mg/L	106	85	115			
L33820-04ASD	ASD	11/03/16 16:10	II161031-3	.4995	.06	.563	mg/L	101	85	115	5	20	

ACZ Laboratories, Inc.
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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L33820***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33820-01	WG412848	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412637	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG412379	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412744	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412736	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412804	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412379	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412770	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412340	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412755	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412379	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L33820***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33820-02	WG412848	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412950	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412637	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG412379	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412744	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412736	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412804	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412379	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412770	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412340	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412755	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412379	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33820-03	WG412637	Iron, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412848	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412637	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG412379	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412744	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412736	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412804	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412379	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412770	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412340	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG413387	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412379	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L33820***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33820-04	WG412641	Arsenic, dissolved	M200.8 ICP-MS	DJ	Sample dilution required due to insufficient sample.
	WG412637	Iron, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412848	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412950	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412637	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG412379	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412744	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412736	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412804	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412379	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412770	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412354	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG412755	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412379	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33820-05	WG412637	Iron, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412848	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412637	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG412379	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412744	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412736	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412804	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412379	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412770	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412354	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG412755	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412379	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33820-06	WG412637	Iron, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412848	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412950	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412637	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG412379	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412744	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412736	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412804	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412379	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412770	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412354	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG412755	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412379	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

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McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33820-07	WG412637	Iron, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412848	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412637	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG412712	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412379	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412744	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412736	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412804	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412379	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412770	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412354	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG412755	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412379	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33820-08	WG412637	Iron, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412848	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412950	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412637	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG412712	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412379	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412744	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412736	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412804	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412379	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412770	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412354	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG412755	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412379	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

McClelland Laboratories, Inc. ACZ Project ID: ***L33820***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33820-09	WG412637	Iron, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412848	Mercury, dissolved	M245.1 CVAA	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412950	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412637	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG412712	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412379	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412737	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412813	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412744	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412736	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412804	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412379	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412844	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412354	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG412757	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412379	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.

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Sample Receipt

McClelland Laboratories, Inc.
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ACZ Project ID: L33820
Date Received: 10/27/2016 09:50
Received By: kmo
Date Printed: 10/27/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	X		

A change was made in the ID Line 4 and Remarks section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA24993	2.6	<=6.0	18	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
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ACZ Project ID:	L33820
Date Received:	10/27/2016 09:50
Received By:	kmo
Date Printed:	10/27/2016

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L33820

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500	Mercury by 1631E				
CAL-002 (86-95)	10/26/16	WW	1	X			X				
CAL-004 (860-875)		WW	1	X			X				
CAL-003 (675-685)		WW	1	X			X				
~~[illegible]~~		~~[illegible]~~	~~[illegible]~~				~~[illegible]~~				
CAL-004 (295-315)		WW	1	X			X				
CAL-001 (750-762)		WW	1	X			X				
GMC-014 (176-184)		WW	1	X			X				
CAL-001 (380-400)		WW	1	X			X				
CAL-002 (177-187)		WW	1	X			X				
Calico Leach Res. after CN Destruct		WW	1	X	X	X	X				

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 ~~[illegible]~~ WK: 48 HC-1, 2, 3, 5-10
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	10/26/16 9AM	[signature]	10/27/16 0950

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L33820 Chain of Custody

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Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

**** Gray out Analyses DOESN'T get done on all Samples, just 1 of the Sample SEE COC ****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

November 14, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L33928

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on November 03, 2016. This project has been assigned to ACZ's project number, L33928. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L33928. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after December 14, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACCREDITED IN ACCORDANCE WITH nelac

ACIL

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L33928-01***
Date Sampled: *11/02/16 00:00*
Date Received: *11/03/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								11/07/16 15:10	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.43			mg/L	0.03	0.2	11/07/16 20:14	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0012	B		mg/L	0.0004	0.002	11/09/16 14:47	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0185			mg/L	0.0002	0.001	11/09/16 14:47	enb
Barium, dissolved	M200.7 ICP	1	0.003	B		mg/L	0.003	0.02	11/07/16 20:14	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00025	B		mg/L	0.00005	0.0003	11/09/16 14:47	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	11/07/16 20:14	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/07/16 20:14	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	11/09/16 14:47	enb
Calcium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.1	0.5	11/07/16 20:14	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/07/16 20:14	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/07/16 20:14	gss
Copper, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	11/07/16 20:14	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/07/16 20:14	gss
Iron, dissolved	M200.7 ICP	1	14.10			mg/L	0.02	0.05	11/07/16 20:14	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0019			mg/L	0.0001	0.0005	11/09/16 14:47	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	11/07/16 20:14	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/07/16 20:14	gss
Manganese, dissolved	M200.7 ICP	1	0.049			mg/L	0.005	0.03	11/07/16 20:14	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	11/09/16 16:31	pta
Mercury, total	M1631, Atomic Fluorescence	2	19.3		*	ng/L	0.4	1	11/11/16 11:06	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	11/07/16 20:14	gss
Nickel, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.008	0.04	11/07/16 20:14	gss
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/07/16 20:14	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	11/07/16 20:14	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0003	11/09/16 14:47	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	11/08/16 18:14	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	11/07/16 20:14	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	11/07/16 20:14	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	11/09/16 14:47	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	11/07/16 20:14	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	11/07/16 20:14	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0058			mg/L	0.0001	0.0005	11/09/16 14:47	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	11/07/16 20:14	gss
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	11/07/16 20:14	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L33928-01***
Date Sampled: *11/02/16 00:00*
Date Received: *11/03/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	11/08/16 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	11/08/16 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	11/08/16 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	11/08/16 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-36.7			%			11/14/16 0:00	calc
Sum of Anions			2.0			meq/L			11/14/16 0:00	calc
Sum of Cations			0.927			meq/L			11/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	11/11/16 13:53	spl
Conductivity @25C	SM2510B	1	735		*	umhos/cm	1	10	11/08/16 18:20	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	11/05/16 18:04	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.499	B		mg/L	0.2	5	11/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B		mg/L	0.02	0.1	11/11/16 22:47	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.07	B	*	mg/L	0.05	0.2	11/08/16 10:07	bsu
pH (lab)	SM4500H+ B									
pH		1	2.7	H	*	units	0.1	0.1	11/08/16 0:00	sck
pH measured at		1	22.7			C	0.1	0.1	11/08/16 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	11/08/16 10:19	krh
Residue, Filterable (TDS) @180C	SM2540C	2	132		*	mg/L	20	40	11/04/16 13:47	sck
Sulfate	D516-02/-07 - Turbidimetric	5	95.5		*	mg/L	5	25	11/10/16 14:52	spl
TDS (calculated)	Calculation		111			mg/L			11/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.19						11/14/16 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L33928***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412888													
WG412888PBW1	PBW	11/08/16 17:25				U	mg/L		-20	20			
WG412888LCSW3	LCSW	11/08/16 17:43	WC161018-9	820.0001		812	mg/L	99	90	110			
L33937-01DUP	DUP	11/08/16 18:52			30.7	31	mg/L				1	20	
WG412888LCSW6	LCSW	11/08/16 21:28	WC161018-9	820.0001		812	mg/L	99	90	110			
WG412888PBW2	PBW	11/08/16 21:35				U	mg/L		-20	20			
WG412888LCSW9	LCSW	11/09/16 0:32	WC161018-9	820.0001		817	mg/L	100	90	110			
WG412888PBW3	PBW	11/09/16 0:38				U	mg/L		-20	20			
WG412888LCSW12	LCSW	11/09/16 3:06	WC161018-9	820.0001		806	mg/L	98	90	110			
WG412888PBW4	PBW	11/09/16 3:13				U	mg/L		-20	20			
WG412888LCSW15	LCSW	11/09/16 6:35	WC161018-9	820.0001		825	mg/L	101	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		2.027	mg/L	101	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.09	0.09			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	1.0013		1.048	mg/L	105	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	1.0013	.03	1.118	mg/L	109	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	1.0013	.03	1.126	mg/L	109	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412926													
WG412926ICV	ICV	11/09/16 14:35	MS160920-1	.02		.01809	mg/L	90	90	110			
WG412926ICB	ICB	11/09/16 14:38				U	mg/L		-0.0012	0.0012			
WG412926LFB	LFB	11/09/16 14:41	MS160928-2	.009980001		.01009	mg/L	101	85	115			
L33952-02AS	AS	11/09/16 15:22	MS160928-2	.009980001	U	.00926	mg/L	93	70	130			
L33952-02ASD	ASD	11/09/16 15:25	MS160928-2	.009980001	U	.00968	mg/L	97	70	130	4	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412926													
WG412926ICV	ICV	11/09/16 14:35	MS160920-1	.05		.05218	mg/L	104	90	110			
WG412926ICB	ICB	11/09/16 14:38				U	mg/L		-0.0006	0.0006			
WG412926LFB	LFB	11/09/16 14:41	MS160928-2	.0501		.04901	mg/L	98	85	115			
L33952-02AS	AS	11/09/16 15:22	MS160928-2	.0501	U	.04843	mg/L	97	70	130			
L33952-02ASD	ASD	11/09/16 15:25	MS160928-2	.0501	U	.04933	mg/L	98	70	130	2	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		1.9478	mg/L	97	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.009	0.009			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	.5005		.4754	mg/L	95	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	.5005	.021	.5047	mg/L	97	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	.5005	.021	.4983	mg/L	95	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L33928***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412926													
WG412926ICV	ICV	11/09/16 14:35	MS160920-1	.05		.04795	mg/L	96	90	110			
WG412926ICB	ICB	11/09/16 14:38				.000118	mg/L		-0.00015	0.00015			
WG412926LFB	LFB	11/09/16 14:41	MS160928-2	.0501		.04809	mg/L	96	85	115			
L33952-02AS	AS	11/09/16 15:22	MS160928-2	.0501	U	.04647	mg/L	93	70	130			
L33952-02ASD	ASD	11/09/16 15:25	MS160928-2	.0501	U	.0474	mg/L	95	70	130	2	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		1.939	mg/L	97	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.12	0.12			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	1		.98	mg/L	98	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	1	U	1.005	mg/L	101	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	1	U	.998	mg/L	100	85	115	1	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		2.01	mg/L	101	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.03	0.03			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	.5005		.487	mg/L	97	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	.5005	.03	.532	mg/L	100	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	.5005	.03	.521	mg/L	98	85	115	2	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412926													
WG412926ICV	ICV	11/09/16 14:35	MS160920-1	.05		.05102	mg/L	102	90	110			
WG412926ICB	ICB	11/09/16 14:38				U	mg/L		-0.0003	0.0003			
WG412926LFB	LFB	11/09/16 14:41	MS160928-2	.05005		.04699	mg/L	94	85	115			
L33952-02AS	AS	11/09/16 15:22	MS160928-2	.05005	U	.04711	mg/L	94	70	130			
L33952-02ASD	ASD	11/09/16 15:25	MS160928-2	.05005	U	.04852	mg/L	97	70	130	3	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	100		99.01	mg/L	99	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.3	0.3			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	67.98044		69.63	mg/L	102	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	67.98044	269	330.6	mg/L	91	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	67.98044	269	327.7	mg/L	86	85	115	1	20	

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ACZ Project ID: ***L33928***

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG413086													
WG413086ICB	ICB	11/11/16 11:52				U	mg/L		-1.5	1.5			
WG413086ICV	ICV	11/11/16 11:52	WI160701-1	55.055		58.57	mg/L	106	90	110			
WG413086LFB1	LFB	11/11/16 12:03	WI161020-2	30.03		31.18	mg/L	104	90	110			
L33911-02AS	AS	11/11/16 13:52	WI161020-2	30.03	56.6	85.28	mg/L	96	90	110			
L33911-03DUP	DUP	11/11/16 13:52			49.5	49.47	mg/L				0	20	
WG413086LFB2	LFB	11/11/16 13:53	WI161020-2	30.03		32.55	mg/L	108	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		1.955	mg/L	98	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.03	0.03			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	.5025		.486	mg/L	97	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	.5025	U	.487	mg/L	97	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	.5025	U	.477	mg/L	95	85	115	2	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2.002		1.902	mg/L	95	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.03	0.03			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	.5025		.471	mg/L	94	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	.5025	U	.475	mg/L	95	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	.5025	U	.465	mg/L	93	85	115	2	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412888													
WG412888LCSW2	LCSW	11/08/16 17:30	PCN50213	1409		1450	umhos/cm	103	90	110			
L33937-01DUP	DUP	11/08/16 18:52			82.2	82.1	umhos/cm				0	20	
WG412888LCSW5	LCSW	11/08/16 21:16	PCN50213	1409		1440	umhos/cm	102	90	110			
WG412888LCSW8	LCSW	11/09/16 0:19	PCN50213	1409		1440	umhos/cm	102	90	110			
WG412888LCSW11	LCSW	11/09/16 2:55	PCN50213	1409		1440	umhos/cm	102	90	110			
WG412888LCSW14	LCSW	11/09/16 6:23	PCN50213	1409		1370	umhos/cm	97	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		1.979	mg/L	99	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.03	0.03			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	.5005		.478	mg/L	96	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	.5005	U	.49	mg/L	98	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	.5005	U	.49	mg/L	98	85	115	0	20	

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ACZ Project ID: ***L33928***

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412744													
WG412744ICV	ICV	11/05/16 14:56	WC161028-7	2.006		1.912	mg/L	95	95	105			
WG412744ICB	ICB	11/05/16 15:01				.05	mg/L		-0.15	0.15			
WG412744LFB1	LFB	11/05/16 15:08	WC160923-7	4.995		5.024	mg/L	101	90	110			
WG412744LFB2	LFB	11/05/16 17:10	WC160923-7	4.995		4.772	mg/L	96	90	110			
L33860-05AS	AS	11/05/16 17:17	WC160923-7	4.995	.39	5.047	mg/L	93	90	110			
L33860-05DUP	DUP	11/05/16 17:25			.39	.391	mg/L				0	20	RA

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		1.95	mg/L	98	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.3	0.3			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	1		.96	mg/L	96	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	1	U	1.01	mg/L	101	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	1	U	1.02	mg/L	102	85	115	1	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		1.964	mg/L	98	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.06	0.06			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	1.0017		.972	mg/L	97	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	1.0017	U	.999	mg/L	100	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	1.0017	U	.982	mg/L	98	85	115	2	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412926													
WG412926ICV	ICV	11/09/16 14:35	MS160920-1	.05		.0515	mg/L	103	90	110			
WG412926ICB	ICB	11/09/16 14:38				U	mg/L		-0.0003	0.0003			
WG412926LFB	LFB	11/09/16 14:41	MS160928-2	.0501		.04804	mg/L	96	85	115			
L33952-02AS	AS	11/09/16 15:22	MS160928-2	.0501	U	.04978	mg/L	99	70	130			
L33952-02ASD	ASD	11/09/16 15:25	MS160928-2	.0501	U	.05111	mg/L	102	70	130	3	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		2.0178	mg/L	101	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.024	0.024			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	1.001		.9894	mg/L	99	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	1.001	.087	1.134	mg/L	105	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	1.001	.087	1.125	mg/L	104	85	115	1	20	

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ACZ Project ID: ***L33928***

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	100		98.21	mg/L	98	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.6	0.6			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	50.01136		46.28	mg/L	93	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	50.01136	44.5	90.49	mg/L	92	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	50.01136	44.5	90.15	mg/L	91	85	115	0	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		1.9212	mg/L	96	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.015	0.015			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	.5		.4924	mg/L	98	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	.5	1.06	1.519	mg/L	92	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	.5	1.06	1.506	mg/L	89	85	115	1	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412848													
WG412848ICV1	ICV	11/09/16 15:44	HG161031-2	.005005		.00495	mg/L	99	95	105			
WG412848ICB	ICB	11/09/16 15:45				U	mg/L		-0.0002	0.0002			
WG412849													
WG412849LRB	LRB	11/09/16 16:19				U	mg/L		-0.00044	0.00044			
WG412849LFB	LFB	11/09/16 16:20	HG161107-2	.002002		.00213	mg/L	106	85	115			
L33894-01LFM	LFM	11/09/16 16:23	HG161107-2	.002002	U	.00236	mg/L	118	85	115			MA
L33894-01LFMD	LFMD	11/09/16 16:24	HG161107-2	.002002	U	.0023	mg/L	115	85	115	3	20	

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412000													
WG412000ICV	ICV	10/26/16 10:39	HG161024-7	10		9.93	ng/L	99	79	121			
WG412000ICB	ICB	10/26/16 10:44				U	ng/L		-0.5	0.5			
WG413048													
WG413048CCV1	CCV	11/11/16 9:49	HG161024-7	10		9.64	ng/L	96	76.5	123.4			
WG413048CCB1	CCB	11/11/16 9:54				U	ng/L		-0.5	0.5			
WG413048PQV	PQV	11/11/16 9:59	HG161024-9	.5		.41	ng/L	82	70	130			
WG413048LFB	LFB	11/11/16 10:04	HG161024-8	2		2.06	ng/L	103	71	125			
WG413048CCV3	CCV	11/11/16 10:52	HG161024-7	10		12	ng/L	120	76.5	123.4			
WG413048CCB2	CCB	11/11/16 10:57				U	ng/L		-0.5	0.5			
WG413048CCV4	CCV	11/11/16 11:53	HG161024-7	10		10.2	ng/L	102	76.5	123.4			
WG413048CCB3	CCB	11/11/16 11:58				U	ng/L		-0.5	0.5			
WG413048CCV5	CCV	11/11/16 12:51	HG161024-7	10		14.9	ng/L	149	76.5	123.4			VC
WG413048CCV6	CCV	11/11/16 12:56	HG161024-7	10		14.4	ng/L	144	76.5	123.4			VC
WG413048CCB4	CCB	11/11/16 13:01				U	ng/L		-0.5	0.5			
L33926-01MS	MS	11/11/16 13:10	HG5XPREP	50	14	28	ng/L	138	71	125			M1
L33926-01MSD	MSD	11/11/16 13:15	HG5XPREP	50	14	27.5	ng/L	135	71	125	2	24	M1
WG413048CCV7	CCV	11/11/16 13:49	HG161024-7	10		14.5	ng/L	145	76.5	123.4			VC
WG413048CCB5	CCB	11/11/16 13:59				U	ng/L		-0.5	0.5			

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ACZ Project ID: ***L33928***

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		1.991	mg/L	100	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.06	0.06			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	.4995		.503	mg/L	101	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	.4995	U	.51	mg/L	102	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	.4995	U	.505	mg/L	101	85	115	1	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2.002		1.9728	mg/L	99	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.024	0.024			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	.498		.4786	mg/L	96	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	.498	U	.4808	mg/L	97	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	.498	U	.4694	mg/L	94	85	115	2	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG413113													
WG413113ICV	ICV	11/11/16 20:56	WI160908-7	2.416		2.439	mg/L	101	90	110			
WG413113ICB	ICB	11/11/16 20:57				U	mg/L		-0.02	0.02			
WG413115													
WG413115LFB	LFB	11/11/16 22:46	WI160616-3	2		2.097	mg/L	105	90	110			
L33928-01AS	AS	11/11/16 22:48	WI160616-3	2	.03	2.223	mg/L	110	90	110			
L33959-01DUP	DUP	11/11/16 23:26			52.3	52.26	mg/L				0	20	

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412838													
WG412838ICV	ICV	11/08/16 10:03	WI161031-7	11.988		12.253	mg/L	102	90	110			
WG412838ICB	ICB	11/08/16 10:04				U	mg/L		-0.05	0.05			
WG412838LFB	LFB	11/08/16 10:06	WI161026-1	10		9.748	mg/L	97	90	110			
L33929-01AS	AS	11/08/16 10:49	WI161026-1	100	23.2	122.37	mg/L	99	90	110			
L33929-02DUP	DUP	11/08/16 10:52			.09	.072	mg/L				22	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412888													
WG412888LCSW1	LCSW	11/08/16 17:28	PCN49792	5.99		6	units	100	5.9	6.1			
L33937-01DUP	DUP	11/08/16 18:52			7.8	7.9	units				1	20	
WG412888LCSW4	LCSW	11/08/16 21:14	PCN49792	5.99		6	units	100	5.9	6.1			
WG412888LCSW7	LCSW	11/09/16 0:17	PCN49792	5.99		6	units	100	5.9	6.1			
WG412888LCSW10	LCSW	11/09/16 2:53	PCN49792	5.99		6	units	100	5.9	6.1			
WG412888LCSW13	LCSW	11/09/16 6:21	PCN49792	5.99		6	units	100	5.9	6.1			

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ACZ Project ID: ***L33928***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412843													
WG412843ICV	ICV	11/08/16 10:02	WI161107-3	.65228		.661	mg/L	101	90	110			
WG412843ICB	ICB	11/08/16 10:04				U	mg/L		-0.02	0.02			
WG412798LRB	LRB	11/08/16 10:05				U	mg/L		-0.02	0.02			
WG412798LFB	LFB	11/08/16 10:07	WI161105-2	.5		.49	mg/L	98	90	110			
L33836-02DUP	DUP	11/08/16 10:11			U	U	mg/L				0	20	RA
L33836-01LFM	LFM	11/08/16 10:16	WI161105-2	.5	U	.499	mg/L	100	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	20		19.69	mg/L	98	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.6	0.6			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	99.96112		99.93	mg/L	100	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	99.96112	4.5	109.5	mg/L	105	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	99.96112	4.5	108.9	mg/L	104	85	115	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412709													
WG412709PBW	PBW	11/04/16 13:00				U	mg/L		-20	20			
WG412709LCSW	LCSW	11/04/16 13:02	PCN51579	260		262	mg/L	101	80	120			
L33942-01DUP	DUP	11/04/16 14:00			3410	3410	mg/L				0	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		1.95	mg/L	98	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.3	0.3			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	.9868		.96	mg/L	97	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	.9868	U	.97	mg/L	98	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	.9868	U	.97	mg/L	98	85	115	0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412926													
WG412926ICV	ICV	11/09/16 14:35	MS160920-1	.05		.0504	mg/L	101	90	110			
WG412926ICB	ICB	11/09/16 14:38				.00013	mg/L		-0.0003	0.0003			
WG412926LFB	LFB	11/09/16 14:41	MS160928-2	.05005		.0517	mg/L	103	85	115			
L33952-02AS	AS	11/09/16 15:22	MS160928-2	.05005	.0002	.05254	mg/L	105	70	130			
L33952-02ASD	ASD	11/09/16 15:25	MS160928-2	.05005	.0002	.05075	mg/L	101	70	130	3	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L33928***

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412837													
WG412837ICV	ICV	11/08/16 17:08	II161031-1	1.002		.995	mg/L	99	95	105			
WG412837ICB	ICB	11/08/16 17:14				U	mg/L		-0.03	0.03			
WG412837LFB	LFB	11/08/16 17:27	II161031-3	.501		.477	mg/L	95	85	115			
L33928-01AS	AS	11/08/16 18:17	II161031-3	.501	U	.411	mg/L	82	85	115			M2 ZA
L33928-01ASD	ASD	11/08/16 18:20	II161031-3	.501	U	.378	mg/L	75	85	115	8	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	100		99.36	mg/L	99	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.6	0.6			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	100.007		99.65	mg/L	100	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	100.007	61.6	163.4	mg/L	102	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	100.007	61.6	163.4	mg/L	102	85	115	0	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		1.9358	mg/L	97	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.015	0.015			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	.5		.4975	mg/L	100	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	.5	.914	1.396	mg/L	96	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	.5	.914	1.382	mg/L	94	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG413022													
WG413022ICB	ICB	11/10/16 9:30				U	mg/L		-3	3			
WG413022ICV	ICV	11/10/16 9:30	WI161107-2	20		18.9	mg/L	95	90	110			
WG413022LFB	LFB	11/10/16 14:44	WI160815-8	10		9.2	mg/L	92	90	110			
L33911-03DUP	DUP	11/10/16 15:22			691	696	mg/L				1	20	
L33912-01AS	AS	11/10/16 15:36	SO4TURB50X	10	969	951	mg/L	-180	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412926													
WG412926ICV	ICV	11/09/16 14:35	MS160920-1	.05		.0523	mg/L	105	90	110			
WG412926ICB	ICB	11/09/16 14:38				U	mg/L		-0.0003	0.0003			
WG412926LFB	LFB	11/09/16 14:41	MS160928-2	.0501		.04999	mg/L	100	85	115			
L33952-02AS	AS	11/09/16 15:22	MS160928-2	.0501	U	.05304	mg/L	106	70	130			
L33952-02ASD	ASD	11/09/16 15:25	MS160928-2	.0501	U	.05446	mg/L	109	70	130	3	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L33928***

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		2	mg/L	100	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.12	0.12			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	1.001		.949	mg/L	95	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	1.001	U	.979	mg/L	98	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	1.001	U	.967	mg/L	97	85	115	1	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		1.9695	mg/L	98	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.015	0.015			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	1.002		.9846	mg/L	98	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	1.002	.005	.9985	mg/L	99	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	1.002	.005	.9878	mg/L	98	85	115	1	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412926													
WG412926ICV	ICV	11/09/16 14:35	MS160920-1	.05		.05163	mg/L	103	90	110			
WG412926ICB	ICB	11/09/16 14:38				U	mg/L		-0.0003	0.0003			
WG412926LFB	LFB	11/09/16 14:41	MS160928-2	.05		.04931	mg/L	99	85	115			
L33952-02AS	AS	11/09/16 15:22	MS160928-2	.05	U	.05443	mg/L	109	70	130			
L33952-02ASD	ASD	11/09/16 15:25	MS160928-2	.05	U	.05661	mg/L	113	70	130	4	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		1.9785	mg/L	99	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.015	0.015			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	.502		.5096	mg/L	102	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	.502	U	.5163	mg/L	103	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	.502	U	.5192	mg/L	103	85	115	1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG412807													
WG412807ICV	ICV	11/07/16 19:20	II161031-1	2		1.959	mg/L	98	95	105			
WG412807ICB	ICB	11/07/16 19:26				U	mg/L		-0.03	0.03			
WG412807LFB	LFB	11/07/16 19:38	II161031-3	.4995		.508	mg/L	102	85	115			
L33909-02AS	AS	11/07/16 19:56	II161031-3	.4995	U	.523	mg/L	105	85	115			
L33909-02ASD	ASD	11/07/16 19:59	II161031-3	.4995	U	.524	mg/L	105	85	115	0	20	

Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L33928***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L33928-01	WG412849	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG413048	Mercury, total	M1631, Atomic Fluorescence	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412837	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG412888	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412744	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412838	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412888	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG412843	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG412709	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG413022	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG412888	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L33928
Date Received: 11/03/2016 10:00
Received By:
Date Printed: 11/3/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA25038	3.2	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L33928
Date Received:	11/03/2016 10:00
Received By:	
Date Printed:	11/3/2016

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L33928

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

YES [YES]
NO [ ]

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500	Mercury by 1631E				
GMC-012 (832-851)	11/2/16	WW	1	X			X				

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC-4 WK: 49
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	11/2/16 9AM	DJP	11/3/16 10:00

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L33928 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.008 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

[redacted]

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 14, 2016

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L34366

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on November 30, 2016. This project has been assigned to ACZ's project number, L34366. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L34366. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 13, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber

Sue Webber has reviewed and approved this report.

ACCREDITED IN ACCORDANCE WITH nelac

ACIL

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L34366-01***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/07/16 15:20	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.10			mg/L	0.03	0.2	12/02/16 13:13	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0158			mg/L	0.0004	0.002	12/05/16 13:19	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0757			mg/L	0.0002	0.001	12/05/16 13:19	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	12/02/16 13:13	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00019	B		mg/L	0.00005	0.0003	12/05/16 13:19	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/02/16 13:13	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:13	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/05/16 13:19	mfm
Calcium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.1	0.5	12/02/16 13:13	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:13	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:13	aeb
Copper, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	12/02/16 13:13	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:13	aeb
Iron, dissolved	M200.7 ICP	1	11.2		*	mg/L	0.02	0.05	12/02/16 13:13	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	12/05/16 13:19	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/02/16 13:13	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/02/16 13:13	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:13	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	12/09/16 16:44	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/02/16 13:13	aeb
Nickel, dissolved	M200.7 ICP	1	0.017	B		mg/L	0.008	0.04	12/02/16 13:13	aeb
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/02/16 13:13	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:13	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	12/05/16 13:19	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/02/16 13:13	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/02/16 13:13	aeb
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:13	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0001	0.0005	12/05/16 13:19	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/02/16 13:13	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/02/16 13:13	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	12/05/16 13:19	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:13	aeb
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/02/16 13:13	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L34366-01***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	12/02/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-15.1			%			12/14/16 0:00	calc
Sum of Anions			1.0			meq/L			12/14/16 0:00	calc
Sum of Cations			0.737			meq/L			12/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	12/12/16 11:57	krh
Conductivity @25C	SM2510B	1	340		*	umhos/cm	1	10	12/02/16 21:21	emk
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/07/16 18:11	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.999	B		mg/L	0.2	5	12/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	12/09/16 21:32	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	12/12/16 14:17	spl
pH (lab)	SM4500H+ B									
pH		1	3.1	H	*	units	0.1	0.1	12/02/16 0:00	emk
pH measured at		1	22.7			C	0.1	0.1	12/02/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.02	0.05	12/08/16 11:50	spl
Residue, Filterable (TDS) @180C	SM2540C	1	60		*	mg/L	10	20	11/30/16 16:26	sck
Sulfate	D516-02/-07 - Turbidimetric	5	48.6		*	mg/L	5	25	12/08/16 14:42	krh
TDS (calculated)	Calculation		61.4			mg/L			12/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.98						12/14/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L34366-02***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/07/16 15:28	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.19	B		mg/L	0.03	0.2	12/02/16 13:17	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/05/16 13:22	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0002	0.001	12/05/16 13:22	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	12/02/16 13:17	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00035			mg/L	0.00005	0.0003	12/05/16 13:22	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/02/16 13:17	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:17	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/05/16 13:22	mfm
Calcium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.1	0.5	12/02/16 13:17	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:17	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:17	aeb
Copper, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/02/16 13:17	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:17	aeb
Iron, dissolved	M200.7 ICP	1	0.40		*	mg/L	0.02	0.05	12/02/16 13:17	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	12/05/16 13:22	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/02/16 13:17	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/02/16 13:17	aeb
Manganese, dissolved	M200.7 ICP	1	0.036			mg/L	0.005	0.03	12/02/16 13:17	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	12/09/16 16:47	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/02/16 13:17	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/02/16 13:17	aeb
Potassium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	12/02/16 13:17	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:17	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	12/05/16 13:22	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/02/16 13:17	aeb
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	12/02/16 13:17	aeb
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:17	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	12/05/16 13:22	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/02/16 13:17	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/02/16 13:17	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	12/05/16 13:22	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:17	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:17	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L34366-02***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	12/02/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			12/14/16 0:00	calc
Sum of Anions			00.3	B		meq/L			12/14/16 0:00	calc
Sum of Cations				U		meq/L			12/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	12/12/16 11:57	krh
Conductivity @25C	SM2510B	1	128		*	umhos/cm	1	10	12/02/16 21:25	emk
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/07/16 18:40	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.499	B		mg/L	0.2	5	12/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B		mg/L	0.02	0.1	12/13/16 23:57	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	12/12/16 14:20	spl
pH (lab)	SM4500H+ B									
pH		1	3.5	H	*	units	0.1	0.1	12/02/16 0:00	emk
pH measured at		1	22.4			C	0.1	0.1	12/02/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	12/08/16 11:51	spl
Residue, Filterable (TDS) @180C	SM2540C	1	18	B	*	mg/L	10	20	11/30/16 16:28	sck
Sulfate	D516-02/-07 - Turbidimetric	1	13.8		*	mg/L	1	5	12/08/16 14:35	krh
TDS (calculated)	Calculation		15.7			mg/L			12/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.15						12/14/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L34366-03***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/07/16 15:37	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	2	35.8			mg/L	0.06	0.3	12/02/16 13:20	aeb
Antimony, dissolved	M200.8 ICP-MS	2	0.0044			mg/L	0.0008	0.004	12/05/16 13:25	mfm
Arsenic, dissolved	M200.8 ICP-MS	50	4.61			mg/L	0.01	0.05	12/07/16 22:06	mfm
Barium, dissolved	M200.7 ICP	2		U		mg/L	0.006	0.03	12/02/16 13:20	aeb
Beryllium, dissolved	M200.8 ICP-MS	2	0.0056			mg/L	0.0001	0.0005	12/05/16 13:25	mfm
Bismuth, dissolved	M200.7 ICP	2		U	*	mg/L	0.08	0.4	12/02/16 13:20	aeb
Boron, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	12/02/16 13:20	aeb
Cadmium, dissolved	M200.8 ICP-MS	2	0.0035			mg/L	0.0002	0.001	12/05/16 13:25	mfm
Calcium, dissolved	M200.7 ICP	2	65.0			mg/L	0.2	1	12/02/16 13:20	aeb
Chromium, dissolved	M200.7 ICP	2	0.04	B		mg/L	0.02	0.1	12/02/16 13:20	aeb
Cobalt, dissolved	M200.7 ICP	2	0.26			mg/L	0.02	0.1	12/02/16 13:20	aeb
Copper, dissolved	M200.7 ICP	2	0.74			mg/L	0.02	0.1	12/02/16 13:20	aeb
Gallium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	12/02/16 13:20	aeb
Iron, dissolved	M200.7 ICP	2	753		*	mg/L	0.04	0.1	12/02/16 13:20	aeb
Lead, dissolved	M200.8 ICP-MS	2	0.001			mg/L	0.0002	0.001	12/05/16 13:25	mfm
Lithium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.08	12/02/16 13:20	aeb
Magnesium, dissolved	M200.7 ICP	2	5.1			mg/L	0.4	2	12/02/16 13:20	aeb
Manganese, dissolved	M200.7 ICP	2	0.41			mg/L	0.01	0.05	12/02/16 13:20	aeb
Mercury, dissolved	M245.1 CVAA	1	0.0007	B	*	mg/L	0.0002	0.001	12/09/16 16:48	scp
Molybdenum, dissolved	M200.7 ICP	2	0.41			mg/L	0.04	0.2	12/02/16 13:20	aeb
Nickel, dissolved	M200.7 ICP	2	0.23			mg/L	0.02	0.08	12/02/16 13:20	aeb
Potassium, dissolved	M200.7 ICP	2		U		mg/L	0.4	2	12/02/16 13:20	aeb
Scandium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	12/02/16 13:20	aeb
Selenium, dissolved	M200.8 ICP-MS	2	0.0113			mg/L	0.0002	0.0005	12/05/16 13:25	mfm
Silver, dissolved	M200.7 ICP	2		U	*	mg/L	0.02	0.05	12/02/16 13:20	aeb
Sodium, dissolved	M200.7 ICP	2		U		mg/L	0.4	2	12/02/16 13:20	aeb
Strontium, dissolved	M200.7 ICP	2	0.22			mg/L	0.01	0.05	12/02/16 13:20	aeb
Thallium, dissolved	M200.8 ICP-MS	2	0.0004	B		mg/L	0.0002	0.001	12/05/16 13:25	mfm
Tin, dissolved	M200.7 ICP	2		U		mg/L	0.08	0.4	12/02/16 13:20	aeb
Titanium, dissolved	M200.7 ICP	2		U	*	mg/L	0.01	0.05	12/02/16 13:20	aeb
Uranium, dissolved	M200.8 ICP-MS	2	0.0073			mg/L	0.0002	0.001	12/05/16 13:25	mfm
Vanadium, dissolved	M200.7 ICP	2		U		mg/L	0.01	0.05	12/02/16 13:20	aeb
Zinc, dissolved	M200.7 ICP	2	0.59			mg/L	0.02	0.1	12/02/16 13:20	aeb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L34366-03***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	12/02/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			2.1			%			12/14/16 0:00	calc
Sum of Anions			46.0			meq/L			12/14/16 0:00	calc
Sum of Cations			48			meq/L			12/14/16 0:00	calc
Chloride	SM4500Cl-E	1	0.7	B	*	mg/L	0.5	2	12/12/16 11:57	krh
Conductivity @25C	SM2510B	1	4470		*	umhos/cm	1	10	12/02/16 21:29	emk
Fluoride	SM4500F-C	400		U	*	mg/L	20	100	12/07/16 18:51	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		183			mg/L	0.5	10	12/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B	*	mg/L	0.02	0.1	12/09/16 21:39	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	12/12/16 14:23	spl
pH (lab)	SM4500H+ B									
pH		1	2.1	H	*	units	0.1	0.1	12/02/16 0:00	emk
pH measured at		1	22.2			C	0.1	0.1	12/02/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	10	2.9			mg/L	0.2	0.5	12/09/16 23:48	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	3540		*	mg/L	10	20	11/30/16 16:34	sck
Sulfate	D516-02/-07 - Turbidimetric	100	2190		*	mg/L	100	500	12/08/16 14:48	krh
TDS (calculated)	Calculation		3050			mg/L			12/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.16						12/14/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L34366-04***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/07/16 15:45	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.77			mg/L	0.03	0.2	12/02/16 13:23	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0004	0.002	12/05/16 13:28	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0154			mg/L	0.0002	0.001	12/07/16 22:09	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	12/02/16 13:23	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00021	B		mg/L	0.00005	0.0003	12/05/16 13:28	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/02/16 13:23	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:23	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/16 13:28	mfm
Calcium, dissolved	M200.7 ICP	1	0.1	B		mg/L	0.1	0.5	12/02/16 13:23	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:23	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:23	aeb
Copper, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	12/02/16 13:23	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:23	aeb
Iron, dissolved	M200.7 ICP	1	8.97		*	mg/L	0.02	0.05	12/02/16 13:23	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	12/05/16 13:28	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/02/16 13:23	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/02/16 13:23	aeb
Manganese, dissolved	M200.7 ICP	1	0.022	B		mg/L	0.005	0.03	12/02/16 13:23	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	12/09/16 16:49	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/02/16 13:23	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/02/16 13:23	aeb
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	12/02/16 13:23	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:23	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	12/05/16 13:28	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/02/16 13:23	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/02/16 13:23	aeb
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:23	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/05/16 13:28	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/02/16 13:23	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/02/16 13:23	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0036			mg/L	0.0001	0.0005	12/05/16 13:28	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:23	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:23	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L34366-04***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	3	20	12/07/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	3	20	12/07/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	3	20	12/07/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	3	20	12/07/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-38.6			%			12/14/16 0:00	calc
Sum of Anions			1.3			meq/L			12/14/16 0:00	calc
Sum of Cations			0.576			meq/L			12/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	12/12/16 11:57	krh
Conductivity @25C	SM2510B	1	505		*	umhos/cm	1	10	12/07/16 11:15	emk
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/07/16 19:01	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		00.3	B		mg/L	0.2	5	12/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	12/09/16 21:40	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	12/12/16 14:24	spl
pH (lab)	SM4500H+ B									
pH		1	3.0	H	*	units	0.1	0.1	12/07/16 0:00	emk
pH measured at		1	20.8		*	C	0.1	0.1	12/07/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.02	0.05	12/08/16 11:53	spl
Residue, Filterable (TDS) @180C	SM2540C	10		U	*	mg/L	100	200	11/30/16 16:36	sck
Sulfate	D516-02/-07 - Turbidimetric	5	62.2		*	mg/L	5	25	12/08/16 14:42	krh
TDS (calculated)	Calculation		72.4			mg/L			12/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						12/14/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L34366-05***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/07/16 15:54	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.59			mg/L	0.03	0.2	12/02/16 13:32	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0004	0.002	12/05/16 13:31	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0002	0.001	12/05/16 13:31	mfm
Barium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.003	0.02	12/02/16 13:32	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00111			mg/L	0.00005	0.0003	12/05/16 13:31	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/02/16 13:32	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:32	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	12/05/16 13:31	mfm
Calcium, dissolved	M200.7 ICP	1	5.8			mg/L	0.1	0.5	12/02/16 13:32	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:32	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:32	aeb
Copper, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	12/02/16 13:32	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:32	aeb
Iron, dissolved	M200.7 ICP	1	0.91		*	mg/L	0.02	0.05	12/02/16 13:32	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	12/05/16 13:31	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/02/16 13:32	aeb
Magnesium, dissolved	M200.7 ICP	1	1.0			mg/L	0.2	1	12/02/16 13:32	aeb
Manganese, dissolved	M200.7 ICP	1	0.181			mg/L	0.005	0.03	12/02/16 13:32	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	12/09/16 16:50	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/02/16 13:32	aeb
Nickel, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.008	0.04	12/02/16 13:32	aeb
Potassium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	12/02/16 13:32	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:32	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	12/05/16 13:31	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/02/16 13:32	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/02/16 13:32	aeb
Strontium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.005	0.03	12/02/16 13:32	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	12/05/16 13:31	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/02/16 13:32	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/02/16 13:32	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.004			mg/L	0.0001	0.0005	12/05/16 13:31	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:32	aeb
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	12/02/16 13:32	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L34366-05***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	12/02/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-37.5			%			12/14/16 0:00	calc
Sum of Anions			1.1			meq/L			12/14/16 0:00	calc
Sum of Cations			0.5			meq/L			12/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	12/12/16 11:57	krh
Conductivity @25C	SM2510B	1	418		*	umhos/cm	1	10	12/02/16 21:34	emk
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/07/16 19:07	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		19			mg/L	0.2	5	12/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	12/09/16 21:41	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	12/12/16 14:26	spl
pH (lab)	SM4500H+ B									
pH		1	3.1	H	*	units	0.1	0.1	12/02/16 0:00	emk
pH measured at		1	22.1			C	0.1	0.1	12/02/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	12/08/16 11:56	spl
Residue, Filterable (TDS) @180C	SM2540C	1	82		*	mg/L	10	20	11/30/16 16:39	sck
Sulfate	D516-02/-07 - Turbidimetric	5	49.9		*	mg/L	5	25	12/08/16 14:42	krh
TDS (calculated)	Calculation		59.2			mg/L			12/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.39						12/14/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L34366-06***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/07/16 16:02	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.06	B		mg/L	0.03	0.2	12/02/16 13:42	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/05/16 13:47	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0002	0.001	12/05/16 13:47	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	12/02/16 13:42	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.00005	0.0003	12/05/16 13:47	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/02/16 13:42	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:42	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/16 13:47	mfm
Calcium, dissolved	M200.7 ICP	1	4.9			mg/L	0.1	0.5	12/02/16 13:42	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:42	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:42	aeb
Copper, dissolved	M200.7 ICP	1	0.25			mg/L	0.01	0.05	12/02/16 13:42	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:42	aeb
Iron, dissolved	M200.7 ICP	1	0.40		*	mg/L	0.02	0.05	12/02/16 13:42	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	12/05/16 13:47	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/02/16 13:42	aeb
Magnesium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	12/02/16 13:42	aeb
Manganese, dissolved	M200.7 ICP	1	0.023	B		mg/L	0.005	0.03	12/02/16 13:42	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/09/16 16:51	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/02/16 13:42	aeb
Nickel, dissolved	M200.7 ICP	1	0.045			mg/L	0.008	0.04	12/02/16 13:42	aeb
Potassium, dissolved	M200.7 ICP	1	2.4			mg/L	0.2	1	12/02/16 13:42	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:42	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.003			mg/L	0.0001	0.0003	12/05/16 13:47	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/02/16 13:42	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/02/16 13:42	aeb
Strontium, dissolved	M200.7 ICP	1	0.055			mg/L	0.005	0.03	12/02/16 13:42	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	12/05/16 13:47	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/02/16 13:42	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/02/16 13:42	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	12/05/16 13:47	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:42	aeb
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	12/02/16 13:42	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L34366-06***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	12/02/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-17.3			%			12/14/16 0:00	calc
Sum of Anions			0.584			meq/L			12/14/16 0:00	calc
Sum of Cations			0.412	B		meq/L			12/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	12/12/16 11:57	krh
Conductivity @25C	SM2510B	1	102		*	umhos/cm	1	10	12/02/16 21:38	emk
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/07/16 19:17	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		16			mg/L	0.2	5	12/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	12/09/16 21:42	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	12/12/16 14:27	spl
pH (lab)	SM4500H+ B									
pH		1	4.1	H	*	units	0.1	0.1	12/02/16 0:00	emk
pH measured at		1	22.1			C	0.1	0.1	12/02/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	12/08/16 11:57	spl
Residue, Filterable (TDS) @180C	SM2540C	1	34		*	mg/L	10	20	11/30/16 16:41	sck
Sulfate	D516-02/-07 - Turbidimetric	1	27.8		*	mg/L	1	5	12/08/16 14:35	krh
TDS (calculated)	Calculation		36.7			mg/L			12/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.93						12/14/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L34366-07***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/07/16 16:10	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	29.1			mg/L	0.03	0.2	12/02/16 13:45	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0004	0.002	12/05/16 13:50	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	1.41			mg/L	0.0002	0.001	12/05/16 13:50	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	12/02/16 13:45	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00441			mg/L	0.00005	0.0003	12/05/16 13:50	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/02/16 13:45	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:45	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0001	0.0005	12/05/16 13:50	mfm
Calcium, dissolved	M200.7 ICP	1	2.5			mg/L	0.1	0.5	12/02/16 13:45	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:45	aeb
Cobalt, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	12/02/16 13:45	aeb
Copper, dissolved	M200.7 ICP	1	0.32			mg/L	0.01	0.05	12/02/16 13:45	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:45	aeb
Iron, dissolved	M200.7 ICP	1	144		*	mg/L	0.02	0.05	12/02/16 13:45	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0001	0.0005	12/05/16 13:50	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/02/16 13:45	aeb
Magnesium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	12/02/16 13:45	aeb
Manganese, dissolved	M200.7 ICP	1	0.073			mg/L	0.005	0.03	12/02/16 13:45	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/09/16 16:52	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/02/16 13:45	aeb
Nickel, dissolved	M200.7 ICP	1	0.037	B		mg/L	0.008	0.04	12/02/16 13:45	aeb
Potassium, dissolved	M200.7 ICP	1	1.9			mg/L	0.2	1	12/02/16 13:45	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:45	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0003	12/05/16 13:50	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/02/16 13:45	aeb
Sodium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	12/02/16 13:45	aeb
Strontium, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.005	0.03	12/02/16 13:45	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	12/05/16 13:50	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/02/16 13:45	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/02/16 13:45	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0066			mg/L	0.0001	0.0005	12/05/16 13:50	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:45	aeb
Zinc, dissolved	M200.7 ICP	1	0.96			mg/L	0.01	0.05	12/02/16 13:45	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L34366-07***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	12/02/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			12/14/16 0:00	calc
Sum of Anions			11			meq/L			12/14/16 0:00	calc
Sum of Cations			11			meq/L			12/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	12/12/16 11:58	krh
Conductivity @25C	SM2510B	1	1880		*	umhos/cm	1	10	12/02/16 21:42	emk
Fluoride	SM4500F-C	400		U	*	mg/L	20	100	12/07/16 19:27	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		7.9			mg/L	0.2	5	12/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	12/09/16 21:44	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	12/12/16 14:29	spl
pH (lab)	SM4500H+ B									
pH		1	2.5	H	*	units	0.1	0.1	12/02/16 0:00	emk
pH measured at		1	22.2			C	0.1	0.1	12/02/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.27		*	mg/L	0.02	0.05	12/08/16 11:58	spl
Residue, Filterable (TDS) @180C	SM2540C	1	834		*	mg/L	10	20	11/30/16 16:44	sck
Sulfate	D516-02/-07 - Turbidimetric	20	512		*	mg/L	20	100	12/08/16 14:42	krh
TDS (calculated)	Calculation		692			mg/L			12/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.21						12/14/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L34366-08***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/07/16 16:19	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/02/16 13:48	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0004	0.002	12/05/16 13:53	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0058			mg/L	0.0002	0.001	12/05/16 13:53	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	12/02/16 13:48	aeb
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	12/05/16 13:53	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/02/16 13:48	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:48	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/16 13:53	mfm
Calcium, dissolved	M200.7 ICP	1	1.0			mg/L	0.1	0.5	12/02/16 13:48	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:48	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:48	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:48	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:48	aeb
Iron, dissolved	M200.7 ICP	1	0.11		*	mg/L	0.02	0.05	12/02/16 13:48	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/16 13:53	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/02/16 13:48	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/02/16 13:48	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:48	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/09/16 16:53	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/02/16 13:48	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/02/16 13:48	aeb
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/02/16 13:48	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:48	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0003	12/05/16 13:53	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/02/16 13:48	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/02/16 13:48	aeb
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:48	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/16 13:53	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/02/16 13:48	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/02/16 13:48	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/16 13:53	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:48	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:48	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L34366-08***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	2.3	B		mg/L	2	20	12/02/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Total Alkalinity		1	2.3	B	*	mg/L	2	20	12/02/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			12/14/16 0:00	calc
Sum of Anions				U		meq/L			12/14/16 0:00	calc
Sum of Cations				U		meq/L			12/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	12/12/16 11:58	krh
Conductivity @25C	SM2510B	1	10.4		*	umhos/cm	1	10	12/02/16 21:55	emk
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/07/16 16:16	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.5	B		mg/L	0.2	5	12/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	12/09/16 21:45	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	12/12/16 14:33	spl
pH (lab)	SM4500H+ B									
pH		1	6.7	H	*	units	0.1	0.1	12/02/16 0:00	emk
pH measured at		1	22.5			C	0.1	0.1	12/02/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	12/08/16 11:59	spl
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	11/30/16 16:47	sck
Sulfate	D516-02/-07 - Turbidimetric	1		U	*	mg/L	1	5	12/08/16 14:37	krh
TDS (calculated)	Calculation		2.51			mg/L			12/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						12/14/16 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L34366-09***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/07/16 16:27	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	12/02/16 13:52	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/05/16 13:56	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0002	0.001	12/05/16 13:56	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	12/02/16 13:52	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00014	B		mg/L	0.00005	0.0003	12/05/16 13:56	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/02/16 13:52	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:52	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/16 13:56	mfm
Calcium, dissolved	M200.7 ICP	1	0.8			mg/L	0.1	0.5	12/02/16 13:52	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:52	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:52	aeb
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:52	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:52	aeb
Iron, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.02	0.05	12/02/16 13:52	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	12/05/16 13:56	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/02/16 13:52	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/02/16 13:52	aeb
Manganese, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	12/02/16 13:52	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/09/16 16:56	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/02/16 13:52	aeb
Nickel, dissolved	M200.7 ICP	1	0.117			mg/L	0.008	0.04	12/02/16 13:52	aeb
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	12/02/16 13:52	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:52	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0003	12/05/16 13:56	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/02/16 13:52	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/02/16 13:52	aeb
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:52	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	12/05/16 13:56	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/02/16 13:52	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/02/16 13:52	aeb
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	12/05/16 13:56	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:52	aeb
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:52	aeb

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L34366-09***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	12/02/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			12/14/16 0:00	calc
Sum of Anions				U		meq/L			12/14/16 0:00	calc
Sum of Cations				U		meq/L			12/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	12/12/16 11:58	krh
Conductivity @25C	SM2510B	1	23.4		*	umhos/cm	1	10	12/02/16 22:01	emk
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/07/16 16:29	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.0	B		mg/L	0.2	5	12/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	12/09/16 21:47	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	12/12/16 14:34	spl
pH (lab)	SM4500H+ B									
pH		1	4.8	H	*	units	0.1	0.1	12/02/16 0:00	emk
pH measured at		1	22.9			C	0.1	0.1	12/02/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	12/08/16 12:00	spl
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	11/30/16 16:49	sck
Sulfate	D516-02/-07 - Turbidimetric	1	3.8	B	*	mg/L	1	5	12/08/16 14:37	krh
TDS (calculated)	Calculation		4.94			mg/L			12/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						12/14/16 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L34366-10***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/01/16 13:00	bce
Cyanide, WAD	SM4500-CN I- distillation				*				12/01/16 16:42	bce
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								12/07/16 16:36	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	3.53			mg/L	0.03	0.2	12/02/16 13:55	aeb
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	12/05/16 13:59	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0002	0.001	12/05/16 13:59	mfm
Barium, dissolved	M200.7 ICP	1	0.023			mg/L	0.003	0.02	12/02/16 13:55	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00029	B		mg/L	0.00005	0.0003	12/05/16 13:59	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	12/02/16 13:55	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:55	aeb
Cadmium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	12/05/16 13:59	mfm
Calcium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.1	0.5	12/02/16 13:55	aeb
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:55	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/02/16 13:55	aeb
Copper, dissolved	M200.7 ICP	1	0.18			mg/L	0.01	0.05	12/02/16 13:55	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:55	aeb
Iron, dissolved	M200.7 ICP	1	6.90		*	mg/L	0.02	0.05	12/02/16 13:55	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	12/05/16 13:59	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/02/16 13:55	aeb
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	12/02/16 13:55	aeb
Manganese, dissolved	M200.7 ICP	1	0.055			mg/L	0.005	0.03	12/02/16 13:55	aeb
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	12/09/16 16:59	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	12/02/16 13:55	aeb
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	12/02/16 13:55	aeb
Potassium, dissolved	M200.7 ICP	1	2.9			mg/L	0.2	1	12/02/16 13:55	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	12/02/16 13:55	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0003	12/05/16 13:59	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	12/02/16 13:55	aeb
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	12/02/16 13:55	aeb
Strontium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.005	0.03	12/02/16 13:55	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0001	0.0005	12/05/16 13:59	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	12/02/16 13:55	aeb
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	12/02/16 13:55	aeb
Uranium, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0001	0.0005	12/05/16 13:59	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	12/02/16 13:55	aeb
Zinc, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	12/02/16 13:55	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L34366-10***
Date Sampled: *11/23/16 00:00*
Date Received: *11/30/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	12/02/16 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	12/02/16 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-25.6			%			12/14/16 0:00	calc
Sum of Anions			1.5			meq/L			12/14/16 0:00	calc
Sum of Cations			0.888			meq/L			12/14/16 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	12/12/16 11:58	krh
Conductivity @25C	SM2510B	1	528		*	umhos/cm	1	10	12/02/16 22:05	emk
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.007	B	*	mg/L	0.003	0.01	12/01/16 20:08	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/01/16 20:41	pjb
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/07/16 16:42	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.999	B		mg/L	0.2	5	12/14/16 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	12/09/16 21:54	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	12/12/16 14:36	spl
pH (lab)	SM4500H+ B									
pH		1	2.9	H	*	units	0.1	0.1	12/02/16 0:00	emk
pH measured at		1	23.0			C	0.1	0.1	12/02/16 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	12/08/16 12:02	spl
Residue, Filterable (TDS) @180C	SM2540C	1	112		*	mg/L	10	20	11/30/16 16:52	sck
Sulfate	D516-02/-07 - Turbidimetric	5	68.9		*	mg/L	5	25	12/08/16 14:43	krh
TDS (calculated)	Calculation		83.5			mg/L			12/14/16 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.34						12/14/16 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L34366***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414129													
WG414129PBW1	PBW	12/02/16 16:56				U	mg/L		-20	20			
WG414129LCSW3	LCSW	12/02/16 17:13	WC161123-8	820.0001		788	mg/L	96	90	110			
WG414129LCSW6	LCSW	12/02/16 20:44	WC161123-8	820.0001		799	mg/L	97	90	110			
WG414129PBW2	PBW	12/02/16 20:51				U	mg/L		-20	20			
L34366-07DUP	DUP	12/02/16 21:47			U	U	mg/L				0	20	RA
L34390-01DUP	DUP	12/02/16 23:01			71	71	mg/L				0	20	
WG414129LCSW9	LCSW	12/02/16 23:18	WC161123-8	820.0001		803	mg/L	98	90	110			
WG414129PBW3	PBW	12/02/16 23:26				U	mg/L		-20	20			
WG414129LCSW12	LCSW	12/03/16 2:56	WC161123-8	820.0001		806	mg/L	98	90	110			
WG414129PBW4	PBW	12/03/16 3:00				U	mg/L		-20	20			
WG414129LCSW15	LCSW	12/03/16 6:19	WC161123-8	820.0001		810	mg/L	99	90	110			
WG414365													
WG414365PBW	PBW	12/07/16 16:25				2	mg/L		-20	20			
WG414365LCSW	LCSW	12/07/16 16:32	WC161123-8	820.0001		776	mg/L	95	90	110			
L34469-03DUP	DUP	12/07/16 16:53			506	508	mg/L				0	20	

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		2.032	mg/L	102	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.09	0.09			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	1.0013		.976	mg/L	97	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	1.0013	.77	1.678	mg/L	91	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	1.0013	.77	1.718	mg/L	95	85	115	2	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414188													
WG414188ICV	ICV	12/05/16 12:26	MS161128-3	.02		.02101	mg/L	105	90	110			
WG414188ICB	ICB	12/05/16 12:29				.0007	mg/L		-0.0012	0.0012			
WG414188LFB	LFB	12/05/16 12:33	MS161201-3	.009980001		.00962	mg/L	96	85	115			
L34366-05AS	AS	12/05/16 13:34	MS161201-3	.009980001	.0006	.00856	mg/L	80	70	130			
L34366-05ASD	ASD	12/05/16 13:37	MS161201-3	.009980001	.0006	.00873	mg/L	81	70	130	2	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L34366***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414188													
WG414188ICV	ICV	12/05/16 12:26	MS161128-3	.05		.04506	mg/L	90	90	110			
WG414188ICB	ICB	12/05/16 12:29				U	mg/L		-0.0006	0.0006			
WG414188LFB	LFB	12/05/16 12:33	MS161201-3	.0501		.04844	mg/L	97	85	115			
L34366-05AS	AS	12/05/16 13:34	MS161201-3	.0501	.0026	.0602	mg/L	115	70	130			
L34366-05ASD	ASD	12/05/16 13:37	MS161201-3	.0501	.0026	.05294	mg/L	100	70	130	13	20	
WG414370													
WG414370ICV	ICV	12/07/16 20:45	MS161128-3	.05		.04921	mg/L	98	90	110			
WG414370ICB	ICB	12/07/16 20:48				U	mg/L		-0.0006	0.0006			
WG414370LFB	LFB	12/07/16 20:51	MS161201-3	.0501		.0548	mg/L	109	85	115			
L34363-10AS	AS	12/07/16 21:54	MS161201-3	.0501	U	.05908	mg/L	118	70	130			
L34363-10ASD	ASD	12/07/16 21:57	MS161201-3	.0501	U	.05721	mg/L	114	70	130	3	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		1.9785	mg/L	99	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.009	0.009			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	.5005		.4994	mg/L	100	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	.5005	U	.4856	mg/L	97	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	.5005	U	.4906	mg/L	98	85	115	1	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414188													
WG414188ICV	ICV	12/05/16 12:26	MS161128-3	.05		.05051	mg/L	101	90	110			
WG414188ICB	ICB	12/05/16 12:29				U	mg/L		-0.00015	0.00015			
WG414188LFB	LFB	12/05/16 12:33	MS161201-3	.05035		.05256	mg/L	104	85	115			
L34366-05AS	AS	12/05/16 13:34	MS161201-3	.05035	.00111	.05593	mg/L	109	70	130			
L34366-05ASD	ASD	12/05/16 13:37	MS161201-3	.05035	.00111	.05121	mg/L	100	70	130	9	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		1.957	mg/L	98	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.12	0.12			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	1		.97	mg/L	97	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	1	U	.933	mg/L	93	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	1	U	.948	mg/L	95	85	115	2	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		1.951	mg/L	98	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.03	0.03			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	.5005		.49	mg/L	98	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	.5005	U	.466	mg/L	93	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	.5005	U	.477	mg/L	95	85	115	2	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L34366***

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414188													
WG414188ICV	ICV	12/05/16 12:26	MS161128-3	.05		.0493	mg/L	99	90	110			
WG414188ICB	ICB	12/05/16 12:29				U	mg/L		-0.0003	0.0003			
WG414188LFB	LFB	12/05/16 12:33	MS161201-3	.05005		.05054	mg/L	101	85	115			
L34366-05AS	AS	12/05/16 13:34	MS161201-3	.05005	.0005	.05089	mg/L	101	70	130			
L34366-05ASD	ASD	12/05/16 13:37	MS161201-3	.05005	.0005	.04736	mg/L	94	70	130	7	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	100		100.15	mg/L	100	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.3	0.3			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	68.00007		67.63	mg/L	99	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	68.00007	.1	64.87	mg/L	95	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	68.00007	.1	66.5	mg/L	98	85	115	2	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414549													
WG414549ICB	ICB	12/12/16 9:44				U	mg/L		-1.5	1.5			
WG414549ICV	ICV	12/12/16 9:44	WI160701-1	55.055		56.74	mg/L	103	90	110			
WG414549LFB1	LFB	12/12/16 11:57	WI161020-2	30.03		31.48	mg/L	105	90	110			
L34352-02AS	AS	12/12/16 11:57	WI161020-2	30.03	10.2	42.38	mg/L	107	90	110			
L34366-01DUP	DUP	12/12/16 11:57			U	U	mg/L				0	20	RA
L34389-01AS	AS	12/12/16 12:09	WI161020-2	30.03	U	33.49	mg/L	112	90	110			M1
L34389-02DUP	DUP	12/12/16 12:09			.6	.56	mg/L				7	20	RA
WG414549LFB2	LFB	12/12/16 12:23	WI161020-2	30.03		32.71	mg/L	109	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		1.955	mg/L	98	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.03	0.03			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	.5025		.497	mg/L	99	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	.5025	U	.481	mg/L	96	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	.5025	U	.483	mg/L	96	85	115	0	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2.002		1.946	mg/L	97	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.03	0.03			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	.5025		.498	mg/L	99	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	.5025	U	.481	mg/L	96	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	.5025	U	.491	mg/L	98	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L34366***

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414129													
WG414129LCSW2	LCSW	12/02/16 17:01	PCN51546	1410		1520	umhos/cm	108	90	110			
WG414129LCSW5	LCSW	12/02/16 20:31	PCN51546	1410		1460	umhos/cm	104	90	110			
L34366-07DUP	DUP	12/02/16 21:47			1880	1910	umhos/cm				2	20	
L34390-01DUP	DUP	12/02/16 23:01			327	326	umhos/cm				0	20	
WG414129LCSW8	LCSW	12/02/16 23:06	PCN51546	1410		1460	umhos/cm	104	90	110			
WG414129LCSW11	LCSW	12/03/16 2:44	PCN51546	1410		1420	umhos/cm	101	90	110			
WG414129LCSW14	LCSW	12/03/16 6:06	PCN51546	1410		1410	umhos/cm	100	90	110			
WG414330													
WG414330LCSW1	LCSW	12/07/16 11:14	PCN51546	1410		1410	umhos/cm	100	90	110			
L34366-04DUP	DUP	12/07/16 11:17			505	512	umhos/cm				1	20	
WG414330LCSW2	LCSW	12/07/16 11:19	PCN51546	1410		1410	umhos/cm	100	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		2.003	mg/L	100	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.03	0.03			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	.5005		.497	mg/L	99	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	.5005	.01	.5	mg/L	98	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	.5005	.01	.511	mg/L	100	85	115	2	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414070													
WG414070ICV	ICV	12/01/16 19:41	WI161130-6	.3006		.2993	mg/L	100	90	110			
WG414070ICB	ICB	12/01/16 19:42				U	mg/L		-0.003	0.003			
WG413981LRB	LRB	12/01/16 19:44				U	mg/L		-0.003	0.003			
WG413981LFB	LFB	12/01/16 19:45	WI161130-2	.2		.2044	mg/L	102	90	110			
L34299-06DUP	DUP	12/01/16 19:59			.003	.0054	mg/L				57	20	RA
L34300-01LFM	LFM	12/01/16 20:01	WI161130-2	.2	.004	.203	mg/L	100	90	110			

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414070													
WG414070ICV	ICV	12/01/16 19:41	WI161130-6	.3006		.2993	mg/L	100	90	110			
WG414070ICB	ICB	12/01/16 19:42				U	mg/L		-0.003	0.003			
WG414071													
WG413993LRB	LRB	12/01/16 20:22				U	mg/L		-0.003	0.003			
WG413993LFB	LFB	12/01/16 20:23	WI161130-4	.2004		.2017	mg/L	101	90	110			
L34359-02DUP	DUP	12/01/16 20:39			U	U	mg/L				0	20	RA
L34360-01LFM	LFM	12/01/16 20:40	WI161130-4	.2004	U	.2021	mg/L	101	90	110			

McClelland Laboratories, Inc.

ACZ Project ID: ***L34366***

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414325													
WG414325ICV	ICV	12/07/16 11:08	WC161206-1	2.006		1.949	mg/L	97	95	105			
WG414325ICB	ICB	12/07/16 11:14				.053	mg/L		-0.15	0.15			
WG414324													
WG414324ICV	ICV	12/07/16 14:07	WC161206-1	2.006		1.921	mg/L	96	95	105			
WG414324ICB	ICB	12/07/16 14:12				U	mg/L		-0.15	0.15			
WG414324LFB	LFB	12/07/16 14:20	WC160923-7	4.995		4.77	mg/L	95	90	110			
WG414375													
WG414375ICV	ICV	12/07/16 17:52	WC161206-1	2.006		1.958	mg/L	98	95	105			
WG414375ICB	ICB	12/07/16 17:57				U	mg/L		-0.15	0.15			
WG414375LFB	LFB	12/07/16 18:05	WC160923-7	4.995		4.705	mg/L	94	90	110			
L34366-01AS	AS	12/07/16 18:19	WC160923-7	199.8	U	180.5	mg/L	90	90	110			
L34366-01DUP	DUP	12/07/16 18:30			U	U	mg/L				0	20	RA

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		1.96	mg/L	98	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.3	0.3			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	1		.95	mg/L	95	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	1	U	.93	mg/L	93	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	1	U	.96	mg/L	96	85	115	3	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		2.005	mg/L	100	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.06	0.06			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	1.0017		1.045	mg/L	104	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	1.0017	8.97	9.16	mg/L	19	85	115			M3
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	1.0017	8.97	9.367	mg/L	40	85	115	2	20	M3

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414188													
WG414188ICV	ICV	12/05/16 12:26	MS161128-3	.05		.0491	mg/L	98	90	110			
WG414188ICB	ICB	12/05/16 12:29				U	mg/L		-0.0003	0.0003			
WG414188LFB	LFB	12/05/16 12:33	MS161201-3	.0501		.04946	mg/L	99	85	115			
L34366-05AS	AS	12/05/16 13:34	MS161201-3	.0501	.0011	.04982	mg/L	97	70	130			
L34366-05ASD	ASD	12/05/16 13:37	MS161201-3	.0501	.0011	.04607	mg/L	90	70	130	8	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L34366***

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		1.9652	mg/L	98	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.024	0.024			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	1.001		.9735	mg/L	97	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	1.001	U	.9387	mg/L	94	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	1.001	U	.9606	mg/L	96	85	115	2	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	100		99.11	mg/L	99	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.6	0.6			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	50.00567		44.94	mg/L	90	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	50.00567	U	43.17	mg/L	86	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	50.00567	U	44.27	mg/L	89	85	115	3	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		1.965	mg/L	98	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.015	0.015			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	.5		.5204	mg/L	104	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	.5	.022	.5299	mg/L	102	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	.5	.022	.5362	mg/L	103	85	115	1	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414202													
WG414202ICV1	ICV	12/09/16 16:24	HG161031-2	.005005		.00525	mg/L	105	90	110			
WG414202ICB	ICB	12/09/16 16:25				U	mg/L		-0.0006	0.0006			
WG414502													
WG414502LRB	LRB	12/09/16 16:36				U	mg/L		-0.00044	0.00044			
WG414502LFB	LFB	12/09/16 16:37	HG161209-6	.002002		.00203	mg/L	101	85	115			
L34354-06LFM	LFM	12/09/16 16:40	HG161209-6	.002002	U	.00236	mg/L	118	85	115			MA
L34354-06LFMD	LFMD	12/09/16 16:41	HG161209-6	.002002	U	.00222	mg/L	111	85	115	6	20	
L34366-08LFM	LFM	12/09/16 16:54	HG161209-6	.002002	U	.00226	mg/L	113	85	115			
L34366-08LFMD	LFMD	12/09/16 16:55	HG161209-6	.002002	U	.00222	mg/L	111	85	115	2	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		2.034	mg/L	102	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.06	0.06			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	.4995		.484	mg/L	97	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	.4995	U	.461	mg/L	92	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	.4995	U	.475	mg/L	95	85	115	3	20	

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Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2.002		1.9992	mg/L	100	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.024	0.024			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	.498		.4865	mg/L	98	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	.498	U	.4754	mg/L	95	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	.498	U	.4839	mg/L	97	85	115	2	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414535													
WG414535ICV	ICV	12/09/16 21:01	WI161209-3	2.416		2.437	mg/L	101	90	110			
WG414535ICB	ICB	12/09/16 21:03				U	mg/L		-0.02	0.02			
WG414535LFB1	LFB	12/09/16 21:07	WI160616-3	2		2.066	mg/L	103	90	110			
L34356-02AS	AS	12/09/16 21:28	WI160616-3	2	.29	2.345	mg/L	103	90	110			
L34356-03DUP	DUP	12/09/16 21:31			U	U	mg/L				0	20	RA
WG414535LFB2	LFB	12/09/16 21:46	WI160616-3	2		2.03	mg/L	102	90	110			
L34366-09AS	AS	12/09/16 21:48	WI160616-3	2	U	1.988	mg/L	99	90	110			
L34366-10DUP	DUP	12/09/16 21:55			U	U	mg/L				0	20	RA
WG414691													
WG414691ICV	ICV	12/13/16 22:34	WI161209-3	2.416		2.457	mg/L	102	90	110			
WG414691ICB	ICB	12/13/16 22:35				U	mg/L		-0.02	0.02			
WG414693													
WG414693LFB	LFB	12/13/16 23:56	WI160616-3	2		2.072	mg/L	104	90	110			
L34366-02AS	AS	12/13/16 23:59	WI160616-3	2	.05	2.208	mg/L	108	90	110			
L34407-01DUP	DUP	12/14/16 0:01			.2	.203	mg/L				1	20	

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414580													
WG414580ICV	ICV	12/12/16 14:13	WI161031-7	11.988		12.29	mg/L	103	90	110			
WG414580ICB	ICB	12/12/16 14:14				U	mg/L		-0.05	0.05			
WG414580LFB	LFB	12/12/16 14:16	WI161026-1	10		9.998	mg/L	100	90	110			
L34366-01AS	AS	12/12/16 14:19	WI161026-1	10	U	10.484	mg/L	105	90	110			
L34366-02DUP	DUP	12/12/16 14:22			U	U	mg/L				0	20	RA
WG414580ICV1	ICV	12/12/16 17:06	WI161031-7	11.988		11.787	mg/L	98	90	110			
WG414580ICB1	ICB	12/12/16 17:07				U	mg/L		-0.05	0.05			

McClelland Laboratories, Inc. ACZ Project ID: ***L34366***

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414129													
WG414129LCSW1	LCSW	12/02/16 16:59	PCN49792	5.99		6	units	100	5.9	6.1			
WG414129LCSW4	LCSW	12/02/16 20:29	PCN49792	5.99		6	units	100	5.9	6.1			
L34366-07DUP	DUP	12/02/16 21:47			2.5	2.5	units				0	20	
L34390-01DUP	DUP	12/02/16 23:01			8.2	8.2	units				0	20	
WG414129LCSW7	LCSW	12/02/16 23:04	PCN49792	5.99		6	units	100	5.9	6.1			
WG414129LCSW10	LCSW	12/03/16 2:42	PCN49792	5.99		6	units	100	5.9	6.1			
WG414129LCSW13	LCSW	12/03/16 6:05	PCN49792	5.99		6	units	100	5.9	6.1			
WG414366													
WG414366ICV	ICV	12/07/16 16:15	PCN49792	5.99		6.04	units	101	5.9	6.1			
L34469-03DUP	DUP	12/07/16 16:35			8.5	8.54	units				0	20	

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414414													
WG414414ICV	ICV	12/08/16 11:40	WI161107-3	.65228		.661	mg/L	101	90	110			
WG414414ICB	ICB	12/08/16 11:42				U	mg/L		-0.02	0.02			
WG414316LRB	LRB	12/08/16 11:43				U	mg/L		-0.02	0.02			
WG414316LFB	LFB	12/08/16 11:44	WI161123-3	.5		.476	mg/L	95	90	110			
L34192-02LFM	LFM	12/08/16 11:46	WI161123-3	.5	.03	.495	mg/L	93	90	110			
L34354-07DUP	DUP	12/08/16 11:49			.05	.05	mg/L				0	20	RA
L34371-01LFM	LFM	12/08/16 12:04	WI161123-3	.5	.47	.976	mg/L	101	90	110			
L34372-01DUP	DUP	12/08/16 12:18			.26	.283	mg/L				8	20	
WG414536													
WG414536ICV	ICV	12/09/16 22:28	WI161107-3	.65228		.665	mg/L	102	90	110			
WG414536ICB	ICB	12/09/16 22:30				U	mg/L		-0.02	0.02			
WG414316LRB	LRB	12/09/16 22:31				U	mg/L		-0.02	0.02			
WG414316LFB	LFB	12/09/16 22:33	WI161123-3	.5		.497	mg/L	99	90	110			
L34371-01LFM	LFM	12/09/16 22:36	WI161123-3	.5	.48	.999	mg/L	104	90	110			
L34372-01DUP	DUP	12/09/16 22:38			.28	.299	mg/L				7	20	
WG414317LRB	LRB	12/09/16 22:41				U	mg/L		-0.02	0.02			
WG414317LFB	LFB	12/09/16 22:42	WI161123-3	.5		.496	mg/L	99	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	20		19.85	mg/L	99	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.6	0.6			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	99.98944		96.19	mg/L	96	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	99.98944	.3	93.21	mg/L	93	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	99.98944	.3	95.16	mg/L	95	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L34366***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG413974													
WG413974PBW	PBW	11/30/16 16:00				U	mg/L		-20	20			
WG413974LCSW	LCSW	11/30/16 16:02	PCN52080	260		252	mg/L	97	80	120			
L34366-02DUP	DUP	11/30/16 16:31			18	16	mg/L				12	10	RA
L34373-01DUP	DUP	11/30/16 17:00			3120	3160	mg/L				1	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		1.99	mg/L	100	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.3	0.3			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	.9868		.98	mg/L	99	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	.9868	U	.95	mg/L	96	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	.9868	U	.97	mg/L	98	85	115	2	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414188													
WG414188ICV	ICV	12/05/16 12:26	MS161128-3	.05		.04851	mg/L	97	90	110			
WG414188ICB	ICB	12/05/16 12:29				U	mg/L		-0.0003	0.0003			
WG414188LFB	LFB	12/05/16 12:33	MS161201-3	.05005		.04485	mg/L	90	85	115			
L34366-05AS	AS	12/05/16 13:34	MS161201-3	.05005	.0002	.05096	mg/L	101	70	130			
L34366-05ASD	ASD	12/05/16 13:37	MS161201-3	.05005	.0002	.0497	mg/L	99	70	130	3	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	1.002		.996	mg/L	99	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.03	0.03			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	.501		.487	mg/L	97	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	.501	U	.379	mg/L	76	85	115			M2 ZA
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	.501	U	.367	mg/L	73	85	115	3	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	100		97.44	mg/L	97	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.6	0.6			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	100.0353		94.67	mg/L	95	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	100.0353	U	91.01	mg/L	91	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	100.0353	U	93.28	mg/L	93	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L34366***

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		1.9785	mg/L	99	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.015	0.015			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	.5		.4877	mg/L	98	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	.5	U	.4699	mg/L	94	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	.5	U	.4831	mg/L	97	85	115	3	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414425													
WG414425ICB	ICB	12/08/16 9:59				U	mg/L		-3	3			
WG414425ICV	ICV	12/08/16 9:59	WI161208-2	20		19.7	mg/L	99	90	110			
WG414425LFB	LFB	12/08/16 14:35	WI160815-8	10		9.5	mg/L	95	90	110			
L34366-02AS	AS	12/08/16 14:35	WI160815-8	10	13.8	29.5	mg/L	157	90	110			M1
L34366-01DUP	DUP	12/08/16 14:42			48.6	49.5	mg/L				2	20	RA

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414188													
WG414188ICV	ICV	12/05/16 12:26	MS161128-3	.05		.04698	mg/L	94	90	110			
WG414188ICB	ICB	12/05/16 12:29				U	mg/L		-0.0003	0.0003			
WG414188LFB	LFB	12/05/16 12:33	MS161201-3	.0501		.04716	mg/L	94	85	115			
L34366-05AS	AS	12/05/16 13:34	MS161201-3	.0501	.0002	.04682	mg/L	93	70	130			
L34366-05ASD	ASD	12/05/16 13:37	MS161201-3	.0501	.0002	.04334	mg/L	86	70	130	8	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		1.998	mg/L	100	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.12	0.12			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	1.001		.975	mg/L	97	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	1.001	U	.944	mg/L	94	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	1.001	U	.959	mg/L	96	85	115	2	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		2.0035	mg/L	100	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.015	0.015			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	1.002		1.001	mg/L	100	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	1.002	U	.9651	mg/L	96	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	1.002	U	.9927	mg/L	99	85	115	3	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L34366***

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414188													
WG414188ICV	ICV	12/05/16 12:26	MS161128-3	.05		.04943	mg/L	99	90	110			
WG414188ICB	ICB	12/05/16 12:29				U	mg/L		-0.0003	0.0003			
WG414188LFB	LFB	12/05/16 12:33	MS161201-3	.05		.05074	mg/L	101	85	115			
L34366-05AS	AS	12/05/16 13:34	MS161201-3	.05	.004	.05268	mg/L	97	70	130			
L34366-05ASD	ASD	12/05/16 13:37	MS161201-3	.05	.004	.04944	mg/L	91	70	130	6	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		1.9985	mg/L	100	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.015	0.015			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	.4985		.4886	mg/L	98	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	.4985	U	.4677	mg/L	94	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	.4985	U	.4793	mg/L	96	85	115	2	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG414101													
WG414101ICV	ICV	12/02/16 12:06	II161117-1	2		1.992	mg/L	100	95	105			
WG414101ICB	ICB	12/02/16 12:12				U	mg/L		-0.03	0.03			
WG414101LFB	LFB	12/02/16 12:25	II161130-2	.4942		.499	mg/L	101	85	115			
L34366-04AS	AS	12/02/16 13:26	II161130-2	.4942	U	.494	mg/L	100	85	115			
L34366-04ASD	ASD	12/02/16 13:29	II161130-2	.4942	U	.501	mg/L	101	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L34366***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34366-01	WG414101	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG414502	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG414101	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG414549	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414375	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414535	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414580	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414414	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG413974	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414425	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L34366***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34366-02	WG414101	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG414502	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG414101	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG414549	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414375	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414580	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414414	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG413974	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414425	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34366-03	WG414101	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG414502	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG414101	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG414549	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414375	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414535	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414580	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG413974	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG414425	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L34366***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34366-04	WG414101	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG414502	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG414101	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG414549	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414330	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414375	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414535	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414580	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414366	pH	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		pH measured at	SM4500H+ B	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG414414	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG413974	Residue, Filterable (TDS) @180C	SM2540C	DJ	Sample dilution required due to insufficient sample.
			SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG414425	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414365	Total Alkalinity	SM2320B - Titration	DJ	Sample dilution required due to insufficient sample.
			SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34366-05	WG414101	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG414502	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG414101	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG414549	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414375	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414535	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414580	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414414	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG413974	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG414425	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L34366***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34366-06	WG414101	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG414549	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414375	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414535	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414580	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414414	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG413974	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG414425	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L34366***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34366-07	WG414101	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG414549	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414375	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414535	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414580	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414414	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG413974	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG414425	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L34366***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34366-08	WG414101	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG414549	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414324	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414535	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414580	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414414	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG413974	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG414425	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

McClelland Laboratories, Inc. ACZ Project ID: ***L34366***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34366-09	WG414101	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG414549	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414324	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414535	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414580	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG413974	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG414425	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L34366***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34366-10	WG414101	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG414549	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG414070	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414071	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414324	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414535	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414580	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG413974	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG414425	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414129	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.	
Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP
The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.	
Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.	
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L34366
Date Received: 11/30/2016 10:21
Received By:
Date Printed: 11/30/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA25179	2.8	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
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Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L34366
Date Received:	11/30/2016 10:21
Received By:	
Date Printed:	11/30/2016

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc.

L34366

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:

Project/PO #: 3981

Reporting state for compliance testing:

Sampler's Name: Robert

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	11/23/16	WW	1	x							
CAL-004 (860-875)		WW	1	x							
CAL-003 (675-685)		WW	1	x							
GMC-012 (832-851)		WW	1	x							
CAL-004 (295-315)		WW	1	x							
CAL-001 (750-762)		WW	1	x							
GMC-014 (176-184)		WW	1	x							
CAL-001 (380-400)		WW	1	x							
CAL-002 (177-187)		WW	1	x							
Calico Leach Res. after CN Destruct		WW	1	x	x	x					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 52
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	11/28/16 9AM	[signature]	11/30/16 1020

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L34366 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Dissociation	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

**** Gray out Analyses DOESN'T get done on all Samples Just 1 of the Sample SEE COC ****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

January 11, 2017

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L34779

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 22, 2016. This project has been assigned to ACZ's project number, L34779. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L34779. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after February 10, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L34779-01***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/04/17 15:21	ɔsu/bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.31			mg/L	0.03	0.2	01/05/17 17:56	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0138			mg/L	0.0004	0.002	01/04/17 18:15	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0685			mg/L	0.0002	0.001	01/05/17 17:59	enb
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	01/06/17 13:49	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00014	B		mg/L	0.00005	0.0003	01/04/17 18:15	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/05/17 17:56	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 17:56	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	01/04/17 18:15	mfm
Calcium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.1	0.5	01/05/17 17:56	gss
Chromium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/06/17 13:49	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 17:56	gss
Copper, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/05/17 17:56	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/06/17 13:49	gss
Iron, dissolved	M200.7 ICP	1	10.4			mg/L	0.02	0.05	01/06/17 13:49	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	01/04/17 18:15	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/05/17 17:56	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/05/17 17:56	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 17:56	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/09/17 15:12	scp
Mercury, total	M1631, Atomic Fluorescence	5	84			ng/L	1	3	12/30/16 13:24	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/05/17 17:56	gss
Nickel, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.008	0.04	01/05/17 17:56	gss
Potassium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	01/05/17 17:56	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/05/17 17:56	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	01/04/17 18:15	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/06/17 13:49	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/05/17 17:56	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 17:56	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0001	0.0005	01/04/17 18:15	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/05/17 17:56	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/05/17 17:56	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	01/04/17 18:15	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 17:56	gss
Zinc, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	01/05/17 17:56	gss

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L34779-01***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	01/03/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-14.7			%			01/11/17 0:00	calc
Sum of Anions			0.974			meq/L			01/11/17 0:00	calc
Sum of Cations			0.724			meq/L			01/11/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/11/17 12:48	bsu
Conductivity @25C	SM2510B	1	379		*	umhos/cm	1	10	01/03/17 15:40	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/29/16 13:50	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.999	B		mg/L	0.2	5	01/11/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	01/05/17 21:13	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/03/17 13:23	spl
pH (lab)	SM4500H+ B									
pH		1	3.0	H	*	units	0.1	0.1	01/03/17 0:00	abd
pH measured at		1	22.1			C	0.1	0.1	01/03/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.02	0.05	01/04/17 22:38	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	58		*	mg/L	10	20	12/27/16 16:35	emk
Sulfate	D516-02/-07 - Turbidimetric	5	46.4		*	mg/L	5	25	01/04/17 15:16	spl
TDS (calculated)	Calculation		58.8			mg/L			01/11/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.99						01/11/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L34779-02***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/04/17 15:30	osu/bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.20			mg/L	0.03	0.2	01/05/17 17:59	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0004	0.002	01/04/17 18:18	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0002	0.001	01/04/17 18:18	mfm
Barium, dissolved	M200.7 ICP	1	0.092			mg/L	0.003	0.02	01/06/17 13:53	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00036			mg/L	0.00005	0.0003	01/04/17 18:18	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/05/17 17:59	gss
Boron, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	01/05/17 17:59	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	01/04/17 18:18	mfm
Calcium, dissolved	M200.7 ICP	1	0.5			mg/L	0.1	0.5	01/05/17 17:59	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/06/17 13:53	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 17:59	gss
Copper, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	01/05/17 17:59	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/06/17 13:53	gss
Iron, dissolved	M200.7 ICP	1	0.26			mg/L	0.02	0.05	01/06/17 13:53	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	01/04/17 18:18	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/05/17 17:59	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/05/17 17:59	gss
Manganese, dissolved	M200.7 ICP	1	0.042			mg/L	0.005	0.03	01/05/17 17:59	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/09/17 15:13	scp
Mercury, total	M1631, Atomic Fluorescence	5	9			ng/L	1	3	12/30/16 13:29	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/05/17 17:59	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/05/17 17:59	gss
Potassium, dissolved	M200.7 ICP	1	1.2			mg/L	0.2	1	01/05/17 17:59	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/05/17 17:59	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	01/04/17 18:18	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/06/17 13:53	gss
Sodium, dissolved	M200.7 ICP	1	2.9			mg/L	0.2	1	01/05/17 17:59	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 17:59	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	01/04/17 18:18	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/05/17 17:59	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/05/17 17:59	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	01/04/17 18:18	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 17:59	gss
Zinc, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	01/05/17 17:59	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L34779-02***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	01/03/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-32.2			%			01/11/17 0:00	calc
Sum of Anions			0.439	B		meq/L			01/11/17 0:00	calc
Sum of Cations			0.225	B		meq/L			01/11/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/11/17 12:49	bsu
Conductivity @25C	SM2510B	1	117		*	umhos/cm	1	10	01/03/17 15:45	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/29/16 13:58	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.3	B		mg/L	0.2	5	01/11/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	01/05/17 21:15	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/03/17 13:26	spl
pH (lab)	SM4500H+ B									
pH		1	3.6	H	*	units	0.1	0.1	01/03/17 0:00	abd
pH measured at		1	22.0			C	0.1	0.1	01/03/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/04/17 22:40	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	28		*	mg/L	10	20	12/27/16 16:37	emk
Sulfate	D516-02/-07 - Turbidimetric	1	20.9		*	mg/L	1	5	01/04/17 15:09	spl
TDS (calculated)	Calculation		26.1			mg/L			01/11/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.07						01/11/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L34779-03***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/04/17 15:40	ɔsu/bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	2	33.2			mg/L	0.06	0.3	01/05/17 18:02	gss
Antimony, dissolved	M200.8 ICP-MS	2	0.0045			mg/L	0.0008	0.004	01/04/17 18:21	mfm
Arsenic, dissolved	M200.8 ICP-MS	2	3.35			mg/L	0.0004	0.002	01/05/17 18:08	enb
Barium, dissolved	M200.7 ICP	2		U		mg/L	0.006	0.03	01/06/17 13:56	gss
Beryllium, dissolved	M200.8 ICP-MS	2	0.0047			mg/L	0.0001	0.0005	01/05/17 18:08	enb
Bismuth, dissolved	M200.7 ICP	2		U	*	mg/L	0.08	0.4	01/05/17 18:02	gss
Boron, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	01/05/17 18:02	gss
Cadmium, dissolved	M200.8 ICP-MS	2	0.003			mg/L	0.0002	0.001	01/04/17 18:21	mfm
Calcium, dissolved	M200.7 ICP	2	71.1			mg/L	0.2	1	01/05/17 18:02	gss
Chromium, dissolved	M200.7 ICP	2	0.04	B		mg/L	0.02	0.1	01/06/17 13:56	gss
Cobalt, dissolved	M200.7 ICP	2	0.22			mg/L	0.02	0.1	01/05/17 18:02	gss
Copper, dissolved	M200.7 ICP	2	0.62			mg/L	0.02	0.1	01/05/17 18:02	gss
Gallium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	01/06/17 13:56	gss
Iron, dissolved	M200.7 ICP	2	631			mg/L	0.04	0.1	01/06/17 13:56	gss
Lead, dissolved	M200.8 ICP-MS	2	0.0009	B		mg/L	0.0002	0.001	01/04/17 18:21	mfm
Lithium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.08	01/05/17 18:02	gss
Magnesium, dissolved	M200.7 ICP	2	4.3			mg/L	0.4	2	01/05/17 18:02	gss
Manganese, dissolved	M200.7 ICP	2	0.38			mg/L	0.01	0.05	01/05/17 18:02	gss
Mercury, dissolved	M245.1 CVAA	1	0.0011			mg/L	0.0002	0.001	01/09/17 15:19	scp
Mercury, total	M1631, Atomic Fluorescence	50	970			ng/L	10	30	12/30/16 14:35	scp
Molybdenum, dissolved	M200.7 ICP	2	0.41			mg/L	0.04	0.2	01/05/17 18:02	gss
Nickel, dissolved	M200.7 ICP	2	0.24			mg/L	0.02	0.08	01/05/17 18:02	gss
Potassium, dissolved	M200.7 ICP	2		U		mg/L	0.4	2	01/05/17 18:02	gss
Scandium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	01/05/17 18:02	gss
Selenium, dissolved	M200.8 ICP-MS	2	0.0092			mg/L	0.0002	0.0005	01/04/17 18:21	mfm
Silver, dissolved	M200.7 ICP	2		U	*	mg/L	0.02	0.05	01/06/17 13:56	gss
Sodium, dissolved	M200.7 ICP	2		U		mg/L	0.4	2	01/05/17 18:02	gss
Strontium, dissolved	M200.7 ICP	2	0.16			mg/L	0.01	0.05	01/05/17 18:02	gss
Thallium, dissolved	M200.8 ICP-MS	2	0.0003	B		mg/L	0.0002	0.001	01/04/17 18:21	mfm
Tin, dissolved	M200.7 ICP	2		U		mg/L	0.08	0.4	01/05/17 18:02	gss
Titanium, dissolved	M200.7 ICP	2		U	*	mg/L	0.01	0.05	01/05/17 18:02	gss
Uranium, dissolved	M200.8 ICP-MS	2	0.0069			mg/L	0.0002	0.001	01/04/17 18:21	mfm
Vanadium, dissolved	M200.7 ICP	2		U		mg/L	0.01	0.05	01/05/17 18:02	gss
Zinc, dissolved	M200.7 ICP	2	0.60			mg/L	0.02	0.1	01/05/17 18:02	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L34779-03***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	01/03/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			01/11/17 0:00	calc
Sum of Anions			41.0			meq/L			01/11/17 0:00	calc
Sum of Cations			41			meq/L			01/11/17 0:00	calc
Chloride	SM4500Cl-E	1	0.8	B	*	mg/L	0.5	2	01/11/17 12:59	bsu
Conductivity @25C	SM2510B	1	4150		*	umhos/cm	1	10	01/03/17 15:49	abd
Fluoride	SM4500F-C	400		U	*	mg/L	20	100	12/29/16 14:04	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		195			mg/L	0.5	10	01/11/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	01/05/17 21:16	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/09/17 14:46	spl
pH (lab)	SM4500H+ B									
pH		1	2.0	H	*	units	0.1	0.1	01/03/17 0:00	abd
pH measured at		1	22.6			C	0.1	0.1	01/03/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	5	2.2		*	mg/L	0.1	0.3	01/05/17 0:04	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	2990		*	mg/L	10	20	12/27/16 16:40	emk
Sulfate	D516-02/-07 - Turbidimetric	100	1950		*	mg/L	100	500	01/04/17 15:35	spl
TDS (calculated)	Calculation		2690			mg/L			01/11/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.11						01/11/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L34779-04***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/04/17 15:49	osu/bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.47			mg/L	0.03	0.2	01/05/17 18:05	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.001	B		mg/L	0.0004	0.002	01/04/17 18:24	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0097			mg/L	0.0002	0.001	01/05/17 18:11	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	01/06/17 13:59	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00013	B		mg/L	0.00005	0.0003	01/04/17 18:24	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/05/17 18:05	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:05	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/04/17 18:24	mfm
Calcium, dissolved	M200.7 ICP	1	0.1	B		mg/L	0.1	0.5	01/05/17 18:05	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/06/17 13:59	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:05	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:05	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/06/17 13:59	gss
Iron, dissolved	M200.7 ICP	1	5.37			mg/L	0.02	0.05	01/06/17 13:59	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	01/04/17 18:24	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/05/17 18:05	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/05/17 18:05	gss
Manganese, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.005	0.03	01/05/17 18:05	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/09/17 15:20	scp
Mercury, total	M1631, Atomic Fluorescence	5	36			ng/L	1	3	12/30/16 13:58	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/05/17 18:05	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/05/17 18:05	gss
Potassium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	01/05/17 18:05	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/05/17 18:05	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	01/04/17 18:24	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/06/17 13:59	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/05/17 18:05	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 18:05	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	01/04/17 18:24	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/05/17 18:05	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/05/17 18:05	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0001	0.0005	01/04/17 18:24	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 18:05	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:05	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L34779-04***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	01/03/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-34.3			%			01/11/17 0:00	calc
Sum of Anions			0.727			meq/L			01/11/17 0:00	calc
Sum of Cations			0.356	B		meq/L			01/11/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/11/17 12:59	bsu
Conductivity @25C	SM2510B	1	444		*	umhos/cm	1	10	01/03/17 15:53	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/29/16 14:11	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		00.3	B		mg/L	0.2	5	01/11/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	01/05/17 21:22	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/09/17 14:02	spl
pH (lab)	SM4500H+ B									
pH		1	3.0	H	*	units	0.1	0.1	01/03/17 0:00	abd
pH measured at		1	21.9			C	0.1	0.1	01/03/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/04/17 22:42	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	40		*	mg/L	10	20	12/27/16 16:43	emk
Sulfate	D516-02/-07 - Turbidimetric	5	34.6		*	mg/L	5	25	01/04/17 15:17	spl
TDS (calculated)	Calculation		41.1			mg/L			01/11/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.97						01/11/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L34779-05***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/04/17 15:59	ɔsu/bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.42			mg/L	0.03	0.2	01/05/17 18:08	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0012	B		mg/L	0.0004	0.002	01/04/17 18:33	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0057			mg/L	0.0002	0.001	01/04/17 18:33	mfm
Barium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.003	0.02	01/06/17 14:02	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00069			mg/L	0.00005	0.0003	01/04/17 18:33	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/05/17 18:08	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:08	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	01/04/17 18:33	mfm
Calcium, dissolved	M200.7 ICP	1	4.4			mg/L	0.1	0.5	01/05/17 18:08	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/06/17 14:02	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:08	gss
Copper, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	01/05/17 18:08	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/06/17 14:02	gss
Iron, dissolved	M200.7 ICP	1	0.65			mg/L	0.02	0.05	01/06/17 14:02	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	01/04/17 18:33	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/05/17 18:08	gss
Magnesium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	01/05/17 18:08	gss
Manganese, dissolved	M200.7 ICP	1	0.142			mg/L	0.005	0.03	01/05/17 18:08	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/09/17 15:21	scp
Mercury, total	M1631, Atomic Fluorescence	5	7			ng/L	1	3	12/30/16 14:02	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/05/17 18:08	gss
Nickel, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.008	0.04	01/05/17 18:08	gss
Potassium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	01/05/17 18:08	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/05/17 18:08	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	01/04/17 18:33	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/06/17 14:02	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/05/17 18:08	gss
Strontium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	01/05/17 18:08	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	01/04/17 18:33	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/05/17 18:08	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/05/17 18:08	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0001	0.0005	01/04/17 18:33	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 18:08	gss
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/05/17 18:08	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L34779-05***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	01/03/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-28.6			%			01/11/17 0:00	calc
Sum of Anions			0.7			meq/L			01/11/17 0:00	calc
Sum of Cations			0.389	B		meq/L			01/11/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/11/17 12:59	bsu
Conductivity @25C	SM2510B	1	357		*	umhos/cm	1	10	01/03/17 15:58	abd
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	12/29/16 14:18	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		14			mg/L	0.2	5	01/11/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	01/05/17 21:23	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/09/17 14:04	spl
pH (lab)	SM4500H+ B									
pH		1	3.1	H	*	units	0.1	0.1	01/03/17 0:00	abd
pH measured at		1	21.5			C	0.1	0.1	01/03/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/04/17 22:43	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	50		*	mg/L	10	20	12/27/16 16:45	emk
Sulfate	D516-02/-07 - Turbidimetric	5	34.3		*	mg/L	5	25	01/04/17 15:17	spl
TDS (calculated)	Calculation		41.4			mg/L			01/11/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.21						01/11/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L34779-06***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/04/17 16:09	ɔsu/bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.07	B		mg/L	0.03	0.2	01/05/17 18:11	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	01/04/17 18:36	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0002	0.001	01/04/17 18:36	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	01/06/17 14:05	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00019	B		mg/L	0.00005	0.0003	01/04/17 18:36	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/05/17 18:11	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:11	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/04/17 18:36	mfm
Calcium, dissolved	M200.7 ICP	1	4.9			mg/L	0.1	0.5	01/05/17 18:11	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/06/17 14:05	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:11	gss
Copper, dissolved	M200.7 ICP	1	0.28			mg/L	0.01	0.05	01/05/17 18:11	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/06/17 14:05	gss
Iron, dissolved	M200.7 ICP	1	0.44			mg/L	0.02	0.05	01/06/17 14:05	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	01/04/17 18:36	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/05/17 18:11	gss
Magnesium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	01/05/17 18:11	gss
Manganese, dissolved	M200.7 ICP	1	0.025	B		mg/L	0.005	0.03	01/05/17 18:11	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/09/17 15:22	scp
Mercury, total	M1631, Atomic Fluorescence	5	110			ng/L	1	3	12/30/16 14:07	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/05/17 18:11	gss
Nickel, dissolved	M200.7 ICP	1	0.054			mg/L	0.008	0.04	01/05/17 18:11	gss
Potassium, dissolved	M200.7 ICP	1	2.4			mg/L	0.2	1	01/05/17 18:11	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/05/17 18:11	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0001	0.0003	01/04/17 18:36	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/06/17 14:05	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/05/17 18:11	gss
Strontium, dissolved	M200.7 ICP	1	0.053			mg/L	0.005	0.03	01/05/17 18:11	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	01/04/17 18:36	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/05/17 18:11	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/05/17 18:11	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	01/04/17 18:36	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 18:11	gss
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	01/05/17 18:11	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L34779-06***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	01/03/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-18.4			%			01/11/17 0:00	calc
Sum of Anions			0.605			meq/L			01/11/17 0:00	calc
Sum of Cations			0.417	B		meq/L			01/11/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/11/17 12:59	bsu
Conductivity @25C	SM2510B	1	112		*	umhos/cm	1	10	01/03/17 16:02	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/29/16 14:36	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		16			mg/L	0.2	5	01/11/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	01/05/17 21:24	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/09/17 14:05	spl
pH (lab)	SM4500H+ B									
pH		1	3.9	H	*	units	0.1	0.1	01/03/17 0:00	abd
pH measured at		1	21.6			C	0.1	0.1	01/03/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/04/17 22:44	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	38		*	mg/L	10	20	12/27/16 16:48	emk
Sulfate	D516-02/-07 - Turbidimetric	1	28.8		*	mg/L	1	5	01/04/17 15:10	spl
TDS (calculated)	Calculation		37.8			mg/L			01/11/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.01						01/11/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L34779-07***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/04/17 16:18	ɔsu/bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	6.82			mg/L	0.03	0.2	01/05/17 18:14	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0013	B		mg/L	0.0004	0.002	01/04/17 18:46	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.187			mg/L	0.0002	0.001	01/05/17 18:21	enb
Barium, dissolved	M200.7 ICP	1	0.003	B		mg/L	0.003	0.02	01/06/17 14:09	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00108			mg/L	0.00005	0.0003	01/04/17 18:46	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/05/17 18:14	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:14	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	01/04/17 18:46	mfm
Calcium, dissolved	M200.7 ICP	1	0.6			mg/L	0.1	0.5	01/05/17 18:14	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/06/17 14:09	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:14	gss
Copper, dissolved	M200.7 ICP	1	0.15			mg/L	0.01	0.05	01/05/17 18:14	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/06/17 14:09	gss
Iron, dissolved	M200.7 ICP	1	29.8			mg/L	0.02	0.05	01/06/17 14:09	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0032			mg/L	0.0001	0.0005	01/04/17 18:46	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/05/17 18:14	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/05/17 18:14	gss
Manganese, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.005	0.03	01/05/17 18:14	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/09/17 15:23	scp
Mercury, total	M1631, Atomic Fluorescence	5	2	B	*	ng/L	1	3	12/30/16 14:13	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/05/17 18:14	gss
Nickel, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.008	0.04	01/05/17 18:14	gss
Potassium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	01/05/17 18:14	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/05/17 18:14	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	01/04/17 18:46	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/06/17 14:09	gss
Sodium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	01/05/17 18:14	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 18:14	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	01/04/17 18:46	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/05/17 18:14	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/05/17 18:14	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0005	01/04/17 18:46	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 18:14	gss
Zinc, dissolved	M200.7 ICP	1	0.28			mg/L	0.01	0.05	01/05/17 18:14	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L34779-07***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	01/03/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-17.2			%			01/11/17 0:00	calc
Sum of Anions			3.4			meq/L			01/11/17 0:00	calc
Sum of Cations			2.4			meq/L			01/11/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/11/17 12:59	bsu
Conductivity @25C	SM2510B	1	975		*	umhos/cm	1	10	01/03/17 16:06	abd
Fluoride	SM4500F-C	400		U	*	mg/L	20	100	12/29/16 14:52	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	01/11/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	01/05/17 21:26	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/09/17 14:08	spl
pH (lab)	SM4500H+ B									
pH		1	2.6	H	*	units	0.1	0.1	01/03/17 0:00	abd
pH measured at		1	21.9			C	0.1	0.1	01/03/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.06		*	mg/L	0.02	0.05	01/04/17 22:45	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	220		*	mg/L	10	20	12/27/16 16:50	emk
Sulfate	D516-02/-07 - Turbidimetric	5	163		*	mg/L	5	25	01/04/17 15:52	spl
TDS (calculated)	Calculation		202			mg/L			01/11/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.09						01/11/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L34779-08***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/04/17 16:28	ɔsu/bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	01/05/17 18:17	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0004	0.002	01/04/17 18:49	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0057			mg/L	0.0002	0.001	01/04/17 18:49	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	01/06/17 14:12	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	01/04/17 18:49	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/05/17 18:17	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:17	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/04/17 18:49	mfm
Calcium, dissolved	M200.7 ICP	1	1.2			mg/L	0.1	0.5	01/05/17 18:17	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/06/17 14:12	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:17	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:17	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/06/17 14:12	gss
Iron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.05	01/06/17 14:12	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	01/04/17 18:49	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/05/17 18:17	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/05/17 18:17	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 18:17	gss
Mercury, dissolved	M245.1 CVAA	5		U	*	mg/L	0.001	0.005	01/09/17 15:24	scp
Mercury, total	M1631, Atomic Fluorescence	5	22			ng/L	1	3	12/30/16 14:17	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/05/17 18:17	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/05/17 18:17	gss
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/05/17 18:17	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/05/17 18:17	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0003	01/04/17 18:49	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/06/17 14:12	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/05/17 18:17	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 18:17	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/04/17 18:49	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/05/17 18:17	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/05/17 18:17	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/04/17 18:49	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 18:17	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:17	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L34779-08***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	01/03/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			01/11/17 0:00	calc
Sum of Anions				U		meq/L			01/11/17 0:00	calc
Sum of Cations				U		meq/L			01/11/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/11/17 12:59	bsu
Conductivity @25C	SM2510B	1	10.1		*	umhos/cm	1	10	01/03/17 16:14	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/29/16 14:59	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		3.0	B		mg/L	0.2	5	01/11/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	01/05/17 21:27	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/09/17 14:11	spl
pH (lab)	SM4500H+ B									
pH		1	6.7	H	*	units	0.1	0.1	01/03/17 0:00	abd
pH measured at		1	21.7			C	0.1	0.1	01/03/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/04/17 22:46	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	18	B	*	mg/L	10	20	12/27/16 16:53	emk
Sulfate	D516-02/-07 - Turbidimetric	1	4.2	B	*	mg/L	1	5	01/04/17 15:45	spl
TDS (calculated)	Calculation		5.42			mg/L			01/11/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		3.32						01/11/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L34779-09***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/04/17 16:37	ɔsu/bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	01/05/17 18:32	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	01/04/17 18:52	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0029			mg/L	0.0002	0.001	01/04/17 18:52	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	01/10/17 14:54	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00014	B		mg/L	0.00005	0.0003	01/04/17 18:52	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/05/17 18:32	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:32	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/04/17 18:52	mfm
Calcium, dissolved	M200.7 ICP	1	0.8			mg/L	0.1	0.5	01/05/17 18:32	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/10/17 14:54	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:32	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:32	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/10/17 14:54	aeb
Iron, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.02	0.05	01/10/17 14:54	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	01/04/17 18:52	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/05/17 18:32	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/05/17 18:32	gss
Manganese, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.005	0.03	01/05/17 18:32	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/09/17 15:25	scp
Mercury, total	M1631, Atomic Fluorescence	5	51			ng/L	1	3	12/30/16 14:25	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/05/17 18:32	gss
Nickel, dissolved	M200.7 ICP	1	0.119			mg/L	0.008	0.04	01/05/17 18:32	gss
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	01/05/17 18:32	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/05/17 18:32	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0003	01/04/17 18:52	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/10/17 14:54	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/05/17 18:32	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 18:32	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	01/04/17 18:52	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/05/17 18:32	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/05/17 18:32	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/04/17 18:52	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 18:32	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:32	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L34779-09***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	01/03/17 0:00	abd
Cation-Anion Balance	Calculation									
Catlon-Anion Balance			n/a			%			01/11/17 0:00	calc
Sum of Anions				U		meq/L			01/11/17 0:00	calc
Sum of Cations				U		meq/L			01/11/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/11/17 12:59	bsu
Conductivity @25C	SM2510B	1	21.5		*	umhos/cm	1	10	01/03/17 16:19	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/29/16 15:06	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.0	B		mg/L	0.2	5	01/11/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	01/05/17 21:28	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/09/17 14:12	spl
pH (lab)	SM4500H+ B									
pH		1	4.7	H	*	units	0.1	0.1	01/03/17 0:00	abd
pH measured at		1	21.9			C	0.1	0.1	01/03/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/04/17 22:47	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	12	B	*	mg/L	10	20	12/27/16 16:56	emk
Sulfate	D516-02/-07 - Turbidimetric	1	4.3	B	*	mg/L	1	5	01/04/17 15:46	spl
TDS (calculated)	Calculation		5.44			mg/L			01/11/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.21						01/11/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L34779-10***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/30/16 12:35	bce
Cyanide, WAD	SM4500-CN I- distillation				*				12/30/16 11:45	bce
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/04/17 16:47	ɔsu/bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	2.74			mg/L	0.03	0.2	01/05/17 18:35	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	01/04/17 18:55	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0002	0.001	01/04/17 18:55	mfm
Barium, dissolved	M200.7 ICP	1	0.028			mg/L	0.003	0.02	01/10/17 14:57	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00026	B		mg/L	0.00005	0.0003	01/04/17 18:55	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/05/17 18:35	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:35	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	01/04/17 18:55	mfm
Calcium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.1	0.5	01/05/17 18:35	gss
Chromium, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	01/10/17 14:57	aeb
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/05/17 18:35	gss
Copper, dissolved	M200.7 ICP	1	0.14			mg/L	0.01	0.05	01/05/17 18:35	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/10/17 14:57	aeb
Iron, dissolved	M200.7 ICP	1	4.44			mg/L	0.02	0.05	01/10/17 14:57	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0001	0.0005	01/04/17 18:55	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/05/17 18:35	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/05/17 18:35	gss
Manganese, dissolved	M200.7 ICP	1	0.051			mg/L	0.005	0.03	01/05/17 18:35	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/09/17 15:26	scp
Mercury, total	M1631, Atomic Fluorescence	5	4			ng/L	1	3	12/30/16 14:30	scp
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/05/17 18:35	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/05/17 18:35	gss
Potassium, dissolved	M200.7 ICP	1	2.8			mg/L	0.2	1	01/05/17 18:35	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/05/17 18:35	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0003	01/04/17 18:55	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/10/17 14:57	aeb
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	01/05/17 18:35	gss
Strontium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	01/05/17 18:35	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0005	01/04/17 18:55	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/05/17 18:35	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/05/17 18:35	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0019			mg/L	0.0001	0.0005	01/04/17 18:55	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/05/17 18:35	gss
Zinc, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	01/05/17 18:35	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L34779-10***
Date Sampled: *12/21/16 00:00*
Date Received: *12/22/16*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	01/03/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	01/03/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-38.3			%			01/11/17 0:00	calc
Sum of Anions			1.5			meq/L			01/11/17 0:00	calc
Sum of Cations			0.669			meq/L			01/11/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/11/17 12:59	bsu
Conductivity @25C	SM2510B	1	451		*	umhos/cm	1	10	01/03/17 16:24	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/30/16 18:36	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	12/30/16 17:41	pjb
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	12/29/16 15:14	sck
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.999	B		mg/L	0.2	5	01/11/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	01/05/17 21:29	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.05	B	*	mg/L	0.05	0.2	01/09/17 14:14	spl
pH (lab)	SM4500H+ B									
pH		1	2.9	H	*	units	0.1	0.1	01/03/17 0:00	abd
pH measured at		1	21.7			C	0.1	0.1	01/03/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/04/17 22:49	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	114		*	mg/L	10	20	12/27/16 16:58	emk
Sulfate	D516-02/-07 - Turbidimetric	5	69.9		*	mg/L	5	25	01/04/17 15:52	spl
TDS (calculated)	Calculation		81.1			mg/L			01/11/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.41						01/11/17 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415576													
WG415576PBW1	PBW	01/03/17 15:19				14.5	mg/L		-20	20			
WG415576LCSW3	LCSW	01/03/17 15:36	WC161216-1	820.0001		793	mg/L	97	90	110			
L34779-10DUP	DUP	01/03/17 16:28			U	U	mg/L				0	20	RA
WG415576LCSW6	LCSW	01/03/17 18:22	WC161216-1	820.0001		788	mg/L	96	90	110			
WG415576PBW2	PBW	01/03/17 18:28				14.8	mg/L		-20	20			
WG415576LCSW9	LCSW	01/03/17 21:39	WC161216-1	820.0001		798	mg/L	97	90	110			
WG415576PBW3	PBW	01/03/17 21:46				U	mg/L		-20	20			
WG415576LCSW12	LCSW	01/03/17 22:27	WC161216-1	820.0001		804	mg/L	98	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2		2.002	mg/L	100	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.09	0.09			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	1.0013		1.007	mg/L	101	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	1.0013	U	1.02	mg/L	102	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	1.0013	U	1.016	mg/L	101	85	115	0	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	1.0013	U	1.028	mg/L	103	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	1.0013	U	1.019	mg/L	102	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415682													
WG415682ICV	ICV	01/04/17 17:25	MS161128-3	.02		.0215	mg/L	108	90	110			
WG415682ICB	ICB	01/04/17 17:28				.0011	mg/L		-0.0012	0.0012			
WG415682LFB	LFB	01/04/17 17:31	MS161201-3	.009980001		.00976	mg/L	98	85	115			
L34681-01AS	AS	01/04/17 17:44	MS161201-3	.009980001	U	.0082	mg/L	82	70	130			
L34681-01ASD	ASD	01/04/17 17:47	MS161201-3	.009980001	U	.00909	mg/L	91	70	130	10	20	
L34779-04AS	AS	01/04/17 18:27	MS161201-3	.009980001	.001	.00969	mg/L	87	70	130			
L34779-04ASD	ASD	01/04/17 18:30	MS161201-3	.009980001	.001	.00962	mg/L	86	70	130	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415682													
WG415682ICV	ICV	01/04/17 17:25	MS161128-3	.05		.04599	mg/L	92	90	110			
WG415682ICB	ICB	01/04/17 17:28				U	mg/L		-0.0006	0.0006			
WG415682LFB	LFB	01/04/17 17:31	MS161201-3	.0501		.04712	mg/L	94	85	115			
L34681-01AS	AS	01/04/17 17:44	MS161201-3	.0501	.0007	.05149	mg/L	101	70	130			
L34681-01ASD	ASD	01/04/17 17:47	MS161201-3	.0501	.0007	.05414	mg/L	107	70	130	5	20	
L34779-04AS	AS	01/04/17 18:27	MS161201-3	.0501	.0096	.06184	mg/L	104	70	130			
L34779-04ASD	ASD	01/04/17 18:30	MS161201-3	.0501	.0096	.05931	mg/L	99	70	130	4	20	
WG415747													
WG415747ICV	ICV	01/05/17 17:27	MS161128-3	.05		.05299	mg/L	106	90	110			
WG415747ICB	ICB	01/05/17 17:30				U	mg/L		-0.0006	0.0006			
WG415747LFB	LFB	01/05/17 17:33	MS161201-3	.0501		.04771	mg/L	95	85	115			
L34779-04AS	AS	01/05/17 18:15	MS161201-3	.0501	.0097	.0705	mg/L	121	70	130			
L34779-04ASD	ASD	01/05/17 18:18	MS161201-3	.0501	.0097	.06077	mg/L	102	70	130	15	20	
L34835-02AS	AS	01/05/17 18:56	MS161201-3	.1002	.0071	.1096	mg/L	102	70	130			
L34835-02ASD	ASD	01/05/17 18:59	MS161201-3	.1002	.0071	.114	mg/L	107	70	130	4	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415801													
WG415801ICV	ICV	01/06/17 12:52	II161209-1	2		1.95	mg/L	98	95	105			
WG415801ICB	ICB	01/06/17 12:58				U	mg/L		-0.009	0.009			
WG415801LFB	LFB	01/06/17 13:11	II161222-8	.5005		.486	mg/L	97	85	115			
L34735-01AS	AS	01/06/17 13:37	II161222-8	.5005	.045	.5238	mg/L	96	85	115			
L34735-01ASD	ASD	01/06/17 13:40	II161222-8	.5005	.045	.5118	mg/L	93	85	115	2	20	
L34779-08AS	AS	01/06/17 14:15	II161222-8	.5005	U	.4915	mg/L	98	85	115			
L34779-08ASD	ASD	01/06/17 14:18	II161222-8	.5005	U	.4925	mg/L	98	85	115	0	20	
WG415923													
WG415923ICV	ICV	01/10/17 14:28	II161209-1	2		1.9992	mg/L	100	95	105			
WG415923ICB	ICB	01/10/17 14:34				U	mg/L		-0.009	0.009			
WG415923LFB	LFB	01/10/17 14:47	II170109-2	.5005		.4996	mg/L	100	85	115			
L34810-01AS	AS	01/10/17 15:13	II170109-2	.5005	U	.4928	mg/L	98	85	115			
L34810-01ASD	ASD	01/10/17 15:16	II170109-2	.5005	U	.4928	mg/L	98	85	115	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415682													
WG415682ICV	ICV	01/04/17 17:25	MS161128-3	.05		.04785	mg/L	96	90	110			
WG415682ICB	ICB	01/04/17 17:28				U	mg/L		-0.00015	0.00015			
WG415682LFB	LFB	01/04/17 17:31	MS161201-3	.05035		.0458	mg/L	91	85	115			E6
L34681-01AS	AS	01/04/17 17:44	MS161201-3	.05035	U	.04724	mg/L	94	70	130			
L34681-01ASD	ASD	01/04/17 17:47	MS161201-3	.05035	U	.04773	mg/L	95	70	130	1	20	
L34779-04AS	AS	01/04/17 18:27	MS161201-3	.05035	.00013	.05409	mg/L	107	70	130			
L34779-04ASD	ASD	01/04/17 18:30	MS161201-3	.05035	.00013	.04873	mg/L	97	70	130	10	20	
WG415747													
WG415747ICV	ICV	01/05/17 17:27	MS161128-3	.05		.04582	mg/L	92	90	110			
WG415747ICB	ICB	01/05/17 17:30				.000104	mg/L		-0.00015	0.00015			
WG415747LFB	LFB	01/05/17 17:33	MS161201-3	.05035		.04617	mg/L	92	85	115			
L34779-04AS	AS	01/05/17 18:15	MS161201-3	.05035	.00011	.04925	mg/L	98	70	130			
L34779-04ASD	ASD	01/05/17 18:18	MS161201-3	.05035	.00011	.04916	mg/L	97	70	130	0	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2		1.936	mg/L	97	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.12	0.12			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	1		1.01	mg/L	101	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	1	U	1.014	mg/L	101	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	1	U	.992	mg/L	99	85	115	2	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	1	U	1.006	mg/L	101	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	1	U	1.01	mg/L	101	85	115	0	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2		1.997	mg/L	100	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.03	0.03			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	.5005		.498	mg/L	100	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	.5005	U	.524	mg/L	105	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	.5005	U	.515	mg/L	103	85	115	2	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	.5005	U	.497	mg/L	99	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	.5005	U	.501	mg/L	100	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415682													
WG415682ICV	ICV	01/04/17 17:25	MS161128-3	.05		.05068	mg/L	101	90	110			
WG415682ICB	ICB	01/04/17 17:28				U	mg/L		-0.0003	0.0003			
WG415682LFB	LFB	01/04/17 17:31	MS161201-3	.05005		.0489	mg/L	98	85	115			
L34681-01AS	AS	01/04/17 17:44	MS161201-3	.05005	U	.05084	mg/L	102	70	130			
L34681-01ASD	ASD	01/04/17 17:47	MS161201-3	.05005	U	.05157	mg/L	103	70	130	1	20	
L34779-04AS	AS	01/04/17 18:27	MS161201-3	.05005	U	.05227	mg/L	104	70	130			
L34779-04ASD	ASD	01/04/17 18:30	MS161201-3	.05005	U	.04744	mg/L	95	70	130	10	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	100		98.32	mg/L	98	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.3	0.3			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	68.00007		69.23	mg/L	102	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	68.00007	67.3	134.4	mg/L	99	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	68.00007	67.3	133.2	mg/L	97	85	115	1	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	68.00007	1.2	72.73	mg/L	105	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	68.00007	1.2	72.33	mg/L	105	85	115	1	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416023													
WG416023ICB	ICB	01/11/17 12:36				U	mg/L		-1.5	1.5			
WG416023ICV	ICV	01/11/17 12:36	WI160701-1	55.055		56.5	mg/L	103	90	110			
WG416023LFB1	LFB	01/11/17 12:47	WI161020-2	30.03		31.08	mg/L	103	90	110			
L34763-01AS	AS	01/11/17 12:47	WI161020-2	30.03	62.4	87.62	mg/L	84	90	110			M2
L34763-02DUP	DUP	01/11/17 12:47			66.1	66.55	mg/L				1	20	
L34779-03AS	AS	01/11/17 12:59	WI161020-2	30.03	.8	31.51	mg/L	102	90	110			
L34779-05DUP	DUP	01/11/17 12:59			U	U	mg/L				0	20	RA
WG416023LFB2	LFB	01/11/17 13:00	WI161020-2	30.03		30.87	mg/L	103	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415801													
WG415801ICV	ICV	01/06/17 12:52	II161209-1	2		1.926	mg/L	96	95	105			
WG415801ICB	ICB	01/06/17 12:58				U	mg/L		-0.03	0.03			
WG415801LFB	LFB	01/06/17 13:11	II161222-8	.5025		.493	mg/L	98	85	115			
L34735-01AS	AS	01/06/17 13:37	II161222-8	.5025	U	.481	mg/L	96	85	115			
L34735-01ASD	ASD	01/06/17 13:40	II161222-8	.5025	U	.466	mg/L	93	85	115	3	20	
L34779-08AS	AS	01/06/17 14:15	II161222-8	.5025	U	.488	mg/L	97	85	115			
L34779-08ASD	ASD	01/06/17 14:18	II161222-8	.5025	U	.496	mg/L	99	85	115	2	20	
WG415923													
WG415923ICV	ICV	01/10/17 14:28	II161209-1	2		1.985	mg/L	99	95	105			
WG415923ICB	ICB	01/10/17 14:34				U	mg/L		-0.03	0.03			
WG415923LFB	LFB	01/10/17 14:47	II170109-2	.5025		.507	mg/L	101	85	115			
L34810-01AS	AS	01/10/17 15:13	II170109-2	.5025	U	.498	mg/L	99	85	115			
L34810-01ASD	ASD	01/10/17 15:16	II170109-2	.5025	U	.495	mg/L	99	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2.002		1.904	mg/L	95	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.03	0.03			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	.5025		.501	mg/L	100	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	.5025	U	.487	mg/L	97	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	.5025	U	.482	mg/L	96	85	115	1	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	.5025	U	.489	mg/L	97	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	.5025	U	.486	mg/L	97	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415576													
WG415576LCSW2	LCSW	01/03/17 15:24	PCN51546	1410		1530	umhos/cm	109	90	110			
L34779-10DUP	DUP	01/03/17 16:28			451	465	umhos/cm				3	20	
WG415576LCSW5	LCSW	01/03/17 18:10	PCN51546	1410		1510	umhos/cm	107	90	110			
WG415576LCSW8	LCSW	01/03/17 21:27	PCN51546	1410		1430	umhos/cm	101	90	110			
WG415576LCSW11	LCSW	01/03/17 22:15	PCN51546	1410		1410	umhos/cm	100	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2		1.98	mg/L	99	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.03	0.03			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	.5005		.493	mg/L	99	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	.5005	U	.503	mg/L	100	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	.5005	U	.495	mg/L	99	85	115	2	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	.5005	U	.497	mg/L	99	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	.5005	U	.496	mg/L	99	85	115	0	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415506													
WG415506ICV	ICV	12/30/16 17:33	WI161216-6	.3006		.2964	mg/L	99	90	110			
WG415506ICB	ICB	12/30/16 17:34				U	mg/L		-0.003	0.003			
WG415507													
WG415404LRB	LRB	12/30/16 18:12				U	mg/L		-0.003	0.003			
WG415404LFB	LFB	12/30/16 18:13	WI161216-2	.2		.1938	mg/L	97	90	110			
L34769-08DUP	DUP	12/30/16 18:28			U	U	mg/L				0	20	RA
L34769-09LFM	LFM	12/30/16 18:29	WI161216-2	.2	U	.1504	mg/L	75	90	110			M2

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415506													
WG415506ICV	ICV	12/30/16 17:33	WI161216-6	.3006		.2964	mg/L	99	90	110			
WG415506ICB	ICB	12/30/16 17:34				U	mg/L		-0.003	0.003			
WG415461LRB	LRB	12/30/16 17:34				U	mg/L		-0.003	0.003			
WG415461LFB	LFB	12/30/16 17:35	WI161216-4	.2004		.2032	mg/L	101	90	110			
L34758-01DUP	DUP	12/30/16 17:37			U	U	mg/L				0	20	RA
L34762-01LFM	LFM	12/30/16 17:39	WI161216-4	.2004	U	.1936	mg/L	97	90	110			

McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415400													
WG415400ICV	ICV	12/29/16 10:22	WC161214-1	2.006		2.04	mg/L	102	95	105			
WG415400ICB	ICB	12/29/16 10:26				.071	mg/L		-0.15	0.15			
WG415400LFB1	LFB	12/29/16 10:33	WC160923-7	4.995		4.892	mg/L	98	90	110			
WG415400LFB2	LFB	12/29/16 13:00	WC160923-7	4.995		4.703	mg/L	94	90	110			
L34772-03AS	AS	12/29/16 13:06	WC160923-7	4.995	.19	4.848	mg/L	93	90	110			
L34772-03DUP	DUP	12/29/16 13:10			.19	.205	mg/L				8	20	RA
L34779-06AS	AS	12/29/16 14:39	WC160923-7	199.8	U	188.1	mg/L	94	90	110			
L34779-06DUP	DUP	12/29/16 14:44			U	2.2	mg/L				200	20	RA

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415801													
WG415801ICV	ICV	01/06/17 12:52	II161209-1	2		1.93	mg/L	97	95	105			
WG415801ICB	ICB	01/06/17 12:58				U	mg/L		-0.3	0.3			
WG415801LFB	LFB	01/06/17 13:11	II161222-8	1		.98	mg/L	98	85	115			
L34735-01AS	AS	01/06/17 13:37	II161222-8	1	U	.94	mg/L	94	85	115			
L34735-01ASD	ASD	01/06/17 13:40	II161222-8	1	U	.92	mg/L	92	85	115	2	20	
L34779-08AS	AS	01/06/17 14:15	II161222-8	1	U	1.02	mg/L	102	85	115			
L34779-08ASD	ASD	01/06/17 14:18	II161222-8	1	U	.97	mg/L	97	85	115	5	20	
WG415923													
WG415923ICV	ICV	01/10/17 14:28	II161209-1	2		1.96	mg/L	98	95	105			
WG415923ICB	ICB	01/10/17 14:34				U	mg/L		-0.3	0.3			
WG415923LFB	LFB	01/10/17 14:47	II170109-2	1		1.04	mg/L	104	85	115			
L34810-01AS	AS	01/10/17 15:13	II170109-2	1	U	1	mg/L	100	85	115			
L34810-01ASD	ASD	01/10/17 15:16	II170109-2	1	U	1.03	mg/L	103	85	115	3	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415801													
WG415801ICV	ICV	01/06/17 12:52	II161209-1	2		1.953	mg/L	98	95	105			
WG415801ICB	ICB	01/06/17 12:58				U	mg/L		-0.06	0.06			
WG415801LFB	LFB	01/06/17 13:11	II161222-8	1.0017		1.022	mg/L	102	85	115			
L34735-01AS	AS	01/06/17 13:37	II161222-8	1.0017	U	.966	mg/L	96	85	115			
L34735-01ASD	ASD	01/06/17 13:40	II161222-8	1.0017	U	.942	mg/L	94	85	115	3	20	
L34779-08AS	AS	01/06/17 14:15	II161222-8	1.0017	.02	.994	mg/L	97	85	115			
L34779-08ASD	ASD	01/06/17 14:18	II161222-8	1.0017	.02	.991	mg/L	97	85	115	0	20	
WG415923													
WG415923ICV	ICV	01/10/17 14:28	II161209-1	2		1.992	mg/L	100	95	105			
WG415923ICB	ICB	01/10/17 14:34				U	mg/L		-0.06	0.06			
WG415923LFB	LFB	01/10/17 14:47	II170109-2	1.0017		1.045	mg/L	104	85	115			
L34810-01AS	AS	01/10/17 15:13	II170109-2	1.0017	.11	1.115	mg/L	100	85	115			
L34810-01ASD	ASD	01/10/17 15:16	II170109-2	1.0017	.11	1.122	mg/L	101	85	115	1	20	

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ACZ Project ID: ***L34779***

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415682													
WG415682ICV	ICV	01/04/17 17:25	MS161128-3	.05		.05058	mg/L	101	90	110			
WG415682ICB	ICB	01/04/17 17:28				U	mg/L		-0.0003	0.0003			
WG415682LFB	LFB	01/04/17 17:31	MS161201-3	.0501		.04808	mg/L	96	85	115			
L34681-01AS	AS	01/04/17 17:44	MS161201-3	.0501	U	.04949	mg/L	99	70	130			
L34681-01ASD	ASD	01/04/17 17:47	MS161201-3	.0501	U	.04964	mg/L	99	70	130	0	20	
L34779-04AS	AS	01/04/17 18:27	MS161201-3	.0501	.0011	.05104	mg/L	100	70	130			
L34779-04ASD	ASD	01/04/17 18:30	MS161201-3	.0501	.0011	.04658	mg/L	91	70	130	9	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2		1.9562	mg/L	98	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.024	0.024			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	1.001		.9756	mg/L	97	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	1.001	U	.9995	mg/L	100	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	1.001	U	.982	mg/L	98	85	115	2	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	1.001	U	.9745	mg/L	97	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	1.001	U	.9745	mg/L	97	85	115	0	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	100		98.17	mg/L	98	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.6	0.6			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	50.00567		46.23	mg/L	92	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	50.00567	17.7	63.77	mg/L	92	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	50.00567	17.7	63.17	mg/L	91	85	115	1	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	50.00567	U	47.69	mg/L	95	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	50.00567	U	47.34	mg/L	95	85	115	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2		1.922	mg/L	96	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.015	0.015			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	.5		.5082	mg/L	102	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	.5	U	.5189	mg/L	104	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	.5	U	.5118	mg/L	102	85	115	1	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	.5	U	.5135	mg/L	103	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	.5	U	.5146	mg/L	103	85	115	0	20	

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ACZ Project ID: ***L34779***

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415868													
WG415868ICV1	ICV	01/09/17 15:03	HG161031-2	.005005		.00485	mg/L	97	95	105			
WG415868ICB	ICB	01/09/17 15:04				U	mg/L		-0.0002	0.0002			
WG415868LRB	LRB	01/09/17 15:05				U	mg/L		-0.00044	0.00044			
WG415868LFB	LFB	01/09/17 15:06	HG161031-3	.01001		.0106	mg/L	106	85	115			
L34779-02LFM	LFM	01/09/17 15:14	HG161031-3	.01001	U	.0106	mg/L	106	85	115			
L34779-02LFMD	LFMD	01/09/17 15:18	HG161031-3	.01001	U	.0113	mg/L	113	85	115	6	20	
L34864-01LFM	LFM	01/09/17 15:32	HG161031-3	.01001	U	.0109	mg/L	109	85	115			
L34864-01LFMD	LFMD	01/09/17 15:34	HG161031-3	.01001	U	.0107	mg/L	107	85	115	2	20	

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415381													
WG415381ICV	ICV	12/30/16 11:58	HG161230-7	10		9.84	ng/L	98	79	121			
WG415381ICB	ICB	12/30/16 12:03				U	ng/L		-0.5	0.5			
WG415381PQV	PQV	12/30/16 12:07	HG161230-9	.5		.57	ng/L	114	70	130			
WG415381LFB	LFB	12/30/16 12:12	HG161230-8	2		2.06	ng/L	103	71	125			
WG415381CCV1	CCV	12/30/16 12:46	HG161230-7	10		9.57	ng/L	96	76.5	123.4			
WG415381CCB1	CCB	12/30/16 12:50				U	ng/L		-0.5	0.5			
L34779-02MS	MS	12/30/16 13:34	HG5XPREP	50	9	21.1	ng/L	121	71	125			
L34779-02MSD	MSD	12/30/16 13:38	HG5XPREP	50	9	19.9	ng/L	109	71	125	6	24	
WG415381CCV2	CCV	12/30/16 13:43	HG161230-7	10		9.34	ng/L	93	76.5	123.4			
WG415381CCB2	CCB	12/30/16 13:48				U	ng/L		-0.5	0.5			
WG415381CCV3	CCV	12/30/16 14:40	HG161230-7	10		8.9	ng/L	89	76.5	123.4			
WG415381CCB3	CCB	12/30/16 14:45				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2		1.988	mg/L	99	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.06	0.06			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	.4995		.498	mg/L	100	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	.4995	U	.495	mg/L	99	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	.4995	U	.486	mg/L	97	85	115	2	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	.4995	U	.501	mg/L	100	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	.4995	U	.495	mg/L	99	85	115	1	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2.002		2.0095	mg/L	100	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.024	0.024			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	.498		.4981	mg/L	100	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	.498	U	.4976	mg/L	100	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	.498	U	.493	mg/L	99	85	115	1	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	.498	U	.4961	mg/L	100	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	.498	U	.5045	mg/L	101	85	115	2	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415777													
WG415777ICV	ICV	01/05/17 21:03	WI161209-3	2.416		2.441	mg/L	101	90	110			
WG415777ICB	ICB	01/05/17 21:04				U	mg/L		-0.02	0.02			
WG415777LFB1	LFB	01/05/17 21:09	WI170104-22	2		1.991	mg/L	100	90	110			
L34772-04AS	AS	01/05/17 21:11	WI170104-22	2	U	2.013	mg/L	101	90	110			
L34779-01DUP	DUP	01/05/17 21:14			.03	.034	mg/L				13	20	RA
L34779-10AS	AS	01/05/17 21:31	WI170104-22	2	U	2.048	mg/L	102	90	110			
L34815-01DUP	DUP	01/05/17 21:33			1.11	1.122	mg/L				1	20	
WG415777LFB2	LFB	01/05/17 21:49	WI170104-22	2		1.967	mg/L	98	90	110			

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415542													
WG415542ICV	ICV	01/03/17 12:23	WI170103-8	11.988		11.831	mg/L	99	90	110			
WG415542ICB	ICB	01/03/17 12:25				U	mg/L		-0.05	0.05			
WG415542LFB1	LFB	01/03/17 12:26	WI161026-1	10		9.811	mg/L	98	90	110			
WG415542LFB2	LFB	01/03/17 13:08	WI161026-1	10		10.04	mg/L	100	90	110			
L34779-01AS	AS	01/03/17 13:25	WI161026-1	10	U	10.015	mg/L	100	90	110			
L34779-02DUP	DUP	01/03/17 13:28			U	U	mg/L				0	20	RA
WG415882													
WG415882ICV	ICV	01/09/17 13:05	WI170103-8	11.988		11.735	mg/L	98	90	110			
WG415882ICB	ICB	01/09/17 13:07				U	mg/L		-0.05	0.05			
WG415882LFB1	LFB	01/09/17 13:08	WI161026-1	10		9.845	mg/L	98	90	110			
L34742-01AS	AS	01/09/17 13:11	WI161026-1	10	.18	10.191	mg/L	100	90	110			
L34749-01DUP	DUP	01/09/17 13:14			U	U	mg/L				0	20	RA
L34779-06AS	AS	01/09/17 14:06	WI161026-1	10	U	9.784	mg/L	98	90	110			
L34779-07DUP	DUP	01/09/17 14:09			U	U	mg/L				0	20	RA
WG415882LFB2	LFB	01/09/17 14:52	WI161026-1	10		9.748	mg/L	97	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415576													
WG415576LCSW1	LCSW	01/03/17 15:22	PCN51287	6.01		6	units	100	5.9	6.1			
L34779-10DUP	DUP	01/03/17 16:28			2.9	2.9	units				0	20	
WG415576LCSW4	LCSW	01/03/17 18:09	PCN51287	6.01		5.9	units	98	5.9	6.1			
WG415576LCSW7	LCSW	01/03/17 21:26	PCN51287	6.01		5.9	units	98	5.9	6.1			
WG415576LCSW10	LCSW	01/03/17 22:13	PCN51287	6.01		5.9	units	98	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415693													
WG415693ICV	ICV	01/04/17 22:21	WI161219-1	.65228		.648	mg/L	99	90	110			
WG415693ICB	ICB	01/04/17 22:24				U	mg/L		-0.02	0.02			
WG415655LRB	LRB	01/04/17 22:25				U	mg/L		-0.02	0.02			
WG415655LFB	LFB	01/04/17 22:26	WI161227-4	.5		.495	mg/L	99	90	110			
L34769-01LFM	LFM	01/04/17 22:28	WI161227-4	.5	U	.511	mg/L	102	90	110			
L34769-02DUP	DUP	01/04/17 22:31			U	U	mg/L				0	20	RA
L34783-01LFM	LFM	01/04/17 22:53	WI161227-4	.5	.03	.525	mg/L	99	90	110			
L34823-01DUP	DUP	01/04/17 22:55			U	U	mg/L				0	20	RA

McClelland Laboratories, Inc. ACZ Project ID: ***L34779***

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	20		19.39	mg/L	97	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.6	0.6			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	99.98944		98.98	mg/L	99	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	99.98944	1.8	103	mg/L	101	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	99.98944	1.8	102.4	mg/L	101	85	115	1	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	99.98944	U	102	mg/L	102	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	99.98944	U	101	mg/L	101	85	115	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415301													
WG415301PBW	PBW	12/27/16 16:30				U	mg/L		-20	20			
WG415301LCSW	LCSW	12/27/16 16:32	PCN52084	260		262	mg/L	101	80	120			
L34779-10DUP	DUP	12/27/16 17:01			114	110	mg/L				4	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2		1.97	mg/L	99	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.3	0.3			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	.9868		.99	mg/L	100	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	.9868	U	1	mg/L	101	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	.9868	U	.98	mg/L	99	85	115	2	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	.9868	U	1	mg/L	101	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	.9868	U	1	mg/L	101	85	115	0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415682													
WG415682ICV	ICV	01/04/17 17:25	MS161128-3	.05		.05157	mg/L	103	90	110			
WG415682ICB	ICB	01/04/17 17:28				U	mg/L		-0.0003	0.0003			
WG415682LFB	LFB	01/04/17 17:31	MS161201-3	.05005		.05203	mg/L	104	85	115			
L34681-01AS	AS	01/04/17 17:44	MS161201-3	.05005	.0008	.05513	mg/L	109	70	130			
L34681-01ASD	ASD	01/04/17 17:47	MS161201-3	.05005	.0008	.0544	mg/L	107	70	130	1	20	
L34779-04AS	AS	01/04/17 18:27	MS161201-3	.05005	.0005	.05128	mg/L	101	70	130			
L34779-04ASD	ASD	01/04/17 18:30	MS161201-3	.05005	.0005	.04767	mg/L	94	70	130	7	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415801													
WG415801ICV	ICV	01/06/17 12:52	II161209-1	1.002		.989	mg/L	99	95	105			
WG415801ICB	ICB	01/06/17 12:58				U	mg/L		-0.03	0.03			
WG415801LFB	LFB	01/06/17 13:11	II161222-8	.501		.491	mg/L	98	85	115			
L34735-01AS	AS	01/06/17 13:37	II161222-8	.501	U	.41	mg/L	82	85	115			M2 ZA
L34735-01ASD	ASD	01/06/17 13:40	II161222-8	.501	U	.415	mg/L	83	85	115	1	20	M2 ZA
L34779-08AS	AS	01/06/17 14:15	II161222-8	.501	U	.411	mg/L	82	85	115			M2 ZA
L34779-08ASD	ASD	01/06/17 14:18	II161222-8	.501	U	.399	mg/L	80	85	115	3	20	M2 ZA
WG415923													
WG415923ICV	ICV	01/10/17 14:28	II161209-1	1.002		1.014	mg/L	101	95	105			
WG415923ICB	ICB	01/10/17 14:34				U	mg/L		-0.03	0.03			
WG415923LFB	LFB	01/10/17 14:47	II170109-2	.501		.505	mg/L	101	85	115			
L34810-01AS	AS	01/10/17 15:13	II170109-2	.501	U	.367	mg/L	73	85	115			M2 ZA
L34810-01ASD	ASD	01/10/17 15:16	II170109-2	.501	U	.39	mg/L	78	85	115	6	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	100		98.77	mg/L	99	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.6	0.6			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	100.0353		99.4	mg/L	99	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	100.0353	17.1	116.6	mg/L	99	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	100.0353	17.1	115.8	mg/L	99	85	115	1	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	100.0353	U	101	mg/L	101	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	100.0353	U	99.91	mg/L	100	85	115	1	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2		1.9428	mg/L	97	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.015	0.015			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	.5		.4946	mg/L	99	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	.5	.624	1.106	mg/L	96	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	.5	.624	1.097	mg/L	95	85	115	1	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	.5	U	.5134	mg/L	103	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	.5	U	.5091	mg/L	102	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415665													
WG415665ICB	ICB	01/04/17 12:02				U	mg/L		-3	3			
WG415665ICV	ICV	01/04/17 12:02	WI161227-2	20		20.6	mg/L	103	90	110			
WG415665LFB	LFB	01/04/17 15:08	WI160815-8	10		9.5	mg/L	95	90	110			
L34772-04DUP	DUP	01/04/17 15:09			U	U	mg/L				0	20	RA
L34774-01AS	AS	01/04/17 15:34	SO4TURB10X	10	359	364	mg/L	50	90	110			M3
L34779-08AS	AS	01/04/17 15:46	WI160815-8	10	4.2	12.6	mg/L	84	90	110			M2
L34779-07DUP	DUP	01/04/17 15:52			163	174	mg/L				7	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415682													
WG415682ICV	ICV	01/04/17 17:25	MS161128-3	.05		.05295	mg/L	106	90	110			
WG415682ICB	ICB	01/04/17 17:28				U	mg/L		-0.0003	0.0003			
WG415682LFB	LFB	01/04/17 17:31	MS161201-3	.0501		.05019	mg/L	100	85	115			
L34681-01AS	AS	01/04/17 17:44	MS161201-3	.0501	U	.05206	mg/L	104	70	130			
L34681-01ASD	ASD	01/04/17 17:47	MS161201-3	.0501	U	.05166	mg/L	103	70	130	1	20	
L34779-04AS	AS	01/04/17 18:27	MS161201-3	.0501	.0001	.04991	mg/L	99	70	130			
L34779-04ASD	ASD	01/04/17 18:30	MS161201-3	.0501	.0001	.04584	mg/L	91	70	130	9	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2		1.983	mg/L	99	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.12	0.12			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	1.001		.976	mg/L	98	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	1.001	U	.977	mg/L	98	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	1.001	U	.956	mg/L	96	85	115	2	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	1.001	U	.976	mg/L	98	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	1.001	U	.984	mg/L	98	85	115	1	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2		1.9695	mg/L	98	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.015	0.015			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	1.002		.9949	mg/L	99	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	1.002	U	1.003	mg/L	100	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	1.002	U	.9838	mg/L	98	85	115	2	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	1.002	U	.9988	mg/L	100	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	1.002	U	.9996	mg/L	100	85	115	0	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415682													
WG415682ICV	ICV	01/04/17 17:25	MS161128-3	.05		.05172	mg/L	103	90	110			
WG415682ICB	ICB	01/04/17 17:28				U	mg/L		-0.0003	0.0003			
WG415682LFB	LFB	01/04/17 17:31	MS161201-3	.05		.04951	mg/L	99	85	115			
L34681-01AS	AS	01/04/17 17:44	MS161201-3	.05	.0012	.05402	mg/L	106	70	130			
L34681-01ASD	ASD	01/04/17 17:47	MS161201-3	.05	.0012	.05454	mg/L	107	70	130	1	20	
L34779-04AS	AS	01/04/17 18:27	MS161201-3	.05	.0026	.05331	mg/L	101	70	130			
L34779-04ASD	ASD	01/04/17 18:30	MS161201-3	.05	.0026	.04763	mg/L	90	70	130	11	20	

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ACZ Project ID: ***L34779***

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2		1.9845	mg/L	99	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.015	0.015			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	.4985		.5035	mg/L	101	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	.4985	U	.5066	mg/L	102	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	.4985	U	.5015	mg/L	101	85	115	1	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	.4985	U	.5136	mg/L	103	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	.4985	U	.5078	mg/L	102	85	115	1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG415657													
WG415657ICV	ICV	01/05/17 17:02	II161209-1	2		1.894	mg/L	95	95	105			
WG415657ICB	ICB	01/05/17 17:07				U	mg/L		-0.03	0.03			
WG415657LFB	LFB	01/05/17 17:20	II161222-8	.4942		.502	mg/L	102	85	115			
L34735-01AS	AS	01/05/17 17:44	II161222-8	.4942	.01	.51	mg/L	101	85	115			
L34735-01ASD	ASD	01/05/17 17:47	II161222-8	.4942	.01	.505	mg/L	100	85	115	1	20	
L34779-08AS	AS	01/05/17 18:20	II161222-8	.4942	U	.51	mg/L	103	85	115			
L34779-08ASD	ASD	01/05/17 18:23	II161222-8	.4942	U	.507	mg/L	103	85	115	1	20	

ACZ Laboratories, Inc.
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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34779-01	WG415801	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416023	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG415576	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415400	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415777	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415542	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415693	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415301	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG415665	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34779-02	WG415801	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416023	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415400	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415777	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415542	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415693	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415301	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG415665	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34779-03	WG415801	Silver, dissolved	M200.7 ICP	DB	Sample required dilution due to low bias result.
			M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416023	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415400	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415777	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415882	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415693	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415301	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG415665	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34779-04	WG415801	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416023	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415400	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415777	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415882	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415693	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415301	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG415665	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L34779***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34779-05	WG415801	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416023	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415400	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415777	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415882	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415693	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415301	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG415665	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L34779***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34779-06	WG415801	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416023	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415400	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415777	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415882	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415693	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415301	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG415665	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG415576	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L34779***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34779-07	WG415381	Mercury, total	M1631, Atomic Fluorescence	DJ	Sample dilution required due to insufficient sample.
	WG415801	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416023	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415400	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415777	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415882	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415693	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415301	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG415665	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG415576	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34779-08	WG415868	Mercury, dissolved	M245.1 CVAA	DJ	Sample dilution required due to insufficient sample.
	WG415801	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416023	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415400	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415777	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415882	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415693	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415301	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG415665	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG415576	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34779-09	WG415923	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416023	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415400	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415777	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415882	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415693	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415301	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG415665	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG415576	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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McClelland Laboratories, Inc.

ACZ Project ID: ***L34779***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34779-10	WG415923	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416023	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415507	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415506	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415400	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415882	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415576	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG415693	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG415301	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG415665	Sulfate	D516-02/-07 - Turbidimetric	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG415576	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.

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Sample Receipt

McClelland Laboratories, Inc.
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ACZ Project ID: L34779
Date Received: 12/22/2016 12:59
Received By:
Date Printed: 12/22/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA25300	3.1	<=6.0	14	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
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Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L34779
Date Received:	12/22/2016 12:59
Received By:	
Date Printed:	12/22/2016

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L34779

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

YES [YES]
NO [ ]

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500	Mercury by 1631E				
CAL-002 (86-95)	12/21/16	WW	1	x			x				
CAL-004 (860-875)		WW	1	x			x				
CAL-003 (675-685)		WW	1	x			x				
GMC-012 (832-851)		WW	1	x			x				
CAL-004 (295-315)		WW	1	x			x				
CAL-001 (750-762)		WW	1	x			x				
GMC-014 (176-184)		WW	1	x			x				
CAL-001 (380-400)		WW	1	x			x				
CAL-002 (177-187)		WW	1	x			x				
Calico Leach Res. after CN Destruct		WW	1	x	x	x	x				

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 56
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	12/21/16 9AM	[signature]	

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L34779 Chain of Custody

L34779-1701111709
W, G, Y, Hg-u

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.005 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Dissociable	SM 4500	0.005 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

Gray out Analyses DOESN'T get done on all Samples. Just 1 of the Sample SEE COC

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

February 02, 2017

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L35145

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 19, 2017. This project has been assigned to ACZ's project number, L35145. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L35145. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 04, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L35145-01***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/24/17 11:02	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.94			mg/L	0.03	0.2	01/24/17 21:16	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0128			mg/L	0.0004	0.002	01/31/17 14:35	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0457			mg/L	0.0002	0.001	02/01/17 11:43	enb
Barium, dissolved	M200.7 ICP	1	0.003	B		mg/L	0.003	0.02	01/24/17 21:16	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00014	B		mg/L	0.00005	0.0003	01/31/17 14:35	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/24/17 21:16	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:16	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	01/31/17 14:35	enb
Calcium, dissolved	M200.7 ICP	1	0.5			mg/L	0.1	0.5	01/24/17 21:16	gss
Chromium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/24/17 21:16	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/27/17 12:47	gss
Copper, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	01/24/17 21:16	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:16	gss
Iron, dissolved	M200.7 ICP	1	8.44		*	mg/L	0.02	0.05	01/24/17 21:16	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	01/31/17 14:35	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/24/17 21:16	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/24/17 21:16	gss
Manganese, dissolved	M200.7 ICP	1	0.017	B		mg/L	0.005	0.03	01/24/17 21:16	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/30/17 15:40	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/24/17 21:16	gss
Nickel, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.008	0.04	01/24/17 21:16	gss
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	01/24/17 21:16	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:16	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	01/31/17 14:35	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/24/17 21:16	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/24/17 21:16	gss
Strontium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	01/24/17 21:16	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.003			mg/L	0.0001	0.0005	01/31/17 14:35	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/24/17 21:16	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/24/17 21:16	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	01/31/17 14:35	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/24/17 21:16	gss
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	01/24/17 21:16	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L35145-01***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/21/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-21.9			%			02/02/17 0:00	calc
Sum of Anions			0.918			meq/L			02/02/17 0:00	calc
Sum of Cations			0.588			meq/L			02/02/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/24/17 14:17	spl
Conductivity @25C	SM2510B	1	333		*	umhos/cm	1	10	01/21/17 21:02	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	01/26/17 10:56	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.3	B		mg/L	0.2	5	02/02/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B		mg/L	0.02	0.1	01/28/17 1:33	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/27/17 12:50	bce
pH (lab)	SM4500H+ B									
pH		1	3.3	H	*	units	0.1	0.1	01/21/17 0:00	sck
pH measured at		1	22.9			C	0.1	0.1	01/21/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/24/17 15:28	bce
Residue, Filterable (TDS) @180C	SM2540C	1	96		*	mg/L	10	20	01/20/17 14:53	sck
Sulfate	D516-02/-07 - Turbidimetric	5	43.7		*	mg/L	5	25	01/23/17 14:25	bce
TDS (calculated)	Calculation		54			mg/L			02/02/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.78						02/02/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L35145-02***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/24/17 11:13	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.12	B		mg/L	0.03	0.2	01/24/17 21:19	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0004	0.002	01/31/17 14:38	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0002	0.001	01/31/17 14:38	enb
Barium, dissolved	M200.7 ICP	1	0.003	B		mg/L	0.003	0.02	01/24/17 21:19	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00028	B		mg/L	0.00005	0.0003	01/31/17 14:38	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/24/17 21:19	gss
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	01/24/17 21:19	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	01/31/17 14:38	enb
Calcium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.1	0.5	01/24/17 21:19	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:19	gss
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	01/27/17 12:50	gss
Copper, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	01/24/17 21:19	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:19	gss
Iron, dissolved	M200.7 ICP	1	0.18		*	mg/L	0.02	0.05	01/24/17 21:19	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0001	0.0005	01/31/17 14:38	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/24/17 21:19	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/24/17 21:19	gss
Manganese, dissolved	M200.7 ICP	1	0.031			mg/L	0.005	0.03	01/24/17 21:19	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/30/17 15:41	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/24/17 21:19	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/24/17 21:19	gss
Potassium, dissolved	M200.7 ICP	1	0.9	B		mg/L	0.2	1	01/24/17 21:19	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:19	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	01/31/17 14:38	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/24/17 21:19	gss
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	01/24/17 21:19	gss
Strontium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	01/24/17 21:19	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	01/31/17 14:38	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/24/17 21:19	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/24/17 21:19	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	01/31/17 14:38	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/24/17 21:19	gss
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	01/24/17 21:19	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L35145-02***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/21/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			02/02/17 0:00	calc
Sum of Anions			0.258	B		meq/L			02/02/17 0:00	calc
Sum of Cations				U		meq/L			02/02/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/24/17 14:17	spl
Conductivity @25C	SM2510B	1	99.2		*	umhos/cm	1	10	01/21/17 21:06	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	01/26/17 11:12	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.499	B		mg/L	0.2	5	02/02/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.16			mg/L	0.02	0.1	01/28/17 1:35	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/27/17 12:54	bce
pH (lab)	SM4500H+ B									
pH		1	3.8	H	*	units	0.1	0.1	01/21/17 0:00	sck
pH measured at		1	22.5			C	0.1	0.1	01/21/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/24/17 15:29	bce
Residue, Filterable (TDS) @180C	SM2540C	1	44		*	mg/L	10	20	01/20/17 14:56	sck
Sulfate	D516-02/-07 - Turbidimetric	1	12.3		*	mg/L	1	5	01/23/17 15:13	bce
TDS (calculated)	Calculation		14.3			mg/L			02/02/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		3.08						02/02/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L35145-03***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/24/17 11:24	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	2	24.3			mg/L	0.06	0.3	01/24/17 21:22	gss
Antimony, dissolved	M200.8 ICP-MS	2	0.0042			mg/L	0.0008	0.004	01/31/17 14:41	enb
Arsenic, dissolved	M200.8 ICP-MS	2	1.92			mg/L	0.0004	0.002	02/01/17 11:46	enb
Barium, dissolved	M200.7 ICP	2		U		mg/L	0.006	0.03	01/24/17 21:22	gss
Beryllium, dissolved	M200.8 ICP-MS	2	0.0032			mg/L	0.0001	0.0005	01/31/17 14:41	enb
Bismuth, dissolved	M200.7 ICP	2		U	*	mg/L	0.08	0.4	01/24/17 21:22	gss
Boron, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	01/24/17 21:22	gss
Cadmium, dissolved	M200.8 ICP-MS	2	0.0023			mg/L	0.0002	0.001	01/31/17 14:41	enb
Calcium, dissolved	M200.7 ICP	2	62.2			mg/L	0.2	1	01/24/17 21:22	gss
Chromium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	01/24/17 21:22	gss
Cobalt, dissolved	M200.7 ICP	2	0.17			mg/L	0.02	0.1	01/27/17 12:53	gss
Copper, dissolved	M200.7 ICP	2	0.44			mg/L	0.02	0.1	01/24/17 21:22	gss
Gallium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	01/24/17 21:22	gss
Iron, dissolved	M200.7 ICP	2	500		*	mg/L	0.04	0.1	01/24/17 21:22	gss
Lead, dissolved	M200.8 ICP-MS	2	0.001			mg/L	0.0002	0.001	01/31/17 14:41	enb
Lithium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.08	01/24/17 21:22	gss
Magnesium, dissolved	M200.7 ICP	2	3.0			mg/L	0.4	2	01/24/17 21:22	gss
Manganese, dissolved	M200.7 ICP	2	0.28			mg/L	0.01	0.05	01/24/17 21:22	gss
Mercury, dissolved	M245.1 CVAA	1	0.001			mg/L	0.0002	0.001	01/30/17 15:42	pta
Molybdenum, dissolved	M200.7 ICP	2	0.35			mg/L	0.04	0.2	01/24/17 21:22	gss
Nickel, dissolved	M200.7 ICP	2	0.17			mg/L	0.02	0.08	01/24/17 21:22	gss
Potassium, dissolved	M200.7 ICP	2		U		mg/L	0.4	2	01/24/17 21:22	gss
Scandium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	01/24/17 21:22	gss
Selenium, dissolved	M200.8 ICP-MS	2	0.0065			mg/L	0.0002	0.0005	01/31/17 14:41	enb
Silver, dissolved	M200.7 ICP	2		U	*	mg/L	0.02	0.05	01/24/17 21:22	gss
Sodium, dissolved	M200.7 ICP	2		U		mg/L	0.4	2	01/24/17 21:22	gss
Strontium, dissolved	M200.7 ICP	2	0.11			mg/L	0.01	0.05	01/24/17 21:22	gss
Thallium, dissolved	M200.8 ICP-MS	2		U	*	mg/L	0.0002	0.001	01/30/17 23:07	enb
Tin, dissolved	M200.7 ICP	2		U		mg/L	0.08	0.4	01/24/17 21:22	gss
Titanium, dissolved	M200.7 ICP	2		U	*	mg/L	0.01	0.05	01/24/17 21:22	gss
Uranium, dissolved	M200.8 ICP-MS	2	0.0061			mg/L	0.0002	0.001	01/31/17 14:41	enb
Vanadium, dissolved	M200.7 ICP	2		U		mg/L	0.01	0.05	01/24/17 21:22	gss
Zinc, dissolved	M200.7 ICP	2	0.47			mg/L	0.02	0.1	01/24/17 21:22	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L35145-03***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/21/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			02/02/17 0:00	calc
Sum of Anions			33.0			meq/L			02/02/17 0:00	calc
Sum of Cations			33			meq/L			02/02/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/24/17 14:38	spl
Conductivity @25C	SM2510B	1	3610		*	umhos/cm	1	10	01/21/17 21:10	sck
Fluoride	SM4500F-C	400		U	*	mg/L	20	100	01/26/17 11:18	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		168			mg/L	0.5	10	02/02/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B		mg/L	0.02	0.1	01/28/17 1:36	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/27/17 12:56	bce
pH (lab)	SM4500H+ B									
pH		1	2.3	H	*	units	0.1	0.1	01/21/17 0:00	sck
pH measured at		1	22.0			C	0.1	0.1	01/21/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	5	1.2		*	mg/L	0.1	0.3	01/24/17 15:38	bce
Residue, Filterable (TDS) @180C	SM2540C	1	2270		*	mg/L	10	20	01/20/17 14:58	sck
Sulfate	D516-02/-07 - Turbidimetric	50	1570		*	mg/L	50	250	01/23/17 15:44	bce
TDS (calculated)	Calculation		2160			mg/L			02/02/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.05						02/02/17 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L35145-04***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/24/17 11:35	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.72			mg/L	0.03	0.2	01/24/17 21:25	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0012	B		mg/L	0.0004	0.002	01/31/17 14:44	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0058			mg/L	0.0002	0.001	01/31/17 14:44	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	01/24/17 21:25	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00014	B		mg/L	0.00005	0.0003	01/31/17 14:44	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/24/17 21:25	gss
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	01/24/17 21:25	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/31/17 14:44	enb
Calcium, dissolved	M200.7 ICP	1	0.1	B		mg/L	0.1	0.5	01/24/17 21:25	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:25	gss
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	01/27/17 12:56	gss
Copper, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/24/17 21:25	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:25	gss
Iron, dissolved	M200.7 ICP	1	6.09		*	mg/L	0.02	0.05	01/24/17 21:25	gss
Lead, dissolved	M200.8 ICP-MS	1	0.002			mg/L	0.0001	0.0005	01/31/17 14:44	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/24/17 21:25	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/24/17 21:25	gss
Manganese, dissolved	M200.7 ICP	1	0.027	B		mg/L	0.005	0.03	01/24/17 21:25	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/30/17 15:43	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/24/17 21:25	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/24/17 21:25	gss
Potassium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	01/24/17 21:25	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:25	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	01/31/17 14:44	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/24/17 21:25	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/24/17 21:25	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/24/17 21:25	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	01/31/17 14:44	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/24/17 21:25	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/24/17 21:25	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0036			mg/L	0.0001	0.0005	01/31/17 14:44	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/24/17 21:25	gss
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	01/24/17 21:25	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L35145-04***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/21/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-44.4			%			02/02/17 0:00	calc
Sum of Anions			1.1			meq/L			02/02/17 0:00	calc
Sum of Cations			0.424	B		meq/L			02/02/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/24/17 14:38	spl
Conductivity @25C	SM2510B	1	652		*	umhos/cm	1	10	01/21/17 21:14	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	01/26/17 11:23	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		00.3	B		mg/L	0.2	5	02/02/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B		mg/L	0.02	0.1	01/28/17 1:37	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/27/17 12:57	bce
pH (lab)	SM4500H+ B									
pH		1	3.0	H	*	units	0.1	0.1	01/21/17 0:00	sck
pH measured at		1	22.2			C	0.1	0.1	01/21/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/24/17 15:31	bce
Residue, Filterable (TDS) @180C	SM2540C	1	108		*	mg/L	10	20	01/20/17 15:04	sck
Sulfate	D516-02/-07 - Turbidimetric	5	50.9		*	mg/L	5	25	01/23/17 15:31	bce
TDS (calculated)	Calculation		58.4			mg/L			02/02/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.85						02/02/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L35145-05***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/24/17 11:46	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.46			mg/L	0.03	0.2	01/24/17 21:40	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0004	0.002	01/31/17 14:47	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0002	0.001	01/31/17 14:47	enb
Barium, dissolved	M200.7 ICP	1	0.025			mg/L	0.003	0.02	01/24/17 21:40	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00068			mg/L	0.00005	0.0003	01/31/17 14:47	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/24/17 21:40	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:40	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	01/31/17 14:47	enb
Calcium, dissolved	M200.7 ICP	1	4.6			mg/L	0.1	0.5	01/24/17 21:40	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:40	gss
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	01/27/17 13:05	gss
Copper, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	01/24/17 21:40	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:40	gss
Iron, dissolved	M200.7 ICP	1	0.62		*	mg/L	0.02	0.05	01/24/17 21:40	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	01/31/17 14:47	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/24/17 21:40	gss
Magnesium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	01/24/17 21:40	gss
Manganese, dissolved	M200.7 ICP	1	0.152			mg/L	0.005	0.03	01/24/17 21:40	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/30/17 15:44	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/24/17 21:40	gss
Nickel, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.008	0.04	01/24/17 21:40	gss
Potassium, dissolved	M200.7 ICP	1	0.9	B		mg/L	0.2	1	01/24/17 21:40	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:40	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	01/31/17 14:47	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/24/17 21:40	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/24/17 21:40	gss
Strontium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.005	0.03	01/24/17 21:40	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	01/31/17 14:47	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/24/17 21:40	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/24/17 21:40	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.003			mg/L	0.0001	0.0005	01/31/17 14:47	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/24/17 21:40	gss
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	01/24/17 21:40	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L35145-05***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/21/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-36.8			%			02/02/17 0:00	calc
Sum of Anions			00.9			meq/L			02/02/17 0:00	calc
Sum of Cations			0.416	B		meq/L			02/02/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/24/17 14:38	spl
Conductivity @25C	SM2510B	1	370		*	umhos/cm	1	10	01/21/17 21:19	sck
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	01/26/17 11:29	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		15			mg/L	0.2	5	02/02/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B		mg/L	0.02	0.1	01/28/17 1:38	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/27/17 12:59	bce
pH (lab)	SM4500H+ B									
pH		1	3.3	H	*	units	0.1	0.1	01/21/17 0:00	sck
pH measured at		1	22.2			C	0.1	0.1	01/21/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/24/17 15:32	bce
Residue, Filterable (TDS) @180C	SM2540C	1	102		*	mg/L	10	20	01/20/17 15:06	sck
Sulfate	D516-02/-07 - Turbidimetric	5	40.5		*	mg/L	5	25	01/23/17 15:31	bce
TDS (calculated)	Calculation		48.1			mg/L			02/02/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.12						02/02/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L35145-06***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/24/17 12:09	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.15	B		mg/L	0.03	0.2	01/24/17 21:43	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	01/31/17 14:50	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0002	0.001	01/31/17 14:50	enb
Barium, dissolved	M200.7 ICP	1	0.003	B		mg/L	0.003	0.02	01/24/17 21:43	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00021	B		mg/L	0.00005	0.0003	01/31/17 14:50	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/24/17 21:43	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:43	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/31/17 14:50	enb
Calcium, dissolved	M200.7 ICP	1	5.8			mg/L	0.1	0.5	01/24/17 21:43	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:43	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/27/17 13:08	gss
Copper, dissolved	M200.7 ICP	1	0.35			mg/L	0.01	0.05	01/24/17 21:43	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:43	gss
Iron, dissolved	M200.7 ICP	1	0.41		*	mg/L	0.02	0.05	01/24/17 21:43	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	01/31/17 14:50	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/24/17 21:43	gss
Magnesium, dissolved	M200.7 ICP	1	0.9	B		mg/L	0.2	1	01/24/17 21:43	gss
Manganese, dissolved	M200.7 ICP	1	0.036			mg/L	0.005	0.03	01/24/17 21:43	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/30/17 15:45	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/24/17 21:43	gss
Nickel, dissolved	M200.7 ICP	1	0.066			mg/L	0.008	0.04	01/24/17 21:43	gss
Potassium, dissolved	M200.7 ICP	1	2.3			mg/L	0.2	1	01/24/17 21:43	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:43	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0003	01/31/17 14:50	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/24/17 21:43	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/24/17 21:43	gss
Strontium, dissolved	M200.7 ICP	1	0.071			mg/L	0.005	0.03	01/24/17 21:43	gss
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	01/30/17 23:17	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/24/17 21:43	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/24/17 21:43	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.003			mg/L	0.0001	0.0005	01/31/17 14:50	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/24/17 21:43	gss
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	01/24/17 21:43	gss

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L35145-06***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/21/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-19.9			%			02/02/17 0:00	calc
Sum of Anions			0.716			meq/L			02/02/17 0:00	calc
Sum of Cations			0.478	B		meq/L			02/02/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/24/17 14:38	spl
Conductivity @25C	SM2510B	1	122		*	umhos/cm	1	10	01/21/17 21:23	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	01/26/17 11:41	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		18			mg/L	0.2	5	02/02/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B		mg/L	0.02	0.1	01/28/17 1:40	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/27/17 14:07	bce
pH (lab)	SM4500H+ B									
pH		1	4.1	H	*	units	0.1	0.1	01/21/17 0:00	sck
pH measured at		1	22.2			C	0.1	0.1	01/21/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/24/17 15:34	bce
Residue, Filterable (TDS) @180C	SM2540C	1	62		*	mg/L	10	20	01/20/17 15:09	sck
Sulfate	D516-02/-07 - Turbidimetric	1	34.1		*	mg/L	1	5	01/23/17 15:13	bce
TDS (calculated)	Calculation		44.1			mg/L			02/02/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.41						02/02/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L35145-07***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/24/17 12:31	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	12.2			mg/L	0.03	0.2	01/24/17 21:46	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0018	B		mg/L	0.0004	0.002	01/31/17 14:53	enb
Arsenic, dissolved	M200.8 ICP-MS	1	1.47			mg/L	0.0002	0.001	02/01/17 11:49	enb
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	01/24/17 21:46	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00145			mg/L	0.00005	0.0003	01/31/17 14:53	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/24/17 21:46	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:46	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	01/31/17 14:53	enb
Calcium, dissolved	M200.7 ICP	1	0.9			mg/L	0.1	0.5	01/24/17 21:46	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:46	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	01/27/17 13:11	gss
Copper, dissolved	M200.7 ICP	1	0.24			mg/L	0.01	0.05	01/24/17 21:46	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:46	gss
Iron, dissolved	M200.7 ICP	1	94.2		*	mg/L	0.02	0.05	01/24/17 21:46	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0001	0.0005	01/31/17 14:53	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/24/17 21:46	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/24/17 21:46	gss
Manganese, dissolved	M200.7 ICP	1	0.047			mg/L	0.005	0.03	01/24/17 21:46	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/30/17 15:46	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/24/17 21:46	gss
Nickel, dissolved	M200.7 ICP	1	0.023	B		mg/L	0.008	0.04	01/24/17 21:46	gss
Potassium, dissolved	M200.7 ICP	1	2.6			mg/L	0.2	1	01/24/17 21:46	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:46	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	01/31/17 14:53	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/24/17 21:46	gss
Sodium, dissolved	M200.7 ICP	1	1.1			mg/L	0.2	1	01/24/17 21:46	gss
Strontium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	01/24/17 21:46	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0005	01/31/17 14:53	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/24/17 21:46	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/24/17 21:46	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0038			mg/L	0.0001	0.0005	01/31/17 14:53	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/24/17 21:46	gss
Zinc, dissolved	M200.7 ICP	1	0.52			mg/L	0.01	0.05	01/24/17 21:46	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L35145-07***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/21/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-14.5			%			02/02/17 0:00	calc
Sum of Anions			8.7			meq/L			02/02/17 0:00	calc
Sum of Cations			6.5			meq/L			02/02/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/24/17 14:38	spl
Conductivity @25C	SM2510B	1	1400		*	umhos/cm	1	10	01/21/17 21:27	sck
Fluoride	SM4500F-C	400		U	*	mg/L	20	100	01/26/17 11:47	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.3	B		mg/L	0.2	5	02/02/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	01/28/17 1:46	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/27/17 13:03	bce
pH (lab)	SM4500H+ B									
pH		1	2.8	H	*	units	0.1	0.1	01/21/17 0:00	sck
pH measured at		1	22.2			C	0.1	0.1	01/21/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.34		*	mg/L	0.02	0.05	01/24/17 15:40	bce
Residue, Filterable (TDS) @180C	SM2540C	1	500		*	mg/L	10	20	01/20/17 15:11	sck
Sulfate	D516-02/-07 - Turbidimetric	20	415		*	mg/L	20	100	01/23/17 15:32	bce
TDS (calculated)	Calculation		527			mg/L			02/02/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.95						02/02/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L35145-08***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/24/17 12:42	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	01/24/17 21:49	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0004	0.002	01/31/17 14:57	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0056			mg/L	0.0002	0.001	01/31/17 14:57	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	01/24/17 21:49	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	01/31/17 14:57	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/24/17 21:49	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:49	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/31/17 14:57	enb
Calcium, dissolved	M200.7 ICP	1	1.1			mg/L	0.1	0.5	01/24/17 21:49	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:49	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/27/17 13:20	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:49	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:49	gss
Iron, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.02	0.05	01/24/17 21:49	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	01/31/17 14:57	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/24/17 21:49	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/24/17 21:49	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/24/17 21:49	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/30/17 15:47	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/24/17 21:49	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/24/17 21:49	gss
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/24/17 21:49	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:49	gss
Selenium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0003	01/30/17 23:30	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/24/17 21:49	gss
Sodium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	01/24/17 21:49	gss
Strontium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/24/17 21:49	gss
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	01/30/17 23:30	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/24/17 21:49	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/24/17 21:49	gss
Uranium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	01/30/17 23:30	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/24/17 21:49	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:49	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L35145-08***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	2.0	B		mg/L	2	20	01/21/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Total Alkalinity		1	2.0	B	*	mg/L	2	20	01/21/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			02/02/17 0:00	calc
Sum of Anions			0.176	B		meq/L			02/02/17 0:00	calc
Sum of Cations				U		meq/L			02/02/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/24/17 14:38	spl
Conductivity @25C	SM2510B	1	10.1		*	umhos/cm	1	10	01/21/17 21:36	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	01/26/17 11:52	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.8	B		mg/L	0.2	5	02/02/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B	*	mg/L	0.02	0.1	01/28/17 1:49	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/27/17 13:04	bce
pH (lab)	SM4500H+ B									
pH		1	6.8	H	*	units	0.1	0.1	01/21/17 0:00	sck
pH measured at		1	22.2			C	0.1	0.1	01/21/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/24/17 15:41	bce
Residue, Filterable (TDS) @180C	SM2540C	1	28		*	mg/L	10	20	01/20/17 15:14	sck
Sulfate	D516-02/-07 - Turbidimetric	1	6.5		*	mg/L	1	5	01/23/17 15:13	bce
TDS (calculated)	Calculation		8.85			mg/L			02/02/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		3.16						02/02/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L35145-09***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/24/17 12:54	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	01/24/17 21:52	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	01/31/17 15:06	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0002	0.001	01/31/17 15:06	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	01/24/17 21:52	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.00005	0.0003	01/31/17 15:06	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/24/17 21:52	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:52	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/31/17 15:06	enb
Calcium, dissolved	M200.7 ICP	1	0.7			mg/L	0.1	0.5	01/24/17 21:52	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:52	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/27/17 13:23	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:52	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:52	gss
Iron, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.02	0.05	01/24/17 21:52	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	01/31/17 15:06	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/24/17 21:52	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/24/17 21:52	gss
Manganese, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.005	0.03	01/24/17 21:52	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/30/17 15:48	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/24/17 21:52	gss
Nickel, dissolved	M200.7 ICP	1	0.113			mg/L	0.008	0.04	01/24/17 21:52	gss
Potassium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	01/24/17 21:52	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:52	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0003	01/31/17 15:06	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/24/17 21:52	gss
Sodium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	01/24/17 21:52	gss
Strontium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/24/17 21:52	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	01/31/17 15:06	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/24/17 21:52	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/24/17 21:52	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	01/31/17 15:06	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/24/17 21:52	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:52	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L35145-09***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/21/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			02/02/17 0:00	calc
Sum of Anions			0.1	B		meq/L			02/02/17 0:00	calc
Sum of Cations				U		meq/L			02/02/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/24/17 14:38	spl
Conductivity @25C	SM2510B	1	21.8		*	umhos/cm	1	10	01/21/17 21:41	sck
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	01/26/17 11:58	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.8	B		mg/L	0.2	5	02/02/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	01/28/17 1:51	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/27/17 13:06	bce
pH (lab)	SM4500H+ B									
pH		1	4.9	H	*	units	0.1	0.1	01/21/17 0:00	sck
pH measured at		1	22.3			C	0.1	0.1	01/21/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/24/17 15:42	bce
Residue, Filterable (TDS) @180C	SM2540C	1	36		*	mg/L	10	20	01/20/17 15:17	sck
Sulfate	D516-02/-07 - Turbidimetric	1	6.2		*	mg/L	1	5	01/23/17 15:13	bce
TDS (calculated)	Calculation		7.34			mg/L			02/02/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		4.90						02/02/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L35145-10***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								01/25/17 12:40	bce
Cyanide, WAD	SM4500-CN I- distillation				*				01/26/17 14:28	bce
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								01/24/17 13:05	krh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.88			mg/L	0.03	0.2	01/24/17 21:55	gss
Antimony, dissolved	M200.8 ICP-MS	2		U	*	mg/L	0.0008	0.004	01/31/17 15:09	enb
Arsenic, dissolved	M200.8 ICP-MS	2	0.0006	B	*	mg/L	0.0004	0.002	01/31/17 15:09	enb
Barium, dissolved	M200.7 ICP	1	0.030			mg/L	0.003	0.02	01/24/17 21:55	gss
Beryllium, dissolved	M200.8 ICP-MS	2	0.0001	B	*	mg/L	0.0001	0.0005	01/31/17 15:09	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/24/17 21:55	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/24/17 21:55	gss
Cadmium, dissolved	M200.8 ICP-MS	2	0.0009	B	*	mg/L	0.0002	0.001	01/31/17 15:09	enb
Calcium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.1	0.5	01/24/17 21:55	gss
Chromium, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	01/24/17 21:55	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	01/27/17 13:26	gss
Copper, dissolved	M200.7 ICP	1	0.20			mg/L	0.01	0.05	01/24/17 21:55	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:55	gss
Iron, dissolved	M200.7 ICP	1	2.18			mg/L	0.02	0.05	01/24/17 21:55	gss
Lead, dissolved	M200.8 ICP-MS	2	0.0014			mg/L	0.0002	0.001	01/31/17 15:09	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/24/17 21:55	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	01/24/17 21:55	gss
Manganese, dissolved	M200.7 ICP	1	0.046			mg/L	0.005	0.03	01/24/17 21:55	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	01/30/17 15:49	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	01/24/17 21:55	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	01/24/17 21:55	gss
Potassium, dissolved	M200.7 ICP	1	2.5			mg/L	0.2	1	01/24/17 21:55	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/24/17 21:55	gss
Selenium, dissolved	M200.8 ICP-MS	2	0.0004	B	*	mg/L	0.0002	0.0005	01/31/17 15:09	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/24/17 21:55	gss
Sodium, dissolved	M200.7 ICP	1	0.5	B	*	mg/L	0.2	1	01/24/17 21:55	gss
Strontium, dissolved	M200.7 ICP	1	0.013	B	*	mg/L	0.005	0.03	01/24/17 21:55	gss
Thallium, dissolved	M200.8 ICP-MS	2	0.0019			mg/L	0.0002	0.001	01/31/17 15:09	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	01/24/17 21:55	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/24/17 21:55	gss
Uranium, dissolved	M200.8 ICP-MS	2	0.0012			mg/L	0.0002	0.001	01/31/17 15:09	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	01/24/17 21:55	gss
Zinc, dissolved	M200.7 ICP	1	0.14			mg/L	0.01	0.05	01/24/17 21:55	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L35145-10***
Date Sampled: *01/18/17 00:00*
Date Received: *01/19/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	01/21/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	01/21/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-35.4			%			02/02/17 0:00	calc
Sum of Anions			0.838			meq/L			02/02/17 0:00	calc
Sum of Cations			0.4	B		meq/L			02/02/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/24/17 14:38	spl
Conductivity @25C	SM2510B	1	378		*	umhos/cm	1	10	01/21/17 22:15	sck
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	01/26/17 22:18	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	01/26/17 22:48	pjb
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	01/26/17 12:15	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.749	B		mg/L	0.2	5	02/02/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.12		*	mg/L	0.02	0.1	01/28/17 1:53	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/27/17 13:07	bce
pH (lab)	SM4500H+ B									
pH		1	3.2	H	*	units	0.1	0.1	01/21/17 0:00	sck
pH measured at		1	21.8			C	0.1	0.1	01/21/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/24/17 15:43	bce
Residue, Filterable (TDS) @180C	SM2540C	1	120		*	mg/L	10	20	01/20/17 15:19	sck
Sulfate	D516-02/-07 - Turbidimetric	5	39.9		*	mg/L	5	25	01/23/17 15:20	bce
TDS (calculated)	Calculation		47.7			mg/L			02/02/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.52						02/02/17 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L35145***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416649													
WG416649PBW1	PBW	01/21/17 15:31				U	mg/L		-20	20			
WG416649LCSW3	LCSW	01/21/17 15:49	WC170107-6	820.0001		815	mg/L	99	90	110			
WG416649LCSW6	LCSW	01/21/17 19:11	WC170107-6	820.0001		821	mg/L	100	90	110			
WG416649PBW2	PBW	01/21/17 19:18				U	mg/L		-20	20			
L35145-09DUP	DUP	01/21/17 21:46			U	U	mg/L				0	20	RA
WG416649LCSW9	LCSW	01/21/17 22:04	WC170107-6	820.0001		823	mg/L	100	90	110			
WG416649PBW3	PBW	01/21/17 22:10				U	mg/L		-20	20			
L35154-02DUP	DUP	01/21/17 23:41			38.6	38.5	mg/L				0	20	
WG416649LCSW12	LCSW	01/22/17 1:28	WC170107-6	820.0001		830	mg/L	101	90	110			
WG416649PBW4	PBW	01/22/17 1:36				2.2	mg/L		-20	20			
WG416649LCSW15	LCSW	01/22/17 2:33	WC170107-6	820.0001		830	mg/L	101	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		2.009	mg/L	100	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.09	0.09			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	1.0013		.981	mg/L	98	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	1.0013	.72	1.691	mg/L	97	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	1.0013	.72	1.697	mg/L	98	85	115	0	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	1.0013	U	1.032	mg/L	103	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	1.0013	U	1.024	mg/L	102	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG417135													
WG417135ICV	ICV	01/31/17 14:25	MS161128-3	.02		.02135	mg/L	107	90	110			
WG417135ICB	ICB	01/31/17 14:28				.0006	mg/L		-0.0012	0.0012			
WG417135LFB	LFB	01/31/17 14:31	MS170117-3	.009980001		.00967	mg/L	97	85	115			
L35145-10AS	AS	01/31/17 15:13	MS170117-3	.019960002	U	.01752	mg/L	88	70	130			
L35145-10ASD	ASD	01/31/17 15:16	MS170117-3	.019960002	U	.01896	mg/L	95	70	130	8	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG417135													
WG417135ICV	ICV	01/31/17 14:25	MS161128-3	.05		.05499	mg/L	110	90	110			
WG417135ICB	ICB	01/31/17 14:28				U	mg/L		-0.0006	0.0006			
WG417135LFB	LFB	01/31/17 14:31	MS170117-3	.0501		.05069	mg/L	101	85	115			
L35145-10AS	AS	01/31/17 15:13	MS170117-3	.1002	.0006	.08626	mg/L	85	70	130			
L35145-10ASD	ASD	01/31/17 15:16	MS170117-3	.1002	.0006	.09196	mg/L	91	70	130	6	20	
WG417196													
WG417196ICV	ICV	02/01/17 11:27	MS161128-3	.05		.05113	mg/L	102	90	110			
WG417196ICB	ICB	02/01/17 11:30				U	mg/L		-0.0006	0.0006			
WG417196LFB	LFB	02/01/17 11:33	MS170117-3	.0501		.04468	mg/L	89	85	115			
L35195-03AS	AS	02/01/17 12:14	MS170117-3	.0501	U	.05301	mg/L	106	70	130			
L35195-03ASD	ASD	02/01/17 12:17	MS170117-3	.0501	U	.05261	mg/L	105	70	130	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L35145***

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.9318	mg/L	97	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.009	0.009			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	.5005		.4883	mg/L	98	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	.5005	U	.4869	mg/L	97	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	.5005	U	.4954	mg/L	99	85	115	2	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	.5005	.131	.6251	mg/L	99	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	.5005	.131	.6159	mg/L	97	85	115	1	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG417135													
WG417135ICV	ICV	01/31/17 14:25	MS161128-3	.05		.04953	mg/L	99	90	110			
WG417135ICB	ICB	01/31/17 14:28				U	mg/L		-0.00015	0.00015			
WG417135LFB	LFB	01/31/17 14:31	MS170117-3	.05035		.0511	mg/L	101	85	115			
L35145-10AS	AS	01/31/17 15:13	MS170117-3	.1007	.0001	.08204	mg/L	81	70	130			
L35145-10ASD	ASD	01/31/17 15:16	MS170117-3	.1007	.0001	.08564	mg/L	85	70	130	4	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.932	mg/L	97	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.12	0.12			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	1		.985	mg/L	99	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	1	U	1	mg/L	100	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	1	U	.982	mg/L	98	85	115	2	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	1	U	.998	mg/L	100	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	1	U	.989	mg/L	99	85	115	1	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		2.007	mg/L	100	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.03	0.03			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	.5005		.512	mg/L	102	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	.5005	.01	.513	mg/L	100	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	.5005	.01	.517	mg/L	101	85	115	1	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	.5005	.26	.763	mg/L	100	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	.5005	.26	.75	mg/L	98	85	115	2	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG417135													
WG417135ICV	ICV	01/31/17 14:25	MS161128-3	.05		.05232	mg/L	105	90	110			
WG417135ICB	ICB	01/31/17 14:28				U	mg/L		-0.0003	0.0003			
WG417135LFB	LFB	01/31/17 14:31	MS170117-3	.05005		.05204	mg/L	104	85	115			
L35145-10AS	AS	01/31/17 15:13	MS170117-3	.1001	.0009	.08946	mg/L	88	70	130			
L35145-10ASD	ASD	01/31/17 15:16	MS170117-3	.1001	.0009	.09424	mg/L	93	70	130	5	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L35145***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	100		98.39	mg/L	98	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.3	0.3			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	67.99026		66.87	mg/L	98	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	67.99026	.1	67.94	mg/L	100	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	67.99026	.1	68.03	mg/L	100	85	115	0	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	67.99026	149	209.9	mg/L	90	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	67.99026	149	207.5	mg/L	86	85	115	1	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416761													
WG416761ICB	ICB	01/24/17 12:58				U	mg/L		-1.5	1.5			
WG416761ICV	ICV	01/24/17 12:58	WI160701-1	55.055		56.87	mg/L	103	90	110			
WG416761LFB1	LFB	01/24/17 13:09	WI161020-2	30.03		31.88	mg/L	106	90	110			
WG416761LFB2	LFB	01/24/17 14:17	WI161020-2	30.03		32.27	mg/L	107	90	110			
L35145-09AS	AS	01/24/17 14:38	WI161020-2	30.03	U	33.44	mg/L	111	90	110			M1
L35145-10DUP	DUP	01/24/17 14:38			U	U	mg/L				0	20	RA

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.92	mg/L	96	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.03	0.03			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	.5025		.503	mg/L	100	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	.5025	U	.501	mg/L	100	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	.5025	U	.5	mg/L	100	85	115	0	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	.5025	U	.493	mg/L	98	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	.5025	U	.491	mg/L	98	85	115	0	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416836													
WG416836ICV	ICV	01/27/17 12:26	II161209-1	2.002		1.96	mg/L	98	95	105			
WG416836ICB	ICB	01/27/17 12:32				U	mg/L		-0.03	0.03			
WG416836LFB	LFB	01/27/17 12:44	II170123-2	.5025		.499	mg/L	99	85	115			
L35145-04AS	AS	01/27/17 12:59	II170123-2	.5025	.01	.498	mg/L	97	85	115			
L35145-04ASD	ASD	01/27/17 13:02	II170123-2	.5025	.01	.508	mg/L	99	85	115	2	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416649													
WG416649LCSW2	LCSW	01/21/17 15:36	PCN51546	1410		1500	umhos/cm	106	90	110			
WG416649LCSW5	LCSW	01/21/17 18:59	PCN51546	1410		1440	umhos/cm	102	90	110			
L35145-09DUP	DUP	01/21/17 21:46			21.8	21.2	umhos/cm				3	20	
WG416649LCSW8	LCSW	01/21/17 21:50	PCN51546	1410		1470	umhos/cm	104	90	110			
L35154-02DUP	DUP	01/21/17 23:41			863	861	umhos/cm				0	20	
WG416649LCSW11	LCSW	01/22/17 1:15	PCN51546	1410		1370	umhos/cm	97	90	110			
WG416649LCSW14	LCSW	01/22/17 2:21	PCN51546	1410		1330	umhos/cm	94	90	110			

McClelland Laboratories, Inc. ACZ Project ID: ***L35145***

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.966	mg/L	98	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.03	0.03			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	.5005		.493	mg/L	99	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	.5005	.02	.514	mg/L	99	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	.5005	.02	.521	mg/L	100	85	115	1	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	.5005	U	.5	mg/L	100	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	.5005	U	.49	mg/L	98	85	115	2	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416959													
WG416959ICV	ICV	01/26/17 21:29	WI170118-6	.3006		.2891	mg/L	96	90	110			
WG416959ICB	ICB	01/26/17 21:30				U	mg/L		-0.003	0.003			
WG416961													
WG416826LRB	LRB	01/26/17 22:06				U	mg/L		-0.003	0.003			
WG416826LFB	LFB	01/26/17 22:07	WI170118-2	.2		.1954	mg/L	98	90	110			
L35105-01DUP	DUP	01/26/17 22:08			U	U	mg/L				0	20	RA
L35105-02LFM	LFM	01/26/17 22:10	WI170118-2	.2	U	.1899	mg/L	95	90	110			

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416959													
WG416959ICV	ICV	01/26/17 21:29	WI170118-6	.3006		.2891	mg/L	96	90	110			
WG416959ICB	ICB	01/26/17 21:30				U	mg/L		-0.003	0.003			
WG416962													
WG416943LRB	LRB	01/26/17 22:46				U	mg/L		-0.003	0.003			
WG416943LFB	LFB	01/26/17 22:47	WI170118-4	.2004		.1913	mg/L	95	90	110			
L35153-01DUP	DUP	01/26/17 22:49			U	U	mg/L				0	20	RA
L35154-01LFM	LFM	01/26/17 23:13	WI170118-4	.2004	.007	.2024	mg/L	98	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416897													
WG416897ICV	ICV	01/26/17 9:58	WC170120-7	2.006		2.026	mg/L	101	95	105			
WG416897ICB	ICB	01/26/17 10:02				U	mg/L		-0.15	0.15			
WG416897LFB1	LFB	01/26/17 10:09	WC160923-7	4.995		4.884	mg/L	98	90	110			
L35120-01AS	AS	01/26/17 10:29	WC160923-7	399.6	16	394.3	mg/L	95	90	110			
L35120-01DUP	DUP	01/26/17 10:34			16	19.2	mg/L				18	20	RA
L35145-05AS	AS	01/26/17 11:32	WC160923-7	399.6	U	374.5	mg/L	94	90	110			
L35145-05DUP	DUP	01/26/17 11:36			U	4.5	mg/L				200	20	RA
WG416897LFB2	LFB	01/26/17 12:44	WC160923-7	4.995		4.638	mg/L	93	90	110			

McClelland Laboratories, Inc.

ACZ Project ID: ***L35145***

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.94	mg/L	97	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.3	0.3			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	1		.99	mg/L	99	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	1	U	1.01	mg/L	101	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	1	U	1	mg/L	100	85	115	1	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	1	U	.99	mg/L	99	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	1	U	.99	mg/L	99	85	115	0	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.965	mg/L	98	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.06	0.06			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	1.0017		1.022	mg/L	102	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	1.0017	6.09	6.696	mg/L	60	85	115			M3
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	1.0017	6.09	6.706	mg/L	61	85	115	0	20	M3
L35150-04AS	AS	01/24/17 22:17	II170123-2	1.0017	.35	1.339	mg/L	99	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	1.0017	.35	1.328	mg/L	98	85	115	1	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG417135													
WG417135ICV	ICV	01/31/17 14:25	MS161128-3	.05		.05243	mg/L	105	90	110			
WG417135ICB	ICB	01/31/17 14:28				U	mg/L		-0.0003	0.0003			
WG417135LFB	LFB	01/31/17 14:31	MS170117-3	.0501		.05495	mg/L	110	85	115			
L35145-10AS	AS	01/31/17 15:13	MS170117-3	.1002	.0014	.0877	mg/L	86	70	130			
L35145-10ASD	ASD	01/31/17 15:16	MS170117-3	.1002	.0014	.0933	mg/L	92	70	130	6	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.9538	mg/L	98	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.024	0.024			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	1.001		.9485	mg/L	95	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	1.001	U	.943	mg/L	94	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	1.001	U	.9477	mg/L	95	85	115	0	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	1.001	.227	1.186	mg/L	96	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	1.001	.227	1.176	mg/L	95	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L35145***

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	100		97.51	mg/L	98	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.6	0.6			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	50.00074		44.44	mg/L	89	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	50.00074	U	45.45	mg/L	91	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	50.00074	U	45.84	mg/L	92	85	115	1	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	50.00074	68.6	113.2	mg/L	89	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	50.00074	68.6	111.9	mg/L	87	85	115	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.914	mg/L	96	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.015	0.015			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	.5		.5107	mg/L	102	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	.5	.027	.5382	mg/L	102	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	.5	.027	.5467	mg/L	104	85	115	2	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	.5	.478	.9733	mg/L	99	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	.5	.478	.9616	mg/L	97	85	115	1	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG417030													
WG417030ICV	ICV	01/30/17 15:27	HG170127-2	.005005		.00519	mg/L	104	95	105			
WG417030ICB	ICB	01/30/17 15:28				U	mg/L		-0.0002	0.0002			
WG417030LRB	LRB	01/30/17 15:29				U	mg/L		-0.00044	0.00044			
WG417030LFB	LFB	01/30/17 15:30	HG170110-2	.002002		.00194	mg/L	97	85	115			
L35119-05LFM	LFM	01/30/17 15:35	HG170110-2	.002002	U	.00192	mg/L	96	85	115			
L35119-05LFMD	LFMD	01/30/17 15:36	HG170110-2	.002002	U	.00194	mg/L	97	85	115	1	20	
L35145-10LFM	LFM	01/30/17 15:52	HG170110-2	.002002	U	.00205	mg/L	102	85	115			
L35145-10LFMD	LFMD	01/30/17 15:53	HG170110-2	.002002	U	.00204	mg/L	102	85	115	0	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.991	mg/L	100	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.06	0.06			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	.4995		.493	mg/L	99	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	.4995	U	.489	mg/L	98	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	.4995	U	.487	mg/L	97	85	115	0	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	.4995	.03	.512	mg/L	96	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	.4995	.03	.509	mg/L	96	85	115	1	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2.002		1.9722	mg/L	99	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.024	0.024			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	.498		.5018	mg/L	101	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	.498	U	.5088	mg/L	102	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	.498	U	.5105	mg/L	103	85	115	0	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	.498	U	.494	mg/L	99	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	.498	U	.4873	mg/L	98	85	115	1	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG417019													
WG417019ICV	ICV	01/28/17 0:12	WI161209-3	2.416		2.531	mg/L	105	90	110			
WG417019ICB	ICB	01/28/17 0:13				U	mg/L		-0.02	0.02			
WG417019LFB1	LFB	01/28/17 0:17	WI170104-22	2		2.117	mg/L	106	90	110			
L35105-02AS	AS	01/28/17 0:39	WI170104-22	2	.13	2.241	mg/L	106	90	110			
L35105-03DUP	DUP	01/28/17 0:41			1.3	1.352	mg/L				4	20	
WG417019ICV1	ICV	01/28/17 1:27	WI161209-3	2.416		2.357	mg/L	98	90	110			
WG417019ICB1	ICB	01/28/17 1:28				U	mg/L		-0.02	0.02			
WG417019LFB2	LFB	01/28/17 1:41	WI170104-22	2		1.96	mg/L	98	90	110			
L35145-07AS	AS	01/28/17 1:47	WI170104-22	2	.03	2.022	mg/L	100	90	110			
L35145-08DUP	DUP	01/28/17 1:50			.05	.048	mg/L				4	20	RA

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416988													
WG416988ICV	ICV	01/27/17 12:17	WI170103-8	11.988		11.707	mg/L	98	90	110			
WG416988ICB	ICB	01/27/17 12:19				U	mg/L		-0.05	0.05			
WG416988LFB1	LFB	01/27/17 12:20	WI161026-1	10		9.749	mg/L	97	90	110			
L35121-03AS	AS	01/27/17 12:43	WI161026-1	10	U	10.227	mg/L	102	90	110			
L35138-01DUP	DUP	01/27/17 12:46			.08	.074	mg/L				8	20	RA
WG416988LFB2	LFB	01/27/17 13:02	WI161026-1	10		9.648	mg/L	96	90	110			
L35151-06AS	AS	01/27/17 13:54	WI161026-1	10	U	9.767	mg/L	98	90	110			
L35151-07DUP	DUP	01/27/17 13:57			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416649													
WG416649LCSW1	LCSW	01/21/17 15:34	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG416649LCSW4	LCSW	01/21/17 18:57	PCN51287	6.01		6.1	units	101	5.9	6.1			
L35145-09DUP	DUP	01/21/17 21:46			4.9	4.9	units				0	20	
WG416649LCSW7	LCSW	01/21/17 21:49	PCN51287	6.01		6.1	units	101	5.9	6.1			
L35154-02DUP	DUP	01/21/17 23:41			8	8	units				0	20	
WG416649LCSW10	LCSW	01/22/17 1:13	PCN51287	6.01		6	units	100	5.9	6.1			
WG416649LCSW13	LCSW	01/22/17 2:19	PCN51287	6.01		6.1	units	101	5.9	6.1			

McClelland Laboratories, Inc.

ACZ Project ID: ***L35145***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416759													
WG416759ICV	ICV	01/24/17 12:49	WI161219-1	.65228		.66	mg/L	101	90	110			
WG416759ICB	ICB	01/24/17 12:51				U	mg/L		-0.02	0.02			
WG416775													
WG416723LRB	LRB	01/24/17 15:11				U	mg/L		-0.02	0.02			
WG416723LFB	LFB	01/24/17 15:12	WI170111-6	.5		.51	mg/L	102	90	110			
L35098-07DUP	DUP	01/24/17 15:17			U	U	mg/L				0	20	RA
L35098-06LFM	LFM	01/24/17 15:19	WI170111-6	.5	.15	.661	mg/L	102	90	110			
L35145-05LFM	LFM	01/24/17 15:33	WI170111-6	.5	U	.513	mg/L	103	90	110			
L35145-06DUP	DUP	01/24/17 15:37			U	U	mg/L				0	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	20		19.62	mg/L	98	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.6	0.6			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	99.96532		95.87	mg/L	96	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	99.96532	.5	96.6	mg/L	96	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	99.96532	.5	96.6	mg/L	96	85	115	0	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	99.96532	28.3	124.9	mg/L	97	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	99.96532	28.3	123.7	mg/L	95	85	115	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416627													
WG416627PBW	PBW	01/20/17 14:30				14	mg/L		-20	20			
WG416627LCSW	LCSW	01/20/17 14:32	PCN52088	260		274	mg/L	105	80	120			
L35145-03DUP	DUP	01/20/17 15:01			2270	2270	mg/L				0	10	
L35151-04DUP	DUP	01/20/17 15:30			24	38	mg/L				45	10	RA

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.95	mg/L	98	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.3	0.3			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	.9868		.96	mg/L	97	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	.9868	U	.96	mg/L	97	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	.9868	U	.96	mg/L	97	85	115	0	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	.9868	U	.97	mg/L	98	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	.9868	U	.96	mg/L	97	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L35145***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG417082													
WG417082ICV	ICV	01/30/17 22:45	MS161128-3	.05		.05354	mg/L	107	90	110			
WG417082ICB	ICB	01/30/17 22:48				U	mg/L		-0.0003	0.0003			
WG417082LFB	LFB	01/30/17 22:51	MS170117-3	.05005		.04579	mg/L	91	85	115			
L35145-08AS	AS	01/30/17 23:33	MS170117-3	.05005	U	.05515	mg/L	110	70	130			
L35145-08ASD	ASD	01/30/17 23:36	MS170117-3	.05005	U	.0492	mg/L	98	70	130	11	20	
WG417135													
WG417135ICV	ICV	01/31/17 14:25	MS161128-3	.05		.04912	mg/L	98	90	110			
WG417135ICB	ICB	01/31/17 14:28				U	mg/L		-0.0003	0.0003			
WG417135LFB	LFB	01/31/17 14:31	MS170117-3	.05005		.04465	mg/L	89	85	115			
L35145-10AS	AS	01/31/17 15:13	MS170117-3	.1001	.0004	.08686	mg/L	86	70	130			
L35145-10ASD	ASD	01/31/17 15:16	MS170117-3	.1001	.0004	.08658	mg/L	86	70	130	0	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	1.002		.983	mg/L	98	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.03	0.03			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	.501		.488	mg/L	97	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	.501	U	.36	mg/L	72	85	115			M2 ZA
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	.501	U	.366	mg/L	73	85	115	2	20	M2 ZA
L35150-04AS	AS	01/24/17 22:17	II170123-2	.501	U	.394	mg/L	79	85	115			M2 ZA
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	.501	U	.393	mg/L	78	85	115	0	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	100		99.65	mg/L	100	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.6	0.6			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	100.0322		97.17	mg/L	97	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	100.0322	U	97.63	mg/L	98	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	100.0322	U	97.9	mg/L	98	85	115	0	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	100.0322	411	481.6	mg/L	71	85	115			M3
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	100.0322	411	481.1	mg/L	70	85	115	0	20	M3

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.9588	mg/L	98	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.015	0.015			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	.5015		.4827	mg/L	96	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	.5015	U	.4862	mg/L	97	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	.5015	U	.4858	mg/L	97	85	115	0	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	.5015	1.39	1.823	mg/L	86	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	.5015	1.39	1.799	mg/L	82	85	115	1	20	MA

McClelland Laboratories, Inc. ACZ Project ID: ***L35145***

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416688													
WG416688ICB	ICB	01/23/17 11:52				U	mg/L		-3	3			
WG416688ICV	ICV	01/23/17 11:52	WI170113-1	20		19.5	mg/L	98	90	110			
WG416688LFB	LFB	01/23/17 14:01	WI160815-8	10		9.8	mg/L	98	90	110			
L35145-02DUP	DUP	01/23/17 15:13			12.3	12.6	mg/L				2	20	
L35145-03AS	AS	01/23/17 15:44	SO4TURB50X	10	1570	1770	mg/L	2000	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG417082													
WG417082ICV	ICV	01/30/17 22:45	MS161128-3	.05		.05455	mg/L	109	90	110			
WG417082ICB	ICB	01/30/17 22:48				U	mg/L		-0.0003	0.0003			
WG417082LFB	LFB	01/30/17 22:51	MS170117-3	.0501		.04953	mg/L	99	85	115			
L35145-08AS	AS	01/30/17 23:33	MS170117-3	.0501	U	.05352	mg/L	107	70	130			
L35145-08ASD	ASD	01/30/17 23:36	MS170117-3	.0501	U	.05162	mg/L	103	70	130	4	20	
WG417135													
WG417135ICV	ICV	01/31/17 14:25	MS161128-3	.05		.05484	mg/L	110	90	110			
WG417135ICB	ICB	01/31/17 14:28				U	mg/L		-0.0003	0.0003			
WG417135LFB	LFB	01/31/17 14:31	MS170117-3	.0501		.05275	mg/L	105	85	115			
L35145-10AS	AS	01/31/17 15:13	MS170117-3	.1002	.0019	.09304	mg/L	91	70	130			
L35145-10ASD	ASD	01/31/17 15:16	MS170117-3	.1002	.0019	.09774	mg/L	96	70	130	5	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.95	mg/L	98	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.12	0.12			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	1.001		.962	mg/L	96	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	1.001	U	.963	mg/L	96	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	1.001	U	.975	mg/L	97	85	115	1	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	1.001	U	.941	mg/L	94	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	1.001	U	.935	mg/L	93	85	115	1	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.9368	mg/L	97	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.015	0.015			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	1.002		.9702	mg/L	97	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	1.002	U	.9722	mg/L	97	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	1.002	U	.9775	mg/L	98	85	115	1	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	1.002	U	.983	mg/L	98	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	1.002	U	.9709	mg/L	97	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L35145***

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG417082													
WG417082ICV	ICV	01/30/17 22:45	MS161128-3	.05		.05316	mg/L	106	90	110			
WG417082ICB	ICB	01/30/17 22:48				U	mg/L		-0.0003	0.0003			
WG417082LFB	LFB	01/30/17 22:51	MS170117-3	.05		.04969	mg/L	99	85	115			
L35145-08AS	AS	01/30/17 23:33	MS170117-3	.05	U	.0538	mg/L	108	70	130			
L35145-08ASD	ASD	01/30/17 23:36	MS170117-3	.05	U	.05084	mg/L	102	70	130	6	20	
WG417135													
WG417135ICV	ICV	01/31/17 14:25	MS161128-3	.05		.05307	mg/L	106	90	110			
WG417135ICB	ICB	01/31/17 14:28				U	mg/L		-0.0003	0.0003			
WG417135LFB	LFB	01/31/17 14:31	MS170117-3	.05		.05291	mg/L	106	85	115			
L35145-10AS	AS	01/31/17 15:13	MS170117-3	.1	.0012	.0903	mg/L	89	70	130			
L35145-10ASD	ASD	01/31/17 15:16	MS170117-3	.1	.0012	.09448	mg/L	93	70	130	5	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.974	mg/L	99	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.015	0.015			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	.4985		.4899	mg/L	98	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	.4985	U	.492	mg/L	99	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	.4985	U	.4958	mg/L	99	85	115	1	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	.4985	U	.4933	mg/L	99	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	.4985	U	.487	mg/L	98	85	115	1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416755													
WG416755ICV	ICV	01/24/17 20:45	II161209-1	2		1.948	mg/L	97	95	105			
WG416755ICB	ICB	01/24/17 20:51				U	mg/L		-0.03	0.03			
WG416755LFB	LFB	01/24/17 21:04	II170123-2	.4942		.492	mg/L	100	85	115			
L35145-04AS	AS	01/24/17 21:28	II170123-2	.4942	.01	.513	mg/L	102	85	115			
L35145-04ASD	ASD	01/24/17 21:31	II170123-2	.4942	.01	.507	mg/L	101	85	115	1	20	
L35150-04AS	AS	01/24/17 22:17	II170123-2	.4942	U	.49	mg/L	99	85	115			
L35150-04ASD	ASD	01/24/17 22:20	II170123-2	.4942	U	.488	mg/L	99	85	115	0	20	

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L35145***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35145-01	WG416755	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416761	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416897	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416988	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416775	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416627	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG416688	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG416649	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L35145***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35145-02	WG416755	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416761	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416897	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416988	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416775	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416627	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG416688	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG416649	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L35145***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35145-03	WG416755	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG417082	Thallium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG416761	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416897	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416988	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416775	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416627	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG416688	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG416649	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35145-04	WG416755	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416761	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416897	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416988	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416775	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416627	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416688	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG416649	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35145-05	WG416755	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416761	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416897	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416988	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416775	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416627	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416688	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG416649	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35145-06	WG416755	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG417082	Thallium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG416761	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416897	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416988	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416775	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416627	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416688	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG416649	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L35145***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35145-07	WG416755	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG416761	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416897	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG417019	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416988	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416775	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416627	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416688	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG416649	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35145-08	WG417082	Selenium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG416755	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG417082	Thallium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
		Uranium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG416761	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416897	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG417019	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416988	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416775	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416627	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416688	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG416649	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L35145***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35145-09	WG416755	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG416761	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416897	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG417019	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416988	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416775	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416627	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416688	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG416649	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35145-10	WG417135	Antimony, dissolved	M200.8 ICP-MS	DJ	Sample dilution required due to insufficient sample.
		Arsenic, dissolved	M200.8 ICP-MS	DJ	Sample dilution required due to insufficient sample.
		Beryllium, dissolved	M200.8 ICP-MS	DJ	Sample dilution required due to insufficient sample.
		Cadmium, dissolved	M200.8 ICP-MS	DJ	Sample dilution required due to insufficient sample.
		Selenium, dissolved	M200.8 ICP-MS	DJ	Sample dilution required due to insufficient sample.
	WG416755	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Strontium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG416761	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416961	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416962	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416897	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG417019	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416988	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416649	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG416775	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416627	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG416688	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG416649	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

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Sample Receipt

McClelland Laboratories, Inc.
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ACZ Project ID: L35145
Date Received: 01/19/2017 10:11
Received By:
Date Printed: 1/19/2017

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA25419	3.4	<=6.0	16	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

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Sample Receipt

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3981

ACZ Project ID:	L35145
Date Received:	01/19/2017 10:11
Received By:	
Date Printed:	1/19/2017

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc.

L35145

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	1/18/17	WW	1	x							
CAL-004 (860-875)		WW	1	x							
CAL-003 (675-685)		WW	1	x							
GMC-012 (832-851)		WW	1	x							
CAL-004 (295-315)		WW	1	x							
CAL-001 (750-762)		WW	1	x							
GMC-014 (176-184)		WW	1	x							
CAL-001 (380-400)		WW	1	x							
CAL-002 (177-187)		WW	1	x							
Calico Leach Res. after CN Destruct		WW	1	x	x	x					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 60
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[illegible]	1/18/17 9AM	EJS	1/19/17 1010

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L35145 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.005 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Dissociable	SM 4500	0.005 mg/L	0.01 mg/L	dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

****Gray out Analyses DOESN'T get done on all Samples, just 1 of the Sample SEE COC****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

March 09, 2017

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L35597

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 16, 2017. This project has been assigned to ACZ's project number, L35597. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L35597. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 08, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L35597-01***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/21/17 14:14	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.97			mg/L	0.03	0.2	02/22/17 15:33	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.010			mg/L	0.0004	0.002	02/22/17 11:25	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0433			mg/L	0.0002	0.001	02/22/17 11:25	msh
Barium, dissolved	M200.7 ICP	1	0.067			mg/L	0.003	0.02	02/23/17 12:30	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00014	B		mg/L	0.00005	0.0003	02/23/17 18:34	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/23/17 12:30	aeb
Boron, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	02/22/17 15:33	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	02/22/17 11:25	msh
Calcium, dissolved	M200.7 ICP	1	0.8			mg/L	0.1	0.5	02/22/17 15:33	gss
Chromium, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	02/22/17 15:33	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 15:33	gss
Copper, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	02/22/17 15:33	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 15:33	gss
Iron, dissolved	M200.7 ICP	1	6.20			mg/L	0.02	0.05	02/22/17 15:33	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	02/22/17 11:25	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/22/17 15:33	gss
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	02/22/17 15:33	gss
Manganese, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	02/22/17 15:33	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	02/28/17 14:55	pta
Mercury, total	M1631, Atomic Fluorescence	5	53			ng/L	1	3	03/02/17 13:30	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/22/17 15:33	gss
Nickel, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.008	0.04	02/22/17 15:33	gss
Potassium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	02/22/17 15:33	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 15:33	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	02/22/17 11:25	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/22/17 15:33	gss
Sodium, dissolved	M200.7 ICP	1	1.5			mg/L	0.2	1	02/22/17 15:33	gss
Strontium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.005	0.03	02/22/17 15:33	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0001	0.0005	02/22/17 11:25	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/22/17 15:33	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/22/17 15:33	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	02/22/17 11:25	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/22/17 15:33	gss
Zinc, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	02/22/17 15:33	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L35597-01***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	02/18/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	02/18/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	02/18/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	02/18/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-19.2			%			03/09/17 0:00	calc
Sum of Anions			0.825			meq/L			03/09/17 0:00	calc
Sum of Cations			0.559			meq/L			03/09/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/24/17 14:30	spl
Conductivity @25C	SM2510B	1	327		*	umhos/cm	1	10	02/18/17 4:49	abd
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	02/23/17 13:23	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.0	B		mg/L	0.2	5	03/09/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B		mg/L	0.02	0.1	02/24/17 23:22	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	02/23/17 12:20	spl
pH (lab)	SM4500H+ B									
pH		1	3.1	H	*	units	0.1	0.1	02/18/17 0:00	abd
pH measured at		1	23.7			C	0.1	0.1	02/18/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	02/23/17 23:00	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	70		*	mg/L	10	20	02/21/17 15:24	abd
Sulfate	D516-02/-07 - Turbidimetric	5	39.3		*	mg/L	5	25	02/23/17 13:54	bce
TDS (calculated)	Calculation		49.4			mg/L			03/09/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.42						03/09/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L35597-02***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/21/17 14:28	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.16	B		mg/L	0.03	0.2	02/22/17 15:36	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0004	0.002	02/22/17 11:27	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0002	0.001	02/22/17 11:27	msh
Barium, dissolved	M200.7 ICP	1	0.088			mg/L	0.003	0.02	02/23/17 12:33	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00041			mg/L	0.00005	0.0003	02/23/17 18:37	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/23/17 12:33	aeb
Boron, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	02/22/17 15:36	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	02/22/17 11:27	msh
Calcium, dissolved	M200.7 ICP	1	0.6			mg/L	0.1	0.5	02/22/17 15:36	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 15:36	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 15:36	gss
Copper, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	02/22/17 15:36	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 15:36	gss
Iron, dissolved	M200.7 ICP	1	0.19			mg/L	0.02	0.05	02/22/17 15:36	gss
Lead, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0005	02/22/17 11:27	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/22/17 15:36	gss
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	02/22/17 15:36	gss
Manganese, dissolved	M200.7 ICP	1	0.036			mg/L	0.005	0.03	02/22/17 15:36	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	02/28/17 14:56	pta
Mercury, total	M1631, Atomic Fluorescence	1	7.4			ng/L	0.2	0.5	02/23/17 11:31	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/22/17 15:36	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/22/17 15:36	gss
Potassium, dissolved	M200.7 ICP	1	1.7			mg/L	0.2	1	02/22/17 15:36	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 15:36	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	02/22/17 11:27	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/22/17 15:36	gss
Sodium, dissolved	M200.7 ICP	1	1.9			mg/L	0.2	1	02/22/17 15:36	gss
Strontium, dissolved	M200.7 ICP	1	0.018	B		mg/L	0.005	0.03	02/22/17 15:36	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0001	0.0005	02/22/17 11:27	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/22/17 15:36	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/22/17 15:36	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	02/22/17 11:27	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/22/17 15:36	gss
Zinc, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	02/22/17 15:36	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L35597-02***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	02/18/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	02/18/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	02/18/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	02/18/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			03/09/17 0:00	calc
Sum of Anions			0.439	B		meq/L			03/09/17 0:00	calc
Sum of Cations			0.191	B		meq/L			03/09/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/24/17 14:30	spl
Conductivity @25C	SM2510B	1	163		*	umhos/cm	1	10	02/18/17 4:53	abd
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	02/23/17 13:30	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	03/09/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	02/24/17 23:24	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	02/23/17 12:21	spl
pH (lab)	SM4500H+ B									
pH		1	3.5	H	*	units	0.1	0.1	02/18/17 0:00	abd
pH measured at		1	23.7			C	0.1	0.1	02/18/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	02/23/17 23:02	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	62		*	mg/L	10	20	02/21/17 15:25	abd
Sulfate	D516-02/-07 - Turbidimetric	1	20.9		*	mg/L	1	5	02/23/17 14:23	bce
TDS (calculated)	Calculation		25.6			mg/L			03/09/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.42						03/09/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L35597-03***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/21/17 14:43	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	2	18.0			mg/L	0.06	0.3	02/22/17 15:46	gss
Antimony, dissolved	M200.8 ICP-MS	2	0.0031	B		mg/L	0.0008	0.004	02/22/17 11:29	msh
Arsenic, dissolved	M200.8 ICP-MS	2	1.03			mg/L	0.0004	0.002	02/22/17 11:29	msh
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	02/23/17 12:49	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00325			mg/L	0.00005	0.0003	02/23/17 18:40	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/23/17 12:49	aeb
Boron, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	02/22/17 15:46	gss
Cadmium, dissolved	M200.8 ICP-MS	2	0.0017			mg/L	0.0002	0.001	02/22/17 11:29	msh
Calcium, dissolved	M200.7 ICP	2	52.3			mg/L	0.2	1	02/22/17 15:46	gss
Chromium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.1	02/22/17 15:46	gss
Cobalt, dissolved	M200.7 ICP	2	0.11			mg/L	0.02	0.1	02/22/17 15:46	gss
Copper, dissolved	M200.7 ICP	2	0.30			mg/L	0.02	0.1	02/22/17 15:46	gss
Gallium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	02/22/17 15:46	gss
Iron, dissolved	M200.7 ICP	2	344			mg/L	0.04	0.1	02/22/17 15:46	gss
Lead, dissolved	M200.8 ICP-MS	2	0.0014			mg/L	0.0002	0.001	02/22/17 11:29	msh
Lithium, dissolved	M200.7 ICP	2		U		mg/L	0.02	0.08	02/22/17 15:46	gss
Magnesium, dissolved	M200.7 ICP	2	2.0		*	mg/L	0.4	2	02/22/17 15:46	gss
Manganese, dissolved	M200.7 ICP	2	0.20			mg/L	0.01	0.05	02/22/17 15:46	gss
Mercury, dissolved	M245.1 CVAA	1	0.001		*	mg/L	0.0002	0.001	02/28/17 14:59	pta
Mercury, total	M1631, Atomic Fluorescence	50	970			ng/L	10	30	03/02/17 13:35	mfm
Molybdenum, dissolved	M200.7 ICP	2	0.27			mg/L	0.04	0.2	02/22/17 15:46	gss
Nickel, dissolved	M200.7 ICP	2	0.11			mg/L	0.02	0.08	02/22/17 15:46	gss
Potassium, dissolved	M200.7 ICP	2		U		mg/L	0.4	2	02/22/17 15:46	gss
Scandium, dissolved	M200.7 ICP	2		U	*	mg/L	0.2	1	02/22/17 15:46	gss
Selenium, dissolved	M200.8 ICP-MS	2	0.0044			mg/L	0.0002	0.0005	02/22/17 11:29	msh
Silver, dissolved	M200.7 ICP	2	0.04	B	*	mg/L	0.02	0.05	02/22/17 15:46	gss
Sodium, dissolved	M200.7 ICP	2		U		mg/L	0.4	2	02/22/17 15:46	gss
Strontium, dissolved	M200.7 ICP	2	0.09			mg/L	0.01	0.05	02/22/17 15:46	gss
Thallium, dissolved	M200.8 ICP-MS	2		U		mg/L	0.0002	0.001	02/22/17 11:29	msh
Tin, dissolved	M200.7 ICP	2		U		mg/L	0.08	0.4	02/22/17 15:46	gss
Titanium, dissolved	M200.7 ICP	2		U	*	mg/L	0.01	0.05	02/22/17 15:46	gss
Uranium, dissolved	M200.8 ICP-MS	2	0.005			mg/L	0.0002	0.001	02/22/17 11:29	msh
Vanadium, dissolved	M200.7 ICP	2	0.01	B		mg/L	0.01	0.05	02/22/17 15:46	gss
Zinc, dissolved	M200.7 ICP	2	0.39			mg/L	0.02	0.1	02/22/17 15:46	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L35597-03***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	02/18/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	02/18/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	02/18/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	02/18/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-8.0			%			03/09/17 0:00	calc
Sum of Anions			27			meq/L			03/09/17 0:00	calc
Sum of Cations			23.0			meq/L			03/09/17 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	02/24/17 14:49	spl
Conductivity @25C	SM2510B	1	3300		*	umhos/cm	1	10	02/18/17 4:58	abd
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	02/23/17 13:38	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		139			mg/L	0.5	10	03/09/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.07	B		mg/L	0.02	0.1	02/24/17 23:25	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/23/17 17:10	spl
pH (lab)	SM4500H+ B									
pH		1	2.2	H	*	units	0.1	0.1	02/18/17 0:00	abd
pH measured at		1	23.7			C	0.1	0.1	02/18/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.83		*	mg/L	0.02	0.05	02/23/17 23:05	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	1830		*	mg/L	10	20	02/21/17 15:47	abd
Sulfate	D516-02/-07 - Turbidimetric	50	1300		*	mg/L	50	250	02/23/17 14:38	bce
TDS (calculated)	Calculation		1720			mg/L			03/09/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.06						03/09/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L35597-04***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/21/17 14:50	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.86			mg/L	0.03	0.2	02/23/17 12:52	aeb
Antimony, dissolved	M200.8 ICP-MS	1	0.0012	B		mg/L	0.0004	0.002	02/22/17 11:31	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0058			mg/L	0.0002	0.001	02/22/17 11:31	msh
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	02/23/17 12:52	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00016	B		mg/L	0.00005	0.0003	02/23/17 18:43	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/23/17 12:52	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/23/17 12:52	aeb
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/22/17 11:31	msh
Calcium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.1	0.5	02/23/17 12:52	aeb
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	02/22/17 15:49	gss
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	02/22/17 15:49	gss
Copper, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	02/23/17 12:52	aeb
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 15:49	gss
Iron, dissolved	M200.7 ICP	1	7.33			mg/L	0.02	0.05	02/23/17 12:52	aeb
Lead, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	02/22/17 11:31	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	02/22/17 15:49	gss
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	02/22/17 15:49	gss
Manganese, dissolved	M200.7 ICP	1	0.026	B		mg/L	0.005	0.03	02/23/17 12:52	aeb
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	02/28/17 15:00	pta
Mercury, total	M1631, Atomic Fluorescence	1	5.5			ng/L	0.2	0.5	02/23/17 13:31	mfm
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	02/22/17 15:49	gss
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	02/22/17 15:49	gss
Potassium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	02/23/17 12:52	aeb
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 15:49	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	02/22/17 11:31	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/22/17 15:49	gss
Sodium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	02/23/17 12:52	aeb
Strontium, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.005	0.03	02/23/17 12:52	aeb
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	02/22/17 11:31	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/22/17 15:49	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/22/17 15:49	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.004			mg/L	0.0001	0.0005	02/22/17 11:31	msh
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/22/17 15:49	gss
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	02/23/17 12:52	aeb

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L35597-04***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	02/22/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-42.7			%			03/09/17 0:00	calc
Sum of Anions			1.3			meq/L			03/09/17 0:00	calc
Sum of Cations			0.522			meq/L			03/09/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/24/17 14:49	spl
Conductivity @25C	SM2510B	1	564		*	umhos/cm	1	10	02/22/17 15:54	abd
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	02/23/17 13:44	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.499	B		mg/L	0.2	5	03/09/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B		mg/L	0.02	0.1	02/24/17 23:30	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/23/17 17:11	spl
pH (lab)	SM4500H+ B									
pH		1	3.0	H	*	units	0.1	0.1	02/22/17 0:00	abd
pH measured at		1	21.1			C	0.1	0.1	02/22/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	02/23/17 23:06	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	96		*	mg/L	10	20	02/21/17 15:48	abd
Sulfate	D516-02/-07 - Turbidimetric	5	61.8		*	mg/L	5	25	02/23/17 14:30	bce
TDS (calculated)	Calculation		71.1			mg/L			03/09/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.35						03/09/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L35597-05***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/21/17 14:57	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.27			mg/L	0.03	0.2	02/22/17 15:52	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0004	0.002	02/22/17 11:36	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0002	0.001	02/22/17 11:36	msh
Barium, dissolved	M200.7 ICP	1	0.030			mg/L	0.003	0.02	02/23/17 12:56	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.00005	0.0003	02/23/17 18:46	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/23/17 12:56	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 15:52	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	02/22/17 11:36	msh
Calcium, dissolved	M200.7 ICP	1	2.6			mg/L	0.1	0.5	02/22/17 15:52	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 15:52	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 15:52	gss
Copper, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	02/22/17 15:52	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 15:52	gss
Iron, dissolved	M200.7 ICP	1	0.35			mg/L	0.02	0.05	02/22/17 15:52	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0001	0.0005	02/22/17 11:36	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/22/17 15:52	gss
Magnesium, dissolved	M200.7 ICP	1	0.5	B	*	mg/L	0.2	1	02/22/17 15:52	gss
Manganese, dissolved	M200.7 ICP	1	0.089			mg/L	0.005	0.03	02/22/17 15:52	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	02/28/17 15:00	pta
Mercury, total	M1631, Atomic Fluorescence	1	5.3			ng/L	0.2	0.5	02/23/17 13:36	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/22/17 15:52	gss
Nickel, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.008	0.04	02/22/17 15:52	gss
Potassium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	02/22/17 15:52	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 15:52	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0003	02/22/17 11:36	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/22/17 15:52	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	02/22/17 15:52	gss
Strontium, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.005	0.03	02/22/17 15:52	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	02/22/17 11:36	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/22/17 15:52	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/22/17 15:52	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0001	0.0005	02/22/17 11:36	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/22/17 15:52	gss
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	02/22/17 15:52	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L35597-05***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	02/22/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-47.3			%			03/09/17 0:00	calc
Sum of Anions			0.687			meq/L			03/09/17 0:00	calc
Sum of Cations			0.246	B		meq/L			03/09/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/24/17 14:49	spl
Conductivity @25C	SM2510B	1	287		*	umhos/cm	1	10	02/22/17 15:58	abd
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	02/23/17 13:56	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		8.6			mg/L	0.2	5	03/09/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	2.69			mg/L	0.02	0.1	02/24/17 23:32	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/23/17 17:13	spl
pH (lab)	SM4500H+ B									
pH		1	3.2	H	*	units	0.1	0.1	02/22/17 0:00	abd
pH measured at		1	21.0			C	0.1	0.1	02/22/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	02/23/17 23:07	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	52		*	mg/L	10	20	02/21/17 15:50	abd
Sulfate	D516-02/-07 - Turbidimetric	5	32.7		*	mg/L	5	25	02/23/17 14:30	bce
TDS (calculated)	Calculation		37.3			mg/L			03/09/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.39						03/09/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L35597-06***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/21/17 15:04	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.16	B		mg/L	0.03	0.2	02/22/17 16:02	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	02/22/17 11:42	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0002	0.001	02/22/17 11:42	msh
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	02/23/17 12:59	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00021	B		mg/L	0.00005	0.0003	02/23/17 18:50	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/23/17 12:59	aeb
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	02/22/17 16:02	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	02/22/17 11:42	msh
Calcium, dissolved	M200.7 ICP	1	5.4			mg/L	0.1	0.5	02/22/17 16:02	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:02	gss
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	02/22/17 16:02	gss
Copper, dissolved	M200.7 ICP	1	0.34			mg/L	0.01	0.05	02/22/17 16:02	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 16:02	gss
Iron, dissolved	M200.7 ICP	1	0.51			mg/L	0.02	0.05	02/22/17 16:02	gss
Lead, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0005	02/22/17 11:42	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/22/17 16:02	gss
Magnesium, dissolved	M200.7 ICP	1	0.9	B	*	mg/L	0.2	1	02/22/17 16:02	gss
Manganese, dissolved	M200.7 ICP	1	0.035			mg/L	0.005	0.03	02/22/17 16:02	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	02/28/17 15:01	pta
Mercury, total	M1631, Atomic Fluorescence	5	117			ng/L	1	3	03/02/17 13:39	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/22/17 16:02	gss
Nickel, dissolved	M200.7 ICP	1	0.062			mg/L	0.008	0.04	02/22/17 16:02	gss
Potassium, dissolved	M200.7 ICP	1	2.1			mg/L	0.2	1	02/22/17 16:02	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 16:02	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0003	02/22/17 11:42	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/22/17 16:02	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	02/22/17 16:02	gss
Strontium, dissolved	M200.7 ICP	1	0.078			mg/L	0.005	0.03	02/22/17 16:02	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/22/17 11:42	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/22/17 16:02	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/22/17 16:02	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.004			mg/L	0.0001	0.0005	02/22/17 11:42	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/22/17 16:02	gss
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	02/22/17 16:02	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L35597-06***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	02/22/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-7.6			%			03/09/17 0:00	calc
Sum of Anions			0.535			meq/L			03/09/17 0:00	calc
Sum of Cations			0.459	B		meq/L			03/09/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/24/17 14:49	spl
Conductivity @25C	SM2510B	1	123		*	umhos/cm	1	10	02/22/17 16:02	abd
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	02/23/17 13:59	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		17			mg/L	0.2	5	03/09/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B		mg/L	0.02	0.1	02/24/17 23:33	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/23/17 17:14	spl
pH (lab)	SM4500H+ B									
pH		1	3.9	H	*	units	0.1	0.1	02/22/17 0:00	abd
pH measured at		1	20.9			C	0.1	0.1	02/22/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	02/23/17 23:08	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	48		*	mg/L	10	20	02/21/17 15:51	abd
Sulfate	D516-02/-07 - Turbidimetric	1	25.5		*	mg/L	1	5	02/23/17 14:23	bce
TDS (calculated)	Calculation		35.1			mg/L			03/09/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.37						03/09/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L35597-07***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/21/17 15:12	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	5.51			mg/L	0.03	0.2	02/22/17 16:05	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0004	0.002	02/22/17 11:44	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.164			mg/L	0.0002	0.001	02/22/17 11:44	msh
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	02/23/17 13:02	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00072			mg/L	0.00005	0.0003	02/23/17 18:59	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/23/17 13:02	aeb
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	02/22/17 16:05	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	02/22/17 11:44	msh
Calcium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.1	0.5	02/22/17 16:05	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:05	gss
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	02/22/17 16:05	gss
Copper, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	02/22/17 16:05	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 16:05	gss
Iron, dissolved	M200.7 ICP	1	25.3			mg/L	0.02	0.05	02/22/17 16:05	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0034			mg/L	0.0001	0.0005	02/22/17 11:44	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/22/17 16:05	gss
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	02/22/17 16:05	gss
Manganese, dissolved	M200.7 ICP	1	0.019	B		mg/L	0.005	0.03	02/22/17 16:05	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	02/28/17 15:02	pta
Mercury, total	M1631, Atomic Fluorescence	5	2	B	*	ng/L	1	3	03/02/17 13:44	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/22/17 16:05	gss
Nickel, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.008	0.04	02/22/17 16:05	gss
Potassium, dissolved	M200.7 ICP	1	0.9	B		mg/L	0.2	1	02/22/17 16:05	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 16:05	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	02/22/17 11:44	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/22/17 16:05	gss
Sodium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	02/22/17 16:05	gss
Strontium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	02/22/17 16:05	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	02/22/17 11:44	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/22/17 16:05	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/22/17 16:05	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0001	0.0005	02/22/17 11:44	msh
Vanadium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	02/22/17 16:05	gss
Zinc, dissolved	M200.7 ICP	1	0.17			mg/L	0.01	0.05	02/22/17 16:05	gss

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L35597-07***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	02/22/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-16.7			%			03/09/17 0:00	calc
Sum of Anions			2.8			meq/L			03/09/17 0:00	calc
Sum of Cations			2.0			meq/L			03/09/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/24/17 14:49	spl
Conductivity @25C	SM2510B	1	925		*	umhos/cm	1	10	02/22/17 16:07	abd
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	02/23/17 14:05	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.749	B		mg/L	0.2	5	03/09/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B		mg/L	0.02	0.1	02/24/17 23:34	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/23/17 17:18	spl
pH (lab)	SM4500H+ B									
pH		1	2.7	H	*	units	0.1	0.1	02/22/17 0:00	abd
pH measured at		1	21.4			C	0.1	0.1	02/22/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.06		*	mg/L	0.02	0.05	02/23/17 23:11	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	210		*	mg/L	10	20	02/21/17 15:52	abd
Sulfate	D516-02/-07 - Turbidimetric	5	134		*	mg/L	5	25	02/23/17 14:30	bce
TDS (calculated)	Calculation		167			mg/L			03/09/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.26						03/09/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L35597-08***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/21/17 15:19	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	02/22/17 16:08	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0004	0.002	02/22/17 11:46	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0049			mg/L	0.0002	0.001	02/22/17 11:46	msh
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	02/23/17 13:05	aeb
Beryllium, dissolved	M200.8 ICP-MS	2		U	*	mg/L	0.0001	0.0005	02/23/17 19:02	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/23/17 13:05	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:08	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/22/17 11:46	msh
Calcium, dissolved	M200.7 ICP	1	1.0			mg/L	0.1	0.5	02/22/17 16:08	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:08	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:08	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:08	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 16:08	gss
Iron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.05	02/22/17 16:08	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	02/22/17 11:46	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/22/17 16:08	gss
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	02/22/17 16:08	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/22/17 16:08	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	02/28/17 15:03	pta
Mercury, total	M1631, Atomic Fluorescence	1	20.9			ng/L	0.2	0.5	03/02/17 13:59	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/22/17 16:08	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/22/17 16:08	gss
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	02/22/17 16:08	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 16:08	gss
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	02/22/17 11:46	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/22/17 16:08	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	02/22/17 16:08	gss
Strontium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	02/22/17 16:08	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/22/17 11:46	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/22/17 16:08	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/22/17 16:08	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/22/17 11:46	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/22/17 16:08	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:08	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L35597-08***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	02/22/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			03/09/17 0:00	calc
Sum of Anions			0.109	B		meq/L			03/09/17 0:00	calc
Sum of Cations				U		meq/L			03/09/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/24/17 14:50	spl
Conductivity @25C	SM2510B	1	10.1		*	umhos/cm	1	10	02/22/17 16:14	abd
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	02/23/17 14:09	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.5	B		mg/L	0.2	5	03/09/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.24			mg/L	0.02	0.1	02/24/17 23:35	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/23/17 17:20	spl
pH (lab)	SM4500H+ B									
pH		1	6.5	H	*	units	0.1	0.1	02/22/17 0:00	abd
pH measured at		1	21.7			C	0.1	0.1	02/22/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	02/23/17 23:13	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	02/21/17 15:54	abd
Sulfate	D516-02/-07 - Turbidimetric	1	5.2		*	mg/L	1	5	02/23/17 14:23	bce
TDS (calculated)	Calculation		6.23			mg/L			03/09/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						03/09/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L35597-09***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/21/17 15:26	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	02/22/17 16:11	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	02/22/17 11:48	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0002	0.001	02/22/17 11:48	msh
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	02/23/17 13:08	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.00015	B		mg/L	0.00005	0.0003	02/23/17 19:12	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/23/17 13:08	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:11	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/22/17 11:48	msh
Calcium, dissolved	M200.7 ICP	1	0.7			mg/L	0.1	0.5	02/22/17 16:11	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:11	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:11	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:11	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 16:11	gss
Iron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.05	02/22/17 16:11	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	02/22/17 11:48	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/22/17 16:11	gss
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	02/22/17 16:11	gss
Manganese, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.005	0.03	02/22/17 16:11	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	02/28/17 15:04	pta
Mercury, total	M1631, Atomic Fluorescence	5	29			ng/L	1	3	03/08/17 13:53	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/22/17 16:11	gss
Nickel, dissolved	M200.7 ICP	1	0.108			mg/L	0.008	0.04	02/22/17 16:11	gss
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	02/22/17 16:11	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 16:11	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0003	02/22/17 11:48	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/22/17 16:11	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	02/22/17 16:11	gss
Strontium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.005	0.03	02/22/17 16:11	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	02/22/17 11:48	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/22/17 16:11	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/22/17 16:11	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	02/22/17 11:48	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/22/17 16:11	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:11	gss

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L35597-09***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	02/22/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			03/09/17 0:00	calc
Sum of Anions				U		meq/L			03/09/17 0:00	calc
Sum of Cations				U		meq/L			03/09/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/24/17 14:50	spl
Conductivity @25C	SM2510B	1	21.7		*	umhos/cm	1	10	02/22/17 16:19	abd
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	02/23/17 14:12	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.8	B		mg/L	0.2	5	03/09/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B	*	mg/L	0.02	0.1	02/24/17 23:38	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/23/17 17:21	spl
pH (lab)	SM4500H+ B									
pH		1	4.8	H	*	units	0.1	0.1	02/22/17 0:00	abd
pH measured at		1	21.7			C	0.1	0.1	02/22/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	02/23/17 23:14	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	02/21/17 15:55	abd
Sulfate	D516-02/-07 - Turbidimetric	1	4.7	B	*	mg/L	1	5	02/23/17 14:24	bce
TDS (calculated)	Calculation		5.74			mg/L			03/09/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						03/09/17 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L35597-10***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								02/20/17 14:30	bce
Cyanide, WAD	SM4500-CN I- distillation				*				02/24/17 12:39	bce
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/21/17 15:33	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.41			mg/L	0.03	0.2	02/22/17 16:14	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	02/22/17 11:50	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0002	0.001	02/22/17 11:50	msh
Barium, dissolved	M200.7 ICP	1	0.040			mg/L	0.003	0.02	02/23/17 13:11	aeb
Beryllium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.00005	0.0003	02/23/17 19:15	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	02/23/17 13:11	aeb
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:14	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	02/22/17 11:50	msh
Calcium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.1	0.5	02/22/17 16:14	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:14	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	02/22/17 16:14	gss
Copper, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	02/22/17 16:14	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 16:14	gss
Iron, dissolved	M200.7 ICP	1	0.99			mg/L	0.02	0.05	02/22/17 16:14	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	02/22/17 11:50	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/22/17 16:14	gss
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	02/22/17 16:14	gss
Manganese, dissolved	M200.7 ICP	1	0.040			mg/L	0.005	0.03	02/22/17 16:14	gss
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	02/28/17 15:05	pta
Mercury, total	M1631, Atomic Fluorescence	1	5.2			ng/L	0.2	0.5	03/02/17 14:19	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	02/22/17 16:14	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	02/22/17 16:14	gss
Potassium, dissolved	M200.7 ICP	1	2.4			mg/L	0.2	1	02/22/17 16:14	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	02/22/17 16:14	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	02/22/17 11:50	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	02/22/17 16:14	gss
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	02/22/17 16:14	gss
Strontium, dissolved	M200.7 ICP	1	0.020	B		mg/L	0.005	0.03	02/22/17 16:14	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	02/22/17 11:50	msh
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	02/22/17 16:14	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	02/22/17 16:14	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	02/22/17 11:50	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	02/22/17 16:14	gss
Zinc, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	02/22/17 16:14	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L35597-10***
Date Sampled: *02/15/17 00:00*
Date Received: *02/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	02/22/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	02/22/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-37.5			%			03/09/17 0:00	calc
Sum of Anions			0.7			meq/L			03/09/17 0:00	calc
Sum of Cations			0.318	B		meq/L			03/09/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	02/24/17 14:50	spl
Conductivity @25C	SM2510B	1	322		*	umhos/cm	1	10	02/22/17 16:29	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	02/21/17 23:54	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	02/24/17 22:19	pjb
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	02/23/17 14:21	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.749	B		mg/L	0.2	5	03/09/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	02/24/17 23:40	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	02/23/17 17:23	spl
pH (lab)	SM4500H+ B									
pH		1	3.2	H	*	units	0.1	0.1	02/22/17 0:00	abd
pH measured at		1	21.8			C	0.1	0.1	02/22/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	02/23/17 23:15	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	60		*	mg/L	10	20	02/21/17 15:56	abd
Sulfate	D516-02/-07 - Turbidimetric	5	33.8		*	mg/L	5	25	02/23/17 14:31	bce
TDS (calculated)	Calculation		39.7			mg/L			03/09/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.51						03/09/17 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L35597***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418078													
WG418078PBW1	PBW	02/17/17 15:09				U	mg/L		-20	20			
WG418078LCSW3	LCSW	02/17/17 15:27	WC170203-1	820.0001		804	mg/L	98	90	110			
WG418078LCSW6	LCSW	02/17/17 19:03	WC170203-1	820.0001		802	mg/L	98	90	110			
WG418078PBW2	PBW	02/17/17 19:09				U	mg/L		-20	20			
WG418078LCSW9	LCSW	02/17/17 22:18	WC170203-1	820.0001		814	mg/L	99	90	110			
WG418078PBW3	PBW	02/17/17 22:24				U	mg/L		-20	20			
WG418078LCSW12	LCSW	02/18/17 2:06	WC170203-1	820.0001		820	mg/L	100	90	110			
WG418078PBW4	PBW	02/18/17 2:13				U	mg/L		-20	20			
L35597-03DUP	DUP	02/18/17 5:02			U	U	mg/L				0	20	RA
WG418078LCSW15	LCSW	02/18/17 5:20	WC170203-1	820.0001		822	mg/L	100	90	110			
WG418325													
WG418325PBW1	PBW	02/22/17 15:04				U	mg/L		-20	20			
WG418325LCSW3	LCSW	02/22/17 15:21	WC170203-1	820.0001		805	mg/L	98	90	110			
L35597-09DUP	DUP	02/22/17 16:24			U	U	mg/L				0	20	RA
L35607-01DUP	DUP	02/22/17 18:06			196	187	mg/L				5	20	
WG418325LCSW6	LCSW	02/22/17 18:23	WC170203-1	820.0001		810	mg/L	99	90	110			
WG418325PBW2	PBW	02/22/17 18:30				U	mg/L		-20	20			
WG418325LCSW9	LCSW	02/22/17 21:57	WC170203-1	820.0001		816	mg/L	100	90	110			
WG418325PBW3	PBW	02/22/17 22:04				U	mg/L		-20	20			
WG418325LCSW12	LCSW	02/23/17 1:39	WC170203-1	820.0001		819	mg/L	100	90	110			
WG418325PBW4	PBW	02/23/17 1:46				U	mg/L		-20	20			
WG418325LCSW15	LCSW	02/23/17 5:05	WC170203-1	820.0001		821	mg/L	100	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		2.063	mg/L	103	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.09	0.09			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	1.0013		1.023	mg/L	102	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	1.0013	.16	1.119	mg/L	96	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	1.0013	.16	1.143	mg/L	98	85	115	2	20	
WG418372													
WG418372ICV	ICV	02/23/17 11:46	II170222-1	2		2.003	mg/L	100	95	105			
WG418372ICB	ICB	02/23/17 11:52				U	mg/L		-0.09	0.09			
WG418372LFB	LFB	02/23/17 12:05	II170220-2	1.0013		1.019	mg/L	102	85	115			
L35597-02AS	AS	02/23/17 12:43	II170220-2	1.0013	.17	1.16	mg/L	99	85	115			
L35597-02ASD	ASD	02/23/17 12:46	II170220-2	1.0013	.17	1.166	mg/L	99	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418270													
WG418270ICV	ICV	02/22/17 11:19	MS161128-3	.02		.01994	mg/L	100	90	110			
WG418270ICB	ICB	02/22/17 11:21				U	mg/L		-0.0012	0.0012			
WG418270LFB	LFB	02/22/17 11:23	MS170220-2	.009980001		.00992	mg/L	99	85	115			
L35597-04AS	AS	02/22/17 11:32	MS170220-2	.009980001	.0012	.01114	mg/L	100	70	130			
L35597-04ASD	ASD	02/22/17 11:34	MS170220-2	.009980001	.0012	.01115	mg/L	100	70	130	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L35597***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418270													
WG418270ICV	ICV	02/22/17 11:19	MS161128-3	.05		.05018	mg/L	100	90	110			
WG418270ICB	ICB	02/22/17 11:21				U	mg/L		-0.0006	0.0006			
WG418270LFB	LFB	02/22/17 11:23	MS170220-2	.0501		.05275	mg/L	105	85	115			
L35597-04AS	AS	02/22/17 11:32	MS170220-2	.0501	.0058	.05666	mg/L	102	70	130			
L35597-04ASD	ASD	02/22/17 11:34	MS170220-2	.0501	.0058	.05624	mg/L	101	70	130	1	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418372													
WG418372ICV	ICV	02/23/17 11:46	II170222-1	2		1.93	mg/L	97	95	105			
WG418372ICB	ICB	02/23/17 11:52				.0045	mg/L		-0.009	0.009			
WG418372LFB	LFB	02/23/17 12:05	II170220-2	.5005		.4779	mg/L	95	85	115			
L25228-86AS	AS	02/23/17 12:11	II170220-2	.5005	.034	.5295	mg/L	99	85	115			
L25228-86ASD	ASD	02/23/17 12:14	II170220-2	.5005	.034	.5288	mg/L	99	85	115	0	20	
L35597-02AS	AS	02/23/17 12:43	II170220-2	.5005	.088	.5672	mg/L	96	85	115			
L35597-02ASD	ASD	02/23/17 12:46	II170220-2	.5005	.088	.569	mg/L	96	85	115	0	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418422													
WG418422ICV	ICV	02/23/17 18:18	MS161128-3	.05		.04493	mg/L	90	90	110			
WG418422ICB	ICB	02/23/17 18:21				.000071	mg/L		-0.00015	0.00015			
WG418422LFB	LFB	02/23/17 18:24	MS170117-3	.05035		.05505	mg/L	109	85	115			
L35597-08AS	AS	02/23/17 19:05	MS170117-3	.1007	U	.09472	mg/L	94	70	130			
L35597-08ASD	ASD	02/23/17 19:09	MS170117-3	.1007	U	.09888	mg/L	98	70	130	4	20	
L35649-06AS	AS	02/23/17 19:40	MS170117-3	.05035	.00103	.05097	mg/L	99	70	130			
L35649-06ASD	ASD	02/23/17 19:43	MS170117-3	.05035	.00103	.05901	mg/L	115	70	130	15	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418372													
WG418372ICV	ICV	02/23/17 11:46	II170222-1	2		1.943	mg/L	97	95	105			
WG418372ICB	ICB	02/23/17 11:52				U	mg/L		-0.12	0.12			
WG418372LFB	LFB	02/23/17 12:05	II170220-2	1		.956	mg/L	96	85	115			
L25228-86AS	AS	02/23/17 12:11	II170220-2	1	U	1.02	mg/L	102	85	115			
L25228-86ASD	ASD	02/23/17 12:14	II170220-2	1	U	.996	mg/L	100	85	115	2	20	
L35597-02AS	AS	02/23/17 12:43	II170220-2	1	U	.965	mg/L	97	85	115			
L35597-02ASD	ASD	02/23/17 12:46	II170220-2	1	U	.984	mg/L	98	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L35597***

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		2.034	mg/L	102	95	105			
WG418315ICB	ICB	02/22/17 14:32				.014	mg/L		-0.03	0.03			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	.5005		.495	mg/L	99	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	.5005	.08	.537	mg/L	91	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	.5005	.08	.545	mg/L	93	85	115	1	20	
WG418372													
WG418372ICV	ICV	02/23/17 11:46	II170222-1	2		1.991	mg/L	100	95	105			
WG418372ICB	ICB	02/23/17 11:52				U	mg/L		-0.03	0.03			
WG418372LFB	LFB	02/23/17 12:05	II170220-2	.5005		.491	mg/L	98	85	115			
L35597-02AS	AS	02/23/17 12:43	II170220-2	.5005	.07	.548	mg/L	96	85	115			
L35597-02ASD	ASD	02/23/17 12:46	II170220-2	.5005	.07	.554	mg/L	97	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418270													
WG418270ICV	ICV	02/22/17 11:19	MS161128-3	.05		.05196	mg/L	104	90	110			
WG418270ICB	ICB	02/22/17 11:21				U	mg/L		-0.0003	0.0003			
WG418270LFB	LFB	02/22/17 11:23	MS170220-2	.05005		.04791	mg/L	96	85	115			
L35597-04AS	AS	02/22/17 11:32	MS170220-2	.05005	U	.04886	mg/L	98	70	130			
L35597-04ASD	ASD	02/22/17 11:34	MS170220-2	.05005	U	.04879	mg/L	97	70	130	0	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	100		100.27	mg/L	100	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.3	0.3			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	67.99026		67.55	mg/L	99	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	67.99026	.6	62.3	mg/L	91	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	67.99026	.6	63.86	mg/L	93	85	115	2	20	
WG418372													
WG418372ICV	ICV	02/23/17 11:46	II170222-1	100		97.3	mg/L	97	95	105			
WG418372ICB	ICB	02/23/17 11:52				U	mg/L		-0.3	0.3			
WG418372LFB	LFB	02/23/17 12:05	II170220-2	67.99026		67.48	mg/L	99	85	115			
L35597-02AS	AS	02/23/17 12:43	II170220-2	67.99026	.6	65.45	mg/L	95	85	115			
L35597-02ASD	ASD	02/23/17 12:46	II170220-2	67.99026	.6	65.39	mg/L	95	85	115	0	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418489													
WG418489ICB	ICB	02/24/17 14:18				U	mg/L		-1.5	1.5			
WG418489ICV	ICV	02/24/17 14:18	WI160701-1	55.055		58.02	mg/L	105	90	110			
WG418489LFB1	LFB	02/24/17 14:29	WI161020-2	30.03		30.63	mg/L	102	90	110			
L35431-01AS	AS	02/24/17 14:29	WI161020-2	30.03	54.8	80.07	mg/L	84	90	110			M2
L35431-02DUP	DUP	02/24/17 14:38			165	167.7	mg/L				2	20	
L35597-03AS	AS	02/24/17 14:49	WI161020-2	30.03	.5	31.34	mg/L	103	90	110			
L35597-04DUP	DUP	02/24/17 14:49			U	U	mg/L				0	20	RA
WG418489LFB2	LFB	02/24/17 14:50	WI161020-2	30.03		30.56	mg/L	102	90	110			

McClelland Laboratories, Inc. ACZ Project ID: ***L35597***

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		1.97	mg/L	99	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.03	0.03			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	.5025		.481	mg/L	96	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	.5025	U	.447	mg/L	89	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	.5025	U	.458	mg/L	91	85	115	2	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2.002		1.918	mg/L	96	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.03	0.03			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	.5025		.465	mg/L	93	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	.5025	U	.439	mg/L	87	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	.5025	U	.448	mg/L	89	85	115	2	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418078													
WG418078LCSW2	LCSW	02/17/17 15:14	PCN51547	1410		1530	umhos/cm	109	90	110			
WG418078LCSW5	LCSW	02/17/17 18:51	PCN51547	1410		1480	umhos/cm	105	90	110			
WG418078LCSW8	LCSW	02/17/17 22:05	PCN51547	1410		1450	umhos/cm	103	90	110			
WG418078LCSW11	LCSW	02/18/17 1:53	PCN51547	1410		1420	umhos/cm	101	90	110			
L35597-03DUP	DUP	02/18/17 5:02			3300	3410	umhos/cm				3	20	
WG418078LCSW14	LCSW	02/18/17 5:07	PCN51547	1410		1530	umhos/cm	109	90	110			
WG418325													
WG418325LCSW2	LCSW	02/22/17 15:08	PCN51547	1410		1500	umhos/cm	106	90	110			
L35597-09DUP	DUP	02/22/17 16:24			21.7	20.7	umhos/cm				5	20	
L35607-01DUP	DUP	02/22/17 18:06			7550	7570	umhos/cm				0	20	
WG418325LCSW5	LCSW	02/22/17 18:10	PCN51547	1410		1470	umhos/cm	104	90	110			
WG418325LCSW8	LCSW	02/22/17 21:44	PCN51547	1410		1430	umhos/cm	101	90	110			
WG418325LCSW11	LCSW	02/23/17 1:26	PCN51547	1410		1400	umhos/cm	99	90	110			
WG418325LCSW14	LCSW	02/23/17 4:53	PCN51547	1410		1350	umhos/cm	96	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		1.996	mg/L	100	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.03	0.03			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	.5005		.467	mg/L	93	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	.5005	.01	.466	mg/L	91	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	.5005	.01	.475	mg/L	93	85	115	2	20	
WG418372													
WG418372ICV	ICV	02/23/17 11:46	II170222-1	2		1.949	mg/L	97	95	105			
WG418372ICB	ICB	02/23/17 11:52				U	mg/L		-0.03	0.03			
WG418372LFB	LFB	02/23/17 12:05	II170220-2	.5005		.472	mg/L	94	85	115			
L35597-02AS	AS	02/23/17 12:43	II170220-2	.5005	.02	.493	mg/L	95	85	115			
L35597-02ASD	ASD	02/23/17 12:46	II170220-2	.5005	.02	.493	mg/L	95	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L35597***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418275													
WG418275ICV	ICV	02/21/17 22:52	WI170220-6	.3006		.2862	mg/L	95	90	110			
WG418275ICB	ICB	02/21/17 22:53				U	mg/L		-0.003	0.003			
WG418277													
WG418140LRB	LRB	02/21/17 23:29				U	mg/L		-0.003	0.003			
WG418140LFB	LFB	02/21/17 23:30	WI170220-2	.2		.1939	mg/L	97	90	110			
L35568-01DUP	DUP	02/21/17 23:43			U	U	mg/L				0	20	RA
L35568-02LFM	LFM	02/21/17 23:45	WI170220-2	.2	U	.2043	mg/L	102	90	110			

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418503													
WG418503ICV	ICV	02/24/17 22:06	WI170220-6	.3006		.2926	mg/L	97	90	110			
WG418503ICB	ICB	02/24/17 22:07				U	mg/L		-0.003	0.003			
WG418467LRB	LRB	02/24/17 22:08				U	mg/L		-0.003	0.003			
WG418467LFB	LFB	02/24/17 22:09	WI170220-4	.2004		.1941	mg/L	97	90	110			
L35564-01DUP	DUP	02/24/17 22:11			U	U	mg/L				0	20	RA
L35564-02LFM	LFM	02/24/17 22:12	WI170220-4	.2004	U	.1974	mg/L	99	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418369													
WG418369ICV	ICV	02/23/17 11:32	WC170217-1	2.006		2.003	mg/L	100	95	105			
WG418369ICB	ICB	02/23/17 11:36				.074	mg/L		-0.15	0.15			
WG418369LFB1	LFB	02/23/17 11:44	WC160923-7	4.995		5.189	mg/L	104	90	110			
L35583-01AS	AS	02/23/17 13:14	WC160923-7	4.995	.25	5.094	mg/L	97	90	110			
L35583-01DUP	DUP	02/23/17 13:18			.25	.338	mg/L				30	20	RA
WG418369LFB2	LFB	02/23/17 14:15	WC160923-7	4.995		4.793	mg/L	96	90	110			
L35597-10AS	AS	02/23/17 14:25	WC160923-7	399.6	U	396.3	mg/L	99	90	110			
L35597-10DUP	DUP	02/23/17 14:28			U	6.5	mg/L				200	20	RA

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		1.99	mg/L	100	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.3	0.3			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	1		.95	mg/L	95	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	1	U	.9	mg/L	90	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	1	U	.95	mg/L	95	85	115	5	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L35597***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		1.994	mg/L	100	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.06	0.06			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	1.0017		.974	mg/L	97	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	1.0017	.19	1.068	mg/L	88	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	1.0017	.19	1.095	mg/L	90	85	115	2	20	
WG418372													
WG418372ICV	ICV	02/23/17 11:46	II170222-1	2		1.937	mg/L	97	95	105			
WG418372ICB	ICB	02/23/17 11:52				U	mg/L		-0.06	0.06			
WG418372LFB	LFB	02/23/17 12:05	II170220-2	1.0017		.984	mg/L	98	85	115			
L35597-02AS	AS	02/23/17 12:43	II170220-2	1.0017	.2	1.124	mg/L	93	85	115			
L35597-02ASD	ASD	02/23/17 12:46	II170220-2	1.0017	.2	1.115	mg/L	92	85	115	1	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418270													
WG418270ICV	ICV	02/22/17 11:19	MS161128-3	.05		.0528	mg/L	106	90	110			
WG418270ICB	ICB	02/22/17 11:21				U	mg/L		-0.0003	0.0003			
WG418270LFB	LFB	02/22/17 11:23	MS170220-2	.0501		.04831	mg/L	96	85	115			
L35597-04AS	AS	02/22/17 11:32	MS170220-2	.0501	.0015	.04935	mg/L	96	70	130			
L35597-04ASD	ASD	02/22/17 11:34	MS170220-2	.0501	.0015	.04927	mg/L	95	70	130	0	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		2	mg/L	100	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.024	0.024			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	1.001		.9472	mg/L	95	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	1.001	U	.9415	mg/L	94	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	1.001	U	.9663	mg/L	97	85	115	3	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	100		101.18	mg/L	101	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.6	0.6			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	50.00074		45.37	mg/L	91	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	50.00074	U	41.85	mg/L	84	85	115			MA
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	50.00074	U	42.79	mg/L	86	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L35597***

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		1.9492	mg/L	97	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.015	0.015			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	.5		.4821	mg/L	96	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	.5	.036	.4801	mg/L	89	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	.5	.036	.4943	mg/L	92	85	115	3	20	
WG418372													
WG418372ICV	ICV	02/23/17 11:46	II170222-1	2		1.908	mg/L	95	95	105			
WG418372ICB	ICB	02/23/17 11:52				U	mg/L		-0.015	0.015			
WG418372LFB	LFB	02/23/17 12:05	II170220-2	.5		.4837	mg/L	97	85	115			
L35597-02AS	AS	02/23/17 12:43	II170220-2	.5	.038	.5078	mg/L	94	85	115			
L35597-02ASD	ASD	02/23/17 12:46	II170220-2	.5	.038	.5067	mg/L	94	85	115	0	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418531													
WG418531ICV	ICV	02/28/17 14:45	HG170127-2	.005005		.00511	mg/L	102	95	105			
WG418531ICB	ICB	02/28/17 14:46				U	mg/L		-0.0002	0.0002			
WG418531LRB	LRB	02/28/17 14:47				U	mg/L		-0.00044	0.00044			
WG418531LFB	LFB	02/28/17 14:48	HG170209-3	.002002		.00176	mg/L	88	85	115			
L35498-01LFM	LFM	02/28/17 14:52	HG170209-3	.002002	U	.00161	mg/L	80	85	115			M2
L35498-01LFMD	LFMD	02/28/17 14:53	HG170209-3	.002002	U	.00164	mg/L	82	85	115	2	20	M2
L35607-02LFM	LFM	02/28/17 15:10	HG170209-3	.002002	U	.00163	mg/L	81	85	115			M2
L35607-02LFMD	LFMD	02/28/17 15:11	HG170209-3	.002002	U	.00166	mg/L	83	85	115	2	20	M2

McClelland Laboratories, Inc. ACZ Project ID: ***L35597***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG416306													
WG416306ICV	ICV	01/17/17 12:06	HG161230-7	10		10.4	ng/L	104	79	121			
WG416306ICB	ICB	01/17/17 12:11				U	ng/L		-0.5	0.5			
WG418331													
WG418331CCV1	CCV	02/23/17 9:47	HG161230-7	10		8.97	ng/L	90	76.5	123.4			
WG418331CCB1	CCB	02/23/17 9:52				U	ng/L		-0.5	0.5			
WG418331PQV	PQV	02/23/17 9:57	HG161230-9	.5		.38	ng/L	76	70	130			
WG418331LFB	LFB	02/23/17 10:02	HG161230-8	2		2.06	ng/L	103	71	125			
WG418331CCV2	CCV	02/23/17 11:01	HG161230-7	10		8.45	ng/L	85	76.5	123.4			
WG418331CCB2	CCB	02/23/17 11:06				U	ng/L		-0.5	0.5			
WG418331CCV3	CCV	02/23/17 13:46	HG161230-7	10		7.87	ng/L	79	76.5	123.4			
WG418331CCB3	CCB	02/23/17 13:50				U	ng/L		-0.5	0.5			
L35597-07MS	MS	02/23/17 14:00	HG2XPREP	8	1.4	4.22	ng/L	71	71	125			
L35597-07MSD	MSD	02/23/17 14:05	HG2XPREP	8	1.4	4.56	ng/L	78	71	125	8	24	
WG418579													
WG418579ICV	ICV	03/02/17 12:57	HG161230-7	10		10.3	ng/L	103	79	121			
WG418579ICB	ICB	03/02/17 13:02				U	ng/L		-0.5	0.5			
WG418579PQV	PQV	03/02/17 13:07	HG161230-9	.5		.49	ng/L	98	70	130			
WG418579LFB	LFB	03/02/17 13:12	HG161230-8	2		1.99	ng/L	100	71	125			
L35597-07MS	MS	03/02/17 13:49	HG5XPREP	50	2	12.8	ng/L	108	71	125			
L35597-07MSD	MSD	03/02/17 13:54	HG5XPREP	50	2	12.4	ng/L	104	71	125	3	24	
WG418579CCV1	CCV	03/02/17 14:04	HG161230-7	10		10.2	ng/L	102	76.5	123.4			
WG418579CCB1	CCB	03/02/17 14:09				U	ng/L		-0.5	0.5			
WG418579CCV2	CCV	03/02/17 15:03	HG161230-7	10		9.59	ng/L	96	76.5	123.4			
WG418579CCB2	CCB	03/02/17 15:08				U	ng/L		-0.5	0.5			
WG418579CCV3	CCV	03/02/17 15:27	HG161230-7	10		9.15	ng/L	92	76.5	123.4			
WG418579CCB3	CCB	03/02/17 15:32				U	ng/L		-0.5	0.5			
WG418989													
WG418989ICV	ICV	03/08/17 13:25	HG161230-7	10		10.5	ng/L	105	79	121			
WG418989ICB	ICB	03/08/17 13:29				U	ng/L		-0.5	0.5			
WG418989PQV	PQV	03/08/17 13:34	HG161230-9	.5		.47	ng/L	94	70	130			
WG418989LFB	LFB	03/08/17 13:39	HG161230-8	2		2.16	ng/L	108	71	125			
WG418989CCV1	CCV	03/08/17 14:32	HG161230-7	10		10.4	ng/L	104	76.5	123.4			
WG418989CCB1	CCB	03/08/17 14:37				U	ng/L		-0.5	0.5			
WG418989CCV2	CCV	03/08/17 15:07	HG161230-7	10		10.3	ng/L	103	76.5	123.4			
WG418989CCB2	CCB	03/08/17 15:11				U	ng/L		-0.5	0.5			
L35750-02MS	MS	03/08/17 15:26	HG161230-8	2	1	2.66	ng/L	83	71	125			
L35750-02MSD	MSD	03/08/17 15:31	HG161230-8	2	1	2.92	ng/L	96	71	125	9	24	
WG418989CCV3	CCV	03/08/17 15:55	HG161230-7	10		10.2	ng/L	102	76.5	123.4			
WG418989CCB3	CCB	03/08/17 16:00				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		2.038	mg/L	102	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.06	0.06			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	.4995		.496	mg/L	99	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	.4995	U	.459	mg/L	92	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	.4995	U	.476	mg/L	95	85	115	4	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L35597***

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2.002		2.0402	mg/L	102	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.024	0.024			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	.498		.4771	mg/L	96	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	.498	U	.444	mg/L	89	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	.498	U	.4561	mg/L	92	85	115	3	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418502													
WG418502ICV	ICV	02/24/17 20:48	WI161209-3	2.416		2.371	mg/L	98	90	110			
WG418502ICB	ICB	02/24/17 20:49				U	mg/L		-0.02	0.02			
WG418505													
WG418505LFB1	LFB	02/24/17 22:57	WI170104-22	2		2.019	mg/L	101	90	110			
L35583-01AS	AS	02/24/17 23:19	WI170104-22	2	.26	2.384	mg/L	106	90	110			
L35583-02DUP	DUP	02/24/17 23:21			.28	.276	mg/L				1	20	
WG418505LFB2	LFB	02/24/17 23:37	WI170104-22	2		1.992	mg/L	100	90	110			
L35597-09AS	AS	02/24/17 23:39	WI170104-22	2	.05	2.161	mg/L	106	90	110			
L35597-10DUP	DUP	02/24/17 23:42			.03	.025	mg/L				18	20	RA

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418366													
WG418366ICV	ICV	02/23/17 11:23	WI170103-8	11.988		11.921	mg/L	99	90	110			
WG418366ICB	ICB	02/23/17 11:24				U	mg/L		-0.05	0.05			
WG418366LFB1	LFB	02/23/17 11:25	WI161026-1	10		10.129	mg/L	101	90	110			
WG418366LFB2	LFB	02/23/17 12:07	WI161026-1	10		10.254	mg/L	103	90	110			
L35605-01AS	AS	02/23/17 12:24	WI161026-1	10	.1	10.557	mg/L	105	90	110			
L35605-02DUP	DUP	02/23/17 12:27			6.13	6.122	mg/L				0	20	
WG418433													
WG418433ICV	ICV	02/23/17 16:58	WI170103-8	11.988		11.445	mg/L	95	90	110			
WG418433ICB	ICB	02/23/17 17:00				U	mg/L		-0.05	0.05			
WG418433LFB	LFB	02/23/17 17:01	WI161026-1	10		10.814	mg/L	108	90	110			
L35582-01AS	AS	02/23/17 17:04	WI161026-1	10	.08	11.313	mg/L	112	90	110			M1
L35582-02DUP	DUP	02/23/17 17:07			.08	.073	mg/L				9	20	RA
L35597-10AS	AS	02/23/17 17:24	WI161026-1	10	U	11.42	mg/L	114	90	110			M1
L35607-01DUP	DUP	02/23/17 17:27			U	U	mg/L				0	20	RA

McClelland Laboratories, Inc. ACZ Project ID: ***L35597***

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418078													
WG418078LCSW1	LCSW	02/17/17 15:13	PCN51287	6.01		6	units	100	5.9	6.1			
WG418078LCSW4	LCSW	02/17/17 18:49	PCN51287	6.01		6	units	100	5.9	6.1			
WG418078LCSW7	LCSW	02/17/17 22:03	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG418078LCSW10	LCSW	02/18/17 1:52	PCN51287	6.01		6	units	100	5.9	6.1			
L35597-03DUP	DUP	02/18/17 5:02			2.2	2.2	units				0	20	
WG418078LCSW13	LCSW	02/18/17 5:05	PCN51287	6.01		6	units	100	5.9	6.1			
WG418325													
WG418325LCSW1	LCSW	02/22/17 15:07	PCN51287	6.01		6	units	100	5.9	6.1			
L35597-09DUP	DUP	02/22/17 16:24			4.8	4.7	units				2	20	
L35607-01DUP	DUP	02/22/17 18:06			8.1	8.2	units				1	20	
WG418325LCSW4	LCSW	02/22/17 18:09	PCN51287	6.01		6	units	100	5.9	6.1			
WG418325LCSW7	LCSW	02/22/17 21:43	PCN51287	6.01		6	units	100	5.9	6.1			
WG418325LCSW10	LCSW	02/23/17 1:24	PCN51287	6.01		6	units	100	5.9	6.1			
WG418325LCSW13	LCSW	02/23/17 4:51	PCN51287	6.01		6	units	100	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418441													
WG418441ICV	ICV	02/23/17 21:28	WI170222-3	.65228		.655	mg/L	100	90	110			
WG418441ICB	ICB	02/23/17 21:30				U	mg/L		-0.02	0.02			
WG418444													
WG418241LRB	LRB	02/23/17 22:58				U	mg/L		-0.02	0.02			
WG418241LFB	LFB	02/23/17 22:59	WI170210-4	.5		.499	mg/L	100	90	110			
L35597-01LFM	LFM	02/23/17 23:01	WI170210-4	.5	U	.519	mg/L	104	90	110			
L35597-02DUP	DUP	02/23/17 23:04			U	U	mg/L				0	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	20		19.88	mg/L	99	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.6	0.6			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	99.96532		95.68	mg/L	96	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	99.96532	1.7	95.17	mg/L	94	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	99.96532	1.7	97.73	mg/L	96	85	115	3	20	
WG418372													
WG418372ICV	ICV	02/23/17 11:46	II170222-1	20		19.21	mg/L	96	95	105			
WG418372ICB	ICB	02/23/17 11:52				U	mg/L		-0.6	0.6			
WG418372LFB	LFB	02/23/17 12:05	II170220-2	99.96532		95.05	mg/L	95	85	115			
L35597-02AS	AS	02/23/17 12:43	II170220-2	99.96532	1.8	98.01	mg/L	96	85	115			
L35597-02ASD	ASD	02/23/17 12:46	II170220-2	99.96532	1.8	98.11	mg/L	96	85	115	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L35597***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418258													
WG418258PBW	PBW	02/21/17 15:15				U	mg/L		-20	20			
WG418258LCSW	LCSW	02/21/17 15:16	PCN52092	260		260	mg/L	100	80	120			
L35646-03DUP	DUP	02/21/17 15:30			392	394	mg/L				1	10	
WG418259													
WG418259PBW	PBW	02/21/17 15:45				12	mg/L		-20	20			
WG418259LCSW	LCSW	02/21/17 15:46	PCN52092	260		272	mg/L	105	80	120			
L35599-02DUP	DUP	02/21/17 16:00			1260	1260	mg/L				0	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		1.99	mg/L	100	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.3	0.3			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	.9868		.94	mg/L	95	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	.9868	U	.89	mg/L	90	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	.9868	U	.92	mg/L	93	85	115	3	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418270													
WG418270ICV	ICV	02/22/17 11:19	MS161128-3	.05		.04959	mg/L	99	90	110			
WG418270ICB	ICB	02/22/17 11:21				U	mg/L		-0.0003	0.0003			
WG418270LFB	LFB	02/22/17 11:23	MS170220-2	.05005		.04586	mg/L	92	85	115			
L35597-04AS	AS	02/22/17 11:32	MS170220-2	.05005	.0004	.04991	mg/L	99	70	130			
L35597-04ASD	ASD	02/22/17 11:34	MS170220-2	.05005	.0004	.05074	mg/L	101	70	130	2	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	1.002		.998	mg/L	100	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.03	0.03			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	.501		.472	mg/L	94	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	.501	U	.329	mg/L	66	85	115			M2 ZA
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	.501	U	.346	mg/L	69	85	115	5	20	M2 ZA

McClelland Laboratories, Inc. ACZ Project ID: ***L35597***

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	100		101.3	mg/L	101	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.6	0.6			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	100.0322		97.59	mg/L	98	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	100.0322	1.9	96.94	mg/L	95	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	100.0322	1.9	99.25	mg/L	97	85	115	2	20	
WG418372													
WG418372ICV	ICV	02/23/17 11:46	II170222-1	100		98.1	mg/L	98	95	105			
WG418372ICB	ICB	02/23/17 11:52				U	mg/L		-0.6	0.6			
WG418372LFB	LFB	02/23/17 12:05	II170220-2	100.0322		97.67	mg/L	98	85	115			
L35597-02AS	AS	02/23/17 12:43	II170220-2	100.0322	1.9	101.1	mg/L	99	85	115			
L35597-02ASD	ASD	02/23/17 12:46	II170220-2	100.0322	1.9	101.5	mg/L	100	85	115	0	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		1.994	mg/L	100	95	105			
WG418315ICB	ICB	02/22/17 14:32				.0058	mg/L		-0.015	0.015			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	.5015		.4926	mg/L	98	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	.5015	.018	.4939	mg/L	95	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	.5015	.018	.506	mg/L	97	85	115	2	20	
WG418372													
WG418372ICV	ICV	02/23/17 11:46	II170222-1	2		1.9495	mg/L	97	95	105			
WG418372ICB	ICB	02/23/17 11:52				.0054	mg/L		-0.015	0.015			
WG418372LFB	LFB	02/23/17 12:05	II170220-2	.5015		.4928	mg/L	98	85	115			
L35597-02AS	AS	02/23/17 12:43	II170220-2	.5015	.019	.515	mg/L	99	85	115			
L35597-02ASD	ASD	02/23/17 12:46	II170220-2	.5015	.019	.5186	mg/L	100	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418382													
WG418382ICB	ICB	02/23/17 12:09				U	mg/L		-3	3			
WG418382ICV	ICV	02/23/17 12:09	WI170214-2	20		20.5	mg/L	103	90	110			
WG418382LFB	LFB	02/23/17 13:47	WI170131-8	9.99		9.7	mg/L	97	90	110			
L35597-02DUP	DUP	02/23/17 14:23			20.9	21.4	mg/L				2	20	
L35597-03AS	AS	02/23/17 14:38	SO4TURB50X	10	1300	1370	mg/L	700	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418270													
WG418270ICV	ICV	02/22/17 11:19	MS161128-3	.05		.05357	mg/L	107	90	110			
WG418270ICB	ICB	02/22/17 11:21				U	mg/L		-0.0003	0.0003			
WG418270LFB	LFB	02/22/17 11:23	MS170220-2	.0501		.04858	mg/L	97	85	115			
L35597-04AS	AS	02/22/17 11:32	MS170220-2	.0501	.0001	.04901	mg/L	98	70	130			
L35597-04ASD	ASD	02/22/17 11:34	MS170220-2	.0501	.0001	.04887	mg/L	97	70	130	0	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		2.007	mg/L	100	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.12	0.12			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	1.001		.953	mg/L	95	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	1.001	U	.85	mg/L	85	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	1.001	U	.874	mg/L	87	85	115	3	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		1.9882	mg/L	99	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.015	0.015			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	1.002		.9571	mg/L	96	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	1.002	U	.9107	mg/L	91	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	1.002	U	.9399	mg/L	94	85	115	3	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418270													
WG418270ICV	ICV	02/22/17 11:19	MS161128-3	.05		.05478	mg/L	110	90	110			
WG418270ICB	ICB	02/22/17 11:21				U	mg/L		-0.0003	0.0003			
WG418270LFB	LFB	02/22/17 11:23	MS170220-2	.05		.05052	mg/L	101	85	115			
L35597-04AS	AS	02/22/17 11:32	MS170220-2	.05	.004	.0541	mg/L	100	70	130			
L35597-04ASD	ASD	02/22/17 11:34	MS170220-2	.05	.004	.05433	mg/L	101	70	130	0	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		2.022	mg/L	101	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.015	0.015			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	.4985		.4952	mg/L	99	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	.4985	U	.4659	mg/L	93	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	.4985	U	.48	mg/L	96	85	115	3	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG418315													
WG418315ICV	ICV	02/22/17 14:26	II170201-1	2		1.953	mg/L	98	95	105			
WG418315ICB	ICB	02/22/17 14:32				U	mg/L		-0.03	0.03			
WG418315LFB	LFB	02/22/17 14:45	II170220-2	.4942		.496	mg/L	100	85	115			
L35597-02AS	AS	02/22/17 15:39	II170220-2	.4942	.05	.494	mg/L	90	85	115			
L35597-02ASD	ASD	02/22/17 15:43	II170220-2	.4942	.05	.505	mg/L	92	85	115	2	20	
WG418372													
WG418372ICV	ICV	02/23/17 11:46	II170222-1	2		1.967	mg/L	98	95	105			
WG418372ICB	ICB	02/23/17 11:52				U	mg/L		-0.03	0.03			
WG418372LFB	LFB	02/23/17 12:05	II170220-2	.4942		.508	mg/L	103	85	115			
L35597-02AS	AS	02/23/17 12:43	II170220-2	.4942	.06	.548	mg/L	99	85	115			
L35597-02ASD	ASD	02/23/17 12:46	II170220-2	.4942	.06	.55	mg/L	99	85	115	0	20	

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35597-01	WG418315	Magnesium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG418531	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418315	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG418489	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418078	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418369	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418078	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418444	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418258	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG418382	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418078	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35597-02	WG418315	Magnesium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG418531	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418315	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG418489	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418078	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418369	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418078	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418444	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418258	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG418382	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418078	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35597-03	WG418315	Magnesium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG418531	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418315	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG418489	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418078	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418369	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418433	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418078	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418444	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418259	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG418382	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418078	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35597-04	WG418315	Chromium, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
		Cobalt, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
		Gallium, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
		Lithium, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
		Magnesium, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
			M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG418531	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418315	Molybdenum, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
		Nickel, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
		Scandium, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
		Silver, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
			M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Tin, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
		Titanium, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
		Vanadium, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
	WG418489	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418325	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418369	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418433	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418325	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418444	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418259	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					filtered sample.
	WG418382	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418325	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
L35597-05	WG418315	Magnesium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG418531	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418315	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG418489	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418325	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418369	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418433	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418325	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418444	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418259	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG418382	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418325	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35597-06	WG418315	Magnesium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG418531	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418315	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG418489	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418325	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418369	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418433	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418325	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418444	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418259	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG418382	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418325	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35597-07	WG418315	Magnesium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG418531	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418579	Mercury, total	M1631, Atomic Fluorescence	DJ	Sample dilution required due to insufficient sample.
	WG418315	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG418489	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418325	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418369	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418433	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418325	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418444	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418259	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG418382	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418325	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L35597***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35597-08	WG418422	Beryllium, dissolved	M200.8 ICP-MS	DJ	Sample dilution required due to insufficient sample.
	WG418315	Magnesium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG418531	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418315	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG418489	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418325	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418369	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418433	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418325	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418444	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418259	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG418382	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418325	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L35597***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35597-09	WG418315	Magnesium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG418531	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418315	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG418489	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418325	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418369	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418505	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418433	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418325	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418444	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418259	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG418382	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418325	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L35597***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L35597-10	WG418315	Magnesium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG418531	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418315	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG418489	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418325	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418277	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418503	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418369	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418505	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418433	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418325	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG418444	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG418259	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG418382	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG418325	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L35597
Date Received: 02/16/2017 10:05
Received By:
Date Printed: 2/16/2017

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA25565	0.3	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L35597
Date Received:	02/16/2017 10:05
Received By:	
Date Printed:	2/16/2017

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L35597

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500	Mercury by 1631E					
CAL-002 (86-95)	2/15/17	WW	1	x			x					
CAL-004 (860-875)		WW	1	x			x					
CAL-003 (675-685)		WW	1	x			x					
GMC-012 (832-851)		WW	1	x			x					
CAL-004 (295-315)		WW	1	x			x					
CAL-001 (750-762)		WW	1	x			x					
GMC-014 (176-184)		WW	1	x			x					
CAL-001 (380-400)		WW	1	x			x					
CAL-002 (177-187)		WW	1	x			x					
Calico Leach Res. after CN Destruct		WW	1	x	x	x	x					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 64
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	2/15/17 9AM	[signature]	2/16/17 1000

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L35597 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.

[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.

[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

[redacted]

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

April 03, 2017

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L36030

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 16, 2017. This project has been assigned to ACZ's project number, L36030. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L36030. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after May 03, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L36030-01***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/22/17 15:12	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.77			mg/L	0.03	0.2	03/17/17 20:00	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0119			mg/L	0.0004	0.002	03/28/17 1:41	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0442			mg/L	0.0002	0.001	03/28/17 1:41	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	03/17/17 20:00	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00011	B		mg/L	0.00005	0.0003	03/28/17 1:41	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/17/17 20:00	gss
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	03/17/17 20:00	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	03/28/17 1:41	enb
Calcium, dissolved	M200.7 ICP	1	0.4	B	*	mg/L	0.1	0.5	03/17/17 20:00	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:00	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:00	gss
Copper, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	03/17/17 20:00	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:00	gss
Iron, dissolved	M200.7 ICP	1	5.20			mg/L	0.02	0.05	03/17/17 20:00	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0045			mg/L	0.0001	0.0005	03/28/17 1:41	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:00	gss
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	03/17/17 20:00	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:00	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/21/17 13:28	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/17/17 20:00	gss
Nickel, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.008	0.04	03/17/17 20:00	gss
Potassium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	03/17/17 20:00	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:00	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	03/28/17 1:41	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/23/17 14:06	aeb
Sodium, dissolved	M200.7 ICP	1	0.3	B	*	mg/L	0.2	1	03/17/17 20:00	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:00	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0001	0.0005	03/28/17 1:41	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/17/17 20:00	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/17/17 20:00	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	03/28/17 1:41	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:00	gss
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/17/17 20:00	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L36030-01***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	03/17/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-22.1			%			04/03/17 0:00	calc
Sum of Anions			0.636			meq/L			04/03/17 0:00	calc
Sum of Cations			0.406	B		meq/L			04/03/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/24/17 13:45	spl
Conductivity @25C	SM2510B	1	270		*	umhos/cm	1	10	03/17/17 21:58	emk
Fluoride	SM4500F-C	100		U	*	mg/L	5	30	03/20/17 16:46	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.999	B		mg/L	0.2	5	04/03/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	03/24/17 23:36	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	03/17/17 13:09	bce
pH (lab)	SM4500H+ B									
pH		1	3.2	H	*	units	0.1	0.1	03/17/17 0:00	emk
pH measured at		1	22.5			C	0.1	0.1	03/17/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/23/17 21:14	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	72		*	mg/L	10	20	03/20/17 15:29	keh
Sulfate	D516-02/-07 - Turbidimetric	5	30.3		*	mg/L	5	25	03/28/17 12:10	bce
TDS (calculated)	Calculation		37.4			mg/L			04/03/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.93						04/03/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L36030-02***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/22/17 15:19	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.03	0.2	03/17/17 20:03	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0004	0.002	03/28/17 1:44	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0002	0.001	03/28/17 1:44	enb
Barium, dissolved	M200.7 ICP	1	0.086			mg/L	0.003	0.02	03/17/17 20:03	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00023	B		mg/L	0.00005	0.0003	03/28/17 1:44	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/17/17 20:03	gss
Boron, dissolved	M200.7 ICP	1	0.06		*	mg/L	0.01	0.05	03/17/17 20:03	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/28/17 1:44	enb
Calcium, dissolved	M200.7 ICP	1	0.6		*	mg/L	0.1	0.5	03/17/17 20:03	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:03	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:03	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:03	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:03	gss
Iron, dissolved	M200.7 ICP	1	0.08			mg/L	0.02	0.05	03/17/17 20:03	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	03/28/17 1:44	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:03	gss
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	03/17/17 20:03	gss
Manganese, dissolved	M200.7 ICP	1	0.018	B		mg/L	0.005	0.03	03/17/17 20:03	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/21/17 13:29	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/17/17 20:03	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:03	gss
Potassium, dissolved	M200.7 ICP	1	1.7			mg/L	0.2	1	03/17/17 20:03	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:03	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	03/28/17 1:44	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/23/17 14:09	aeb
Sodium, dissolved	M200.7 ICP	1	1.8		*	mg/L	0.2	1	03/17/17 20:03	gss
Strontium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	03/17/17 20:03	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	03/28/17 1:44	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/17/17 20:03	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/17/17 20:03	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	03/28/17 1:44	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:03	gss
Zinc, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	03/17/17 20:03	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L36030-02***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	03/17/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			04/03/17 0:00	calc
Sum of Anions			0.879			meq/L			04/03/17 0:00	calc
Sum of Cations			0.164	B		meq/L			04/03/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/24/17 13:45	spl
Conductivity @25C	SM2510B	1	114		*	umhos/cm	1	10	03/17/17 22:02	emk
Fluoride	SM4500F-C	200	10	B	*	mg/L	10	50	03/21/17 12:27	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	04/03/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B		mg/L	0.02	0.1	03/24/17 23:37	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	03/17/17 13:10	bce
pH (lab)	SM4500H+ B									
pH		1	3.6	H	*	units	0.1	0.1	03/17/17 0:00	emk
pH measured at		1	22.2			C	0.1	0.1	03/17/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/23/17 21:15	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	44		*	mg/L	10	20	03/20/17 15:32	keh
Sulfate	D516-02/-07 - Turbidimetric	1	16.6		*	mg/L	1	5	03/28/17 12:25	bce
TDS (calculated)	Calculation		30.9			mg/L			04/03/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.42						04/03/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L36030-03***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/22/17 15:26	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	14.8			mg/L	0.03	0.2	03/17/17 20:06	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0035			mg/L	0.0004	0.002	03/28/17 1:47	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.691			mg/L	0.0002	0.001	03/28/17 1:47	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	03/17/17 20:06	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00226			mg/L	0.00005	0.0003	03/28/17 1:47	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/17/17 20:06	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:06	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	03/28/17 1:47	enb
Calcium, dissolved	M200.7 ICP	1	49.8			mg/L	0.1	0.5	03/17/17 20:06	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:06	gss
Cobalt, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	03/17/17 20:06	gss
Copper, dissolved	M200.7 ICP	1	0.24			mg/L	0.01	0.05	03/17/17 20:06	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:06	gss
Iron, dissolved	M200.7 ICP	1	267		*	mg/L	0.02	0.05	03/17/17 20:06	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	03/28/17 1:47	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:06	gss
Magnesium, dissolved	M200.7 ICP	1	1.7			mg/L	0.2	1	03/17/17 20:06	gss
Manganese, dissolved	M200.7 ICP	1	0.167			mg/L	0.005	0.03	03/17/17 20:06	gss
Mercury, dissolved	M245.1 CVAA	1	0.0006	B		mg/L	0.0002	0.001	03/21/17 13:30	pta
Molybdenum, dissolved	M200.7 ICP	1	0.21			mg/L	0.02	0.1	03/17/17 20:06	gss
Nickel, dissolved	M200.7 ICP	1	0.082			mg/L	0.008	0.04	03/17/17 20:06	gss
Potassium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	03/17/17 20:06	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:06	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0001	0.0003	03/28/17 1:47	enb
Silver, dissolved	M200.7 ICP	1	0.03		*	mg/L	0.01	0.03	03/23/17 14:12	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/17/17 20:06	gss
Strontium, dissolved	M200.7 ICP	1	0.055			mg/L	0.005	0.03	03/17/17 20:06	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	03/28/17 1:47	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/17/17 20:06	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/17/17 20:06	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0038			mg/L	0.0001	0.0005	03/28/17 1:47	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:06	gss
Zinc, dissolved	M200.7 ICP	1	0.35			mg/L	0.01	0.05	03/17/17 20:06	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L36030-03***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	03/17/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-5.0			%			04/03/17 0:00	calc
Sum of Anions			21			meq/L			04/03/17 0:00	calc
Sum of Cations			19			meq/L			04/03/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/24/17 13:45	spl
Conductivity @25C	SM2510B	1	2800		*	umhos/cm	1	10	03/17/17 22:07	emk
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	03/21/17 12:32	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		131			mg/L	0.2	5	04/03/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	03/24/17 23:38	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	03/17/17 13:37	bce
pH (lab)	SM4500H+ B									
pH		1	2.2	H	*	units	0.1	0.1	03/17/17 0:00	emk
pH measured at		1	22.3			C	0.1	0.1	03/17/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.45		*	mg/L	0.02	0.05	03/23/17 21:17	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	1320		*	mg/L	10	20	03/20/17 15:34	keh
Sulfate	D516-02/-07 - Turbidimetric	50	976		*	mg/L	50	250	03/28/17 13:26	bce
TDS (calculated)	Calculation		1310			mg/L			04/03/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.01						04/03/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L36030-04***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/22/17 15:33	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.23			mg/L	0.03	0.2	03/17/17 20:09	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0014	B		mg/L	0.0004	0.002	03/28/17 1:51	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0049			mg/L	0.0002	0.001	03/28/17 1:51	enb
Barium, dissolved	M200.7 ICP	1	0.072			mg/L	0.003	0.02	03/17/17 20:09	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00007	B		mg/L	0.00005	0.0003	03/28/17 1:51	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/17/17 20:09	gss
Boron, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	03/17/17 20:09	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/28/17 1:51	enb
Calcium, dissolved	M200.7 ICP	1	0.7			mg/L	0.1	0.5	03/17/17 20:09	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:09	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:09	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:09	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:09	gss
Iron, dissolved	M200.7 ICP	1	3.62		*	mg/L	0.02	0.05	03/17/17 20:09	gss
Lead, dissolved	M200.8 ICP-MS	1	0.002			mg/L	0.0001	0.0005	03/28/17 1:51	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:09	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/17/17 20:09	gss
Manganese, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	03/17/17 20:09	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/21/17 13:33	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/17/17 20:09	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:09	gss
Potassium, dissolved	M200.7 ICP	1	0.9	B		mg/L	0.2	1	03/17/17 20:09	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:09	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	03/28/17 1:51	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/23/17 14:15	aeb
Sodium, dissolved	M200.7 ICP	1	2.3			mg/L	0.2	1	03/17/17 20:09	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:09	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	03/28/17 1:51	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/17/17 20:09	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/17/17 20:09	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	03/28/17 1:51	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:09	gss
Zinc, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	03/17/17 20:09	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L36030-04***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	03/17/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-36.1			%			04/03/17 0:00	calc
Sum of Anions			0.825			meq/L			04/03/17 0:00	calc
Sum of Cations			0.387	B		meq/L			04/03/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/24/17 13:45	spl
Conductivity @25C	SM2510B	1	415		*	umhos/cm	1	10	03/17/17 22:15	emk
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	03/21/17 12:36	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.8	B		mg/L	0.2	5	04/03/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.28			mg/L	0.02	0.1	03/24/17 23:40	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.10	B	*	mg/L	0.05	0.2	03/23/17 11:57	spl
pH (lab)	SM4500H+ B									
pH		1	3.1	H	*	units	0.1	0.1	03/17/17 0:00	emk
pH measured at		1	22.6			C	0.1	0.1	03/17/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/23/17 21:18	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	68		*	mg/L	10	20	03/20/17 15:37	keh
Sulfate	D516-02/-07 - Turbidimetric	5	39.3		*	mg/L	5	25	03/28/17 12:31	bce
TDS (calculated)	Calculation		47.2			mg/L			04/03/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.44						04/03/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L36030-05***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/22/17 15:40	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.21			mg/L	0.03	0.2	03/17/17 20:18	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	03/28/17 1:54	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0002	0.001	03/28/17 1:54	enb
Barium, dissolved	M200.7 ICP	1	0.017	B		mg/L	0.003	0.02	03/17/17 20:18	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00035			mg/L	0.00005	0.0003	03/28/17 1:54	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/17/17 20:18	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:18	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	03/28/17 1:54	enb
Calcium, dissolved	M200.7 ICP	1	2.1			mg/L	0.1	0.5	03/17/17 20:18	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:18	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:18	gss
Copper, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	03/17/17 20:18	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:18	gss
Iron, dissolved	M200.7 ICP	1	0.26		*	mg/L	0.02	0.05	03/17/17 20:18	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	03/28/17 1:54	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:18	gss
Magnesium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	03/17/17 20:18	gss
Manganese, dissolved	M200.7 ICP	1	0.067			mg/L	0.005	0.03	03/17/17 20:18	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/21/17 13:34	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/17/17 20:18	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:18	gss
Potassium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	03/17/17 20:18	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:18	gss
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	03/28/17 1:54	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/23/17 14:19	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/17/17 20:18	gss
Strontium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	03/17/17 20:18	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	03/28/17 1:54	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/17/17 20:18	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/17/17 20:18	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	03/28/17 1:54	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:18	gss
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/17/17 20:18	gss

** Please refer to Qualifier Reports for details.*

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L36030-05***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	03/17/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-54.6			%			04/03/17 0:00	calc
Sum of Anions			0.708			meq/L			04/03/17 0:00	calc
Sum of Cations			0.208	B		meq/L			04/03/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/24/17 13:45	spl
Conductivity @25C	SM2510B	1	220		*	umhos/cm	1	10	03/17/17 22:20	emk
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	03/21/17 12:39	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		7.3			mg/L	0.2	5	04/03/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	03/24/17 23:41	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	03/17/17 13:19	bce
pH (lab)	SM4500H+ B									
pH		1	3.4	H	*	units	0.1	0.1	03/17/17 0:00	emk
pH measured at		1	22.9			C	0.1	0.1	03/17/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/23/17 21:19	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	40		*	mg/L	10	20	03/20/17 15:39	keh
Sulfate	D516-02/-07 - Turbidimetric	1	33.7		*	mg/L	1	5	03/28/17 12:25	bce
TDS (calculated)	Calculation		37.6			mg/L			04/03/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.06						04/03/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L36030-06***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/22/17 15:48	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.09	B		mg/L	0.03	0.2	03/17/17 20:21	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	03/28/17 1:57	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.004			mg/L	0.0002	0.001	03/28/17 1:57	enb
Barium, dissolved	M200.7 ICP	1	0.066			mg/L	0.003	0.02	03/17/17 20:21	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00016	B		mg/L	0.00005	0.0003	03/28/17 1:57	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/17/17 20:21	gss
Boron, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	03/17/17 20:21	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/28/17 1:57	enb
Calcium, dissolved	M200.7 ICP	1	4.7			mg/L	0.1	0.5	03/17/17 20:21	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:21	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/17/17 20:21	gss
Copper, dissolved	M200.7 ICP	1	0.26			mg/L	0.01	0.05	03/17/17 20:21	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:21	gss
Iron, dissolved	M200.7 ICP	1	0.45		*	mg/L	0.02	0.05	03/17/17 20:21	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	03/28/17 1:57	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:21	gss
Magnesium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	03/17/17 20:21	gss
Manganese, dissolved	M200.7 ICP	1	0.025	B		mg/L	0.005	0.03	03/17/17 20:21	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/21/17 13:35	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/17/17 20:21	gss
Nickel, dissolved	M200.7 ICP	1	0.050			mg/L	0.008	0.04	03/17/17 20:21	gss
Potassium, dissolved	M200.7 ICP	1	1.9			mg/L	0.2	1	03/17/17 20:21	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:21	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0003	03/28/17 1:57	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/23/17 14:22	aeb
Sodium, dissolved	M200.7 ICP	1	1.2			mg/L	0.2	1	03/17/17 20:21	gss
Strontium, dissolved	M200.7 ICP	1	0.056			mg/L	0.005	0.03	03/17/17 20:21	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/28/17 1:57	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/17/17 20:21	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/17/17 20:21	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0033			mg/L	0.0001	0.0005	03/28/17 1:57	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:21	gss
Zinc, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	03/17/17 20:21	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L36030-06***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	03/17/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-17.9			%			04/03/17 0:00	calc
Sum of Anions			0.645			meq/L			04/03/17 0:00	calc
Sum of Cations			0.449	B		meq/L			04/03/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/24/17 13:45	spl
Conductivity @25C	SM2510B	1	119		*	umhos/cm	1	10	03/17/17 22:24	emk
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	03/21/17 12:43	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		15.0			mg/L	0.2	5	04/03/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U		mg/L	0.02	0.1	03/24/17 23:46	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	03/17/17 13:20	bce
pH (lab)	SM4500H+ B									
pH		1	4.0	H	*	units	0.1	0.1	03/17/17 0:00	emk
pH measured at		1	22.9			C	0.1	0.1	03/17/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/23/17 21:20	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	46		*	mg/L	10	20	03/20/17 15:42	keh
Sulfate	D516-02/-07 - Turbidimetric	1	30.7		*	mg/L	1	5	03/28/17 12:25	bce
TDS (calculated)	Calculation		40.2			mg/L			04/03/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.14						04/03/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L36030-07***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				03/27/17 14:08	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	9.14			mg/L	0.03	0.2	03/17/17 20:24	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0014	B		mg/L	0.0004	0.002	03/28/17 2:00	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.362			mg/L	0.0002	0.001	03/28/17 2:00	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	03/17/17 20:24	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00089			mg/L	0.00005	0.0003	03/28/17 2:00	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/17/17 20:24	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:24	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	03/28/17 2:00	enb
Calcium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.1	0.5	03/17/17 20:24	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:24	gss
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	03/17/17 20:24	gss
Copper, dissolved	M200.7 ICP	1	0.25			mg/L	0.01	0.05	03/17/17 20:24	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:24	gss
Iron, dissolved	M200.7 ICP	1	44.7		*	mg/L	0.02	0.05	03/17/17 20:24	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0001	0.0005	03/28/17 2:00	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:24	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/17/17 20:24	gss
Manganese, dissolved	M200.7 ICP	1	0.025	B		mg/L	0.005	0.03	03/17/17 20:24	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/21/17 13:36	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/17/17 20:24	gss
Nickel, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.008	0.04	03/17/17 20:24	gss
Potassium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	03/17/17 20:24	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:24	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	03/28/17 2:00	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/23/17 14:31	aeb
Sodium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	03/17/17 20:24	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:24	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0005	03/28/17 2:00	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/17/17 20:24	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/17/17 20:24	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0001	0.0005	03/28/17 2:00	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:24	gss
Zinc, dissolved	M200.7 ICP	1	0.25			mg/L	0.01	0.05	03/17/17 20:24	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L36030-07***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	03/17/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-17.6			%			04/03/17 0:00	calc
Sum of Anions			5.0			meq/L			04/03/17 0:00	calc
Sum of Cations			3.5			meq/L			04/03/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/24/17 13:45	spl
Conductivity @25C	SM2510B	1	1230		*	umhos/cm	1	10	03/17/17 22:28	emk
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	03/21/17 12:47	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.999	B		mg/L	0.2	5	04/03/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B		mg/L	0.02	0.1	03/24/17 23:47	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	03/23/17 11:58	spl
pH (lab)	SM4500H+ B									
pH		1	2.6	H	*	units	0.1	0.1	03/17/17 0:00	emk
pH measured at		1	22.7			C	0.1	0.1	03/17/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	5	0.3		*	mg/L	0.1	0.3	03/29/17 0:09	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	340		*	mg/L	10	20	03/20/17 15:45	keh
Sulfate	D516-02/-07 - Turbidimetric	10	238		*	mg/L	10	50	03/28/17 13:04	bce
TDS (calculated)	Calculation		294			mg/L			04/03/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.16						04/03/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L36030-08***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/22/17 16:02	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	03/17/17 20:33	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0004	0.002	03/28/17 2:03	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0048			mg/L	0.0002	0.001	03/28/17 2:03	enb
Barium, dissolved	M200.7 ICP	1	0.082			mg/L	0.003	0.02	03/17/17 20:33	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	03/28/17 2:03	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/17/17 20:33	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:33	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/28/17 2:03	enb
Calcium, dissolved	M200.7 ICP	1	1.2			mg/L	0.1	0.5	03/17/17 20:33	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:33	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:33	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:33	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:33	gss
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.05	03/17/17 20:33	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	03/28/17 2:03	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:33	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/17/17 20:33	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:33	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/21/17 13:37	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/17/17 20:33	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:33	gss
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/17/17 20:33	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:33	gss
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	03/28/17 2:03	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/23/17 14:41	aeb
Sodium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	03/17/17 20:33	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:33	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/28/17 2:03	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/17/17 20:33	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/17/17 20:33	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/28/17 2:03	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:33	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:33	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L36030-08***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	03/17/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			04/03/17 0:00	calc
Sum of Anions			0.174	B		meq/L			04/03/17 0:00	calc
Sum of Cations				U		meq/L			04/03/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	03/24/17 13:46	spl
Conductivity @25C	SM2510B	1	17.7		*	umhos/cm	1	10	03/17/17 22:36	emk
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	03/21/17 12:59	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		3.0	B		mg/L	0.2	5	04/03/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.12			mg/L	0.02	0.1	03/24/17 23:49	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	03/17/17 13:23	bce
pH (lab)	SM4500H+ B									
pH		1	6.8	H	*	units	0.1	0.1	03/17/17 0:00	emk
pH measured at		1	22.6			C	0.1	0.1	03/17/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/23/17 21:22	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	14	B	*	mg/L	10	20	03/20/17 15:47	keh
Sulfate	D516-02/-07 - Turbidimetric	1	8.3		*	mg/L	1	5	03/28/17 12:26	bce
TDS (calculated)	Calculation		10.3			mg/L			04/03/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.36						04/03/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L36030-09***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/22/17 16:09	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	03/17/17 20:36	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	03/28/17 2:13	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0002	0.001	03/28/17 2:13	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	03/17/17 20:36	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00011	B		mg/L	0.00005	0.0003	03/28/17 2:13	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/17/17 20:36	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:36	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/28/17 2:13	enb
Calcium, dissolved	M200.7 ICP	1	0.7			mg/L	0.1	0.5	03/17/17 20:36	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:36	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:36	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:36	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:36	gss
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.05	03/17/17 20:36	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0023			mg/L	0.0001	0.0005	03/28/17 2:13	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:36	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/17/17 20:36	gss
Manganese, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	03/17/17 20:36	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/21/17 13:38	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/17/17 20:36	gss
Nickel, dissolved	M200.7 ICP	1	0.111			mg/L	0.008	0.04	03/17/17 20:36	gss
Potassium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	03/17/17 20:36	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:36	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0003	03/28/17 2:13	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/23/17 14:44	aeb
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/17/17 20:36	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:36	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	03/28/17 2:13	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/17/17 20:36	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/17/17 20:36	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/28/17 2:13	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:36	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:36	gss

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L36030-09***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	03/17/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			04/03/17 0:00	calc
Sum of Anions			0.1	B		meq/L			04/03/17 0:00	calc
Sum of Cations				U		meq/L			04/03/17 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	03/24/17 13:46	spl
Conductivity @25C	SM2510B	1	22.4		*	umhos/cm	1	10	03/17/17 22:42	emk
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	03/21/17 13:04	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.8	B		mg/L	0.2	5	04/03/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	03/24/17 23:50	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	03/17/17 13:24	bce
pH (lab)	SM4500H+ B									
pH		1	4.8	H	*	units	0.1	0.1	03/17/17 0:00	emk
pH measured at		1	22.4			C	0.1	0.1	03/17/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/23/17 21:23	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	03/20/17 15:53	keh
Sulfate	D516-02/-07 - Turbidimetric	1	6.2		*	mg/L	1	5	03/28/17 12:26	bce
TDS (calculated)	Calculation		7.31			mg/L			04/03/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						04/03/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L36030-10***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, WAD	SM4500-CN I- distillation				*				03/22/17 13:46	bce
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								03/22/17 16:16	bce

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	1.00			mg/L	0.03	0.2	03/17/17 20:39	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	03/28/17 2:16	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0002	0.001	03/28/17 2:16	enb
Barium, dissolved	M200.7 ICP	1	0.084			mg/L	0.003	0.02	03/17/17 20:39	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00013	B		mg/L	0.00005	0.0003	03/28/17 2:16	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	03/17/17 20:39	gss
Boron, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	03/17/17 20:39	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	03/28/17 2:16	enb
Calcium, dissolved	M200.7 ICP	1	0.6			mg/L	0.1	0.5	03/17/17 20:39	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:39	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	03/17/17 20:39	gss
Copper, dissolved	M200.7 ICP	1	0.09			mg/L	0.01	0.05	03/17/17 20:39	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:39	gss
Iron, dissolved	M200.7 ICP	1	0.34		*	mg/L	0.02	0.05	03/17/17 20:39	gss
Lead, dissolved	M200.8 ICP-MS	1	0.002			mg/L	0.0001	0.0005	03/28/17 2:16	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:39	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	03/17/17 20:39	gss
Manganese, dissolved	M200.7 ICP	1	0.031			mg/L	0.005	0.03	03/17/17 20:39	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/21/17 13:41	pta
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/17/17 20:39	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/17/17 20:39	gss
Potassium, dissolved	M200.7 ICP	1	2.2			mg/L	0.2	1	03/17/17 20:39	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	03/17/17 20:39	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	03/28/17 2:16	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	03/23/17 14:47	aeb
Sodium, dissolved	M200.7 ICP	1	1.5			mg/L	0.2	1	03/17/17 20:39	gss
Strontium, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.005	0.03	03/17/17 20:39	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	03/28/17 2:16	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	03/17/17 20:39	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	03/17/17 20:39	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	03/28/17 2:16	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/17/17 20:39	gss
Zinc, dissolved	M200.7 ICP	1	0.12			mg/L	0.01	0.05	03/17/17 20:39	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L36030-10***
Date Sampled: *03/15/17 00:00*
Date Received: *03/16/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	03/17/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	03/17/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-28.1			%			04/03/17 0:00	calc
Sum of Anions			0.519			meq/L			04/03/17 0:00	calc
Sum of Cations			0.291	B		meq/L			04/03/17 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	03/24/17 13:46	spl
Conductivity @25C	SM2510B	1	250		*	umhos/cm	1	10	03/17/17 22:46	emk
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	03/24/17 23:31	pjb
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	03/21/17 13:09	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	04/03/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.10		*	mg/L	0.02	0.1	03/24/17 23:52	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U		mg/L	0.05	0.2	03/17/17 13:26	bce
pH (lab)	SM4500H+ B									
pH		1	3.3	H	*	units	0.1	0.1	03/17/17 0:00	emk
pH measured at		1	22.3			C	0.1	0.1	03/17/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	03/23/17 21:25	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	52		*	mg/L	10	20	03/20/17 15:55	keh
Sulfate	D516-02/-07 - Turbidimetric	2	24.7			mg/L	2	10	03/31/17 10:48	bce
TDS (calculated)	Calculation		30.6			mg/L			04/03/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.70						04/03/17 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L36030***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419607													
WG419607PBW1	PBW	03/17/17 16:35				U	mg/L		-20	20			
WG419607LCSW3	LCSW	03/17/17 16:53	WC170224-1	820.0001		797	mg/L	97	90	110			
WG419607LCSW6	LCSW	03/17/17 20:28	WC170224-1	820.0001		804	mg/L	98	90	110			
WG419607PBW2	PBW	03/17/17 20:34				U	mg/L		-20	20			
L36030-03DUP	DUP	03/17/17 22:11			U	U	mg/L				0	20	RA
L36032-03DUP	DUP	03/17/17 23:03			U	U	mg/L				0	20	RA
WG419607LCSW9	LCSW	03/17/17 23:21	WC170224-1	820.0001		804	mg/L	98	90	110			
WG419607PBW3	PBW	03/17/17 23:28				U	mg/L		-20	20			
WG419607LCSW12	LCSW	03/18/17 2:55	WC170224-1	820.0001		806	mg/L	98	90	110			
WG419607PBW4	PBW	03/18/17 3:03				U	mg/L		-20	20			
WG419607LCSW15	LCSW	03/18/17 6:55	WC170224-1	820.0001		797	mg/L	97	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		2.066	mg/L	103	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.09	0.09			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	1.0013		.992	mg/L	99	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	1.0013	.13	1.091	mg/L	96	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	1.0013	.13	1.098	mg/L	97	85	115	1	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	1.0013	.23	1.242	mg/L	101	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	1.0013	.23	1.213	mg/L	98	85	115	2	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG420130													
WG420130ICV	ICV	03/28/17 1:31	MS170301-3	.02		.02096	mg/L	105	90	110			
WG420130ICB	ICB	03/28/17 1:34				.00067	mg/L		-0.0012	0.0012			
WG420130LFB	LFB	03/28/17 1:38	MS170321-3	.009980001		.01021	mg/L	102	85	115			
L36042-01AS	AS	03/28/17 2:23	MS170321-3	.009980001	U	.00854	mg/L	86	70	130			
L36042-01ASD	ASD	03/28/17 2:26	MS170321-3	.009980001	U	.00919	mg/L	92	70	130	7	20	
L36066-02AS	AS	03/28/17 3:01	MS170321-3	.009980001	.0057	.01537	mg/L	97	70	130			
L36066-02ASD	ASD	03/28/17 3:05	MS170321-3	.009980001	.0057	.0165	mg/L	108	70	130	7	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG420130													
WG420130ICV	ICV	03/28/17 1:31	MS170301-3	.05		.05303	mg/L	106	90	110			
WG420130ICB	ICB	03/28/17 1:34				U	mg/L		-0.0006	0.0006			
WG420130LFB	LFB	03/28/17 1:38	MS170321-3	.0501		.05068	mg/L	101	85	115			
L36042-01AS	AS	03/28/17 2:23	MS170321-3	.0501	.0008	.05536	mg/L	109	70	130			
L36042-01ASD	ASD	03/28/17 2:26	MS170321-3	.0501	.0008	.0544	mg/L	107	70	130	2	20	
L36066-02AS	AS	03/28/17 3:01	MS170321-3	.0501	.0675	.1163	mg/L	97	70	130			
L36066-02ASD	ASD	03/28/17 3:05	MS170321-3	.0501	.0675	.1267	mg/L	118	70	130	9	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L36030***

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		2.0062	mg/L	100	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.009	0.009			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	.5005		.4944	mg/L	99	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	.5005	.012	.5095	mg/L	99	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	.5005	.012	.4993	mg/L	97	85	115	2	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	.5005	.072	.5656	mg/L	99	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	.5005	.072	.5555	mg/L	97	85	115	2	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG420130													
WG420130ICV	ICV	03/28/17 1:31	MS170301-3	.05		.04613	mg/L	92	90	110			
WG420130ICB	ICB	03/28/17 1:34				.000071	mg/L		-0.00015	0.00015			
WG420130LFB	LFB	03/28/17 1:38	MS170321-3	.05035		.04675	mg/L	93	85	115			
L36042-01AS	AS	03/28/17 2:23	MS170321-3	.05035	U	.05011	mg/L	100	70	130			
L36042-01ASD	ASD	03/28/17 2:26	MS170321-3	.05035	U	.05023	mg/L	100	70	130	0	20	
L36066-02AS	AS	03/28/17 3:01	MS170321-3	.05035	U	.03808	mg/L	76	70	130			
L36066-02ASD	ASD	03/28/17 3:05	MS170321-3	.05035	U	.039	mg/L	77	70	130	2	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		1.967	mg/L	98	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.12	0.12			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	1		.978	mg/L	98	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	1	U	.956	mg/L	96	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	1	U	.968	mg/L	97	85	115	1	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	1	U	.992	mg/L	99	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	1	U	.972	mg/L	97	85	115	2	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		2.034	mg/L	102	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.03	0.03			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	.5005		.49	mg/L	98	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	.5005	1.63	2.023	mg/L	79	85	115			M3
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	.5005	1.63	2.071	mg/L	88	85	115	2	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	.5005	.08	.571	mg/L	98	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	.5005	.08	.57	mg/L	98	85	115	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L36030***

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG420130													
WG420130ICV	ICV	03/28/17 1:31	MS170301-3	.05		.05037	mg/L	101	90	110			
WG420130ICB	ICB	03/28/17 1:34				U	mg/L		-0.0003	0.0003			
WG420130LFB	LFB	03/28/17 1:38	MS170321-3	.05005		.04924	mg/L	98	85	115			
L36042-01AS	AS	03/28/17 2:23	MS170321-3	.05005	U	.04977	mg/L	99	70	130			
L36042-01ASD	ASD	03/28/17 2:26	MS170321-3	.05005	U	.04878	mg/L	97	70	130	2	20	
L36066-02AS	AS	03/28/17 3:01	MS170321-3	.05005	U	.04934	mg/L	99	70	130			
L36066-02ASD	ASD	03/28/17 3:05	MS170321-3	.05005	U	.05277	mg/L	105	70	130	7	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	100		98.24	mg/L	98	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.3	0.3			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	67.99026		65.82	mg/L	97	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	67.99026	377	433.4	mg/L	83	85	115			M3
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	67.99026	377	439.4	mg/L	92	85	115	1	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	67.99026	.7	66.81	mg/L	97	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	67.99026	.7	65.89	mg/L	96	85	115	1	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG420025													
WG420025ICB	ICB	03/24/17 12:26				U	mg/L		-1.5	1.5			
WG420025ICV	ICV	03/24/17 12:26	WI160701-1	55.055		57.82	mg/L	105	90	110			
WG420025LFB1	LFB	03/24/17 12:57	WI161020-2	30.03		30.92	mg/L	103	90	110			
L36029-07AS	AS	03/24/17 13:45	WI161020-2	30.03	34.3	63.09	mg/L	96	90	110			
L36030-01DUP	DUP	03/24/17 13:45			U	U	mg/L				0	20	RA
WG420025LFB2	LFB	03/24/17 13:46	WI161020-2	30.03		30.66	mg/L	102	90	110			
L36044-02AS	AS	03/24/17 13:59	WI161020-2	150.15	119	262.7	mg/L	96	90	110			
L36044-03DUP	DUP	03/24/17 13:59			47.1	46.79	mg/L				1	20	

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		1.954	mg/L	98	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.03	0.03			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	.5025		.481	mg/L	96	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	.5025	U	.441	mg/L	88	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	.5025	U	.457	mg/L	91	85	115	4	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	.5025	U	.478	mg/L	95	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	.5025	U	.476	mg/L	95	85	115	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L36030***

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2.002		1.927	mg/L	96	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.03	0.03			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	.5025		.485	mg/L	97	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	.5025	U	.433	mg/L	86	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	.5025	U	.447	mg/L	89	85	115	3	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	.5025	U	.483	mg/L	96	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	.5025	U	.475	mg/L	95	85	115	2	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419607													
WG419607LCSW2	LCSW	03/17/17 16:39	PCN51547	1410		1540	umhos/cm	109	90	110			
WG419607LCSW5	LCSW	03/17/17 20:14	PCN51547	1410		1470	umhos/cm	104	90	110			
L36030-03DUP	DUP	03/17/17 22:11			2800	2960	umhos/cm				6	20	
L36032-03DUP	DUP	03/17/17 23:03			2560	2560	umhos/cm				0	20	
WG419607LCSW8	LCSW	03/17/17 23:08	PCN51547	1410		1470	umhos/cm	104	90	110			
WG419607LCSW11	LCSW	03/18/17 2:42	PCN51547	1410		1390	umhos/cm	99	90	110			
WG419607LCSW14	LCSW	03/18/17 6:43	PCN51547	1410		1370	umhos/cm	97	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		2.015	mg/L	101	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.03	0.03			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	.5005		.482	mg/L	96	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	.5005	U	.486	mg/L	97	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	.5005	U	.492	mg/L	98	85	115	1	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	.5005	U	.493	mg/L	99	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	.5005	U	.487	mg/L	97	85	115	1	20	

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG420044													
WG420044ICV	ICV	03/24/17 23:11	WI170322-6	.3006		.2872	mg/L	96	90	110			
WG420044ICB	ICB	03/24/17 23:12				U	mg/L		-0.003	0.003			
WG419828LRB	LRB	03/24/17 23:12				U	mg/L		-0.003	0.003			
WG419828LFB	LFB	03/24/17 23:13	WI170322-4	.2004		.1973	mg/L	98	90	110			
L36022-02DUP	DUP	03/24/17 23:27			U	U	mg/L				0	20	RA
L36023-01LFM	LFM	03/24/17 23:29	WI170322-4	.2004	U	.1986	mg/L	99	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419670													
WG419670ICV	ICV	03/20/17 12:40	WC170310-7	2.006		1.937	mg/L	97	95	105			
WG419670ICB	ICB	03/20/17 12:45				.07	mg/L		-0.15	0.15			
WG419670LFB1	LFB	03/20/17 12:52	WC170320-7	4.995		4.975	mg/L	100	90	110			
WG419670LFB2	LFB	03/20/17 15:28	WC170320-7	4.995		4.751	mg/L	95	90	110			
L36021-01AS	AS	03/20/17 15:44	WC170320-7	4.995	.18	4.796	mg/L	92	90	110			
L36021-01DUP	DUP	03/20/17 15:47			.18	.27	mg/L				40	20	RA
L36030-02AS	AS	03/20/17 17:09	WC170320-7	499.5	U	486.2	mg/L	97	90	110			
L36030-02DUP	DUP	03/20/17 17:16			U	U	mg/L				0	20	RA
WG419752													
WG419752ICV	ICV	03/21/17 11:58	WC170310-7	2.006		1.926	mg/L	96	95	105			
WG419752ICB	ICB	03/21/17 12:02				.094	mg/L		-0.15	0.15			
WG419752LFB1	LFB	03/21/17 12:09	WC170320-7	4.995		4.932	mg/L	99	90	110			
L36001-03AS	AS	03/21/17 12:19	WC170320-7	499.5	14	477.9	mg/L	93	90	110			
L36001-03DUP	DUP	03/21/17 12:23			14	19.7	mg/L				34	20	RA
WG419752LFB2	LFB	03/21/17 14:24	WC170320-7	4.995		4.693	mg/L	94	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		2.01	mg/L	101	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.3	0.3			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	1		.99	mg/L	99	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	1	U	.98	mg/L	98	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	1	U	1.01	mg/L	101	85	115	3	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	1	U	1	mg/L	100	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	1	U	.98	mg/L	98	85	115	2	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		1.997	mg/L	100	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.06	0.06			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	1.0017		.993	mg/L	99	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	1.0017	U	.948	mg/L	95	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	1.0017	U	.961	mg/L	96	85	115	1	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	1.0017	3.62	4.449	mg/L	83	85	115			M3
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	1.0017	3.62	4.378	mg/L	76	85	115	2	20	M3

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG420130													
WG420130ICV	ICV	03/28/17 1:31	MS170301-3	.05		.05106	mg/L	102	90	110			
WG420130ICB	ICB	03/28/17 1:34				U	mg/L		-0.0003	0.0003			
WG420130LFB	LFB	03/28/17 1:38	MS170321-3	.0501		.04765	mg/L	95	85	115			
L36042-01AS	AS	03/28/17 2:23	MS170321-3	.0501	U	.04951	mg/L	99	70	130			
L36042-01ASD	ASD	03/28/17 2:26	MS170321-3	.0501	U	.04868	mg/L	97	70	130	2	20	
L36066-02AS	AS	03/28/17 3:01	MS170321-3	.0501	U	.04973	mg/L	99	70	130			
L36066-02ASD	ASD	03/28/17 3:05	MS170321-3	.0501	U	.05268	mg/L	105	70	130	6	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L36030***

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		2.0142	mg/L	101	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.024	0.024			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	1.001		.9601	mg/L	96	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	1.001	.9	1.892	mg/L	99	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	1.001	.9	1.899	mg/L	100	85	115	0	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	1.001	U	.966	mg/L	97	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	1.001	U	.9445	mg/L	94	85	115	2	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	100		99.16	mg/L	99	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.6	0.6			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	50.00074		44.45	mg/L	89	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	50.00074	1320	1344	mg/L	48	85	115			M3
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	50.00074	1320	1369	mg/L	98	85	115	2	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	50.00074	U	45.14	mg/L	90	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	50.00074	U	44.48	mg/L	89	85	115	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		1.9658	mg/L	98	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.015	0.015			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	.5		.4917	mg/L	98	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	.5	.038	.5022	mg/L	93	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	.5	.038	.5087	mg/L	94	85	115	1	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	.5	.009	.5096	mg/L	100	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	.5	.009	.5008	mg/L	98	85	115	2	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419648													
WG419648ICV	ICV	03/21/17 10:59	HG170127-2	.005005		.00488	mg/L	98	95	105			
WG419648ICB	ICB	03/21/17 11:00				U	mg/L		-0.0002	0.0002			
WG419702													
WG419702LRB	LRB	03/21/17 13:22				U	mg/L		-0.00044	0.00044			
WG419702LFB	LFB	03/21/17 13:23	HG170301-2	.002002		.00176	mg/L	88	85	115			
L35912-01LFM	LFM	03/21/17 13:25	HG170301-2	.002002	U	.0018	mg/L	90	85	115			
L35912-01LFMD	LFMD	03/21/17 13:26	HG170301-2	.002002	U	.00175	mg/L	87	85	115	3	20	
L36030-09LFM	LFM	03/21/17 13:39	HG170301-2	.002002	U	.00179	mg/L	89	85	115			
L36030-09LFMD	LFMD	03/21/17 13:40	HG170301-2	.002002	U	.00185	mg/L	92	85	115	3	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L36030***

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		2.054	mg/L	103	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.06	0.06			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	.4995		.495	mg/L	99	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	.4995	U	.473	mg/L	95	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	.4995	U	.488	mg/L	98	85	115	3	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	.4995	U	.488	mg/L	98	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	.4995	U	.489	mg/L	98	85	115	0	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2.002		2.021	mg/L	101	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.024	0.024			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	.498		.4869	mg/L	98	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	.498	.016	.4461	mg/L	86	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	.498	.016	.4563	mg/L	88	85	115	2	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	.498	U	.4855	mg/L	97	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	.498	U	.4792	mg/L	96	85	115	1	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG420041													
WG420041ICV	ICV	03/24/17 20:48	WI170310-3	2.416		2.388	mg/L	99	90	110			
WG420041ICB	ICB	03/24/17 20:49				U	mg/L		-0.02	0.02			
WG420045													
WG420045LFB	LFB	03/24/17 23:30	WI170104-22	2		1.961	mg/L	98	90	110			
L35919-01AS	AS	03/24/17 23:32	WI170104-22	2	.46	2.463	mg/L	100	90	110			
L35919-02DUP	DUP	03/24/17 23:35			.45	.453	mg/L				1	20	
L36030-09AS	AS	03/24/17 23:51	WI170104-22	2	.03	2.014	mg/L	99	90	110			
L36030-10DUP	DUP	03/24/17 23:54			.1	.1	mg/L				0	20	RA

McClelland Laboratories, Inc.

ACZ Project ID: ***L36030***

Nitrogen, ammonia — M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419591													
WG419591ICV	ICV	03/17/17 12:23	WI170308-1	11.988		12	mg/L	100	90	110			
WG419591ICB	ICB	03/17/17 12:24				U	mg/L		-0.05	0.05			
WG419591LFB1	LFB	03/17/17 12:33	WI161026-1	10		10.167	mg/L	102	90	110			
L36014-01AS	AS	03/17/17 12:50	WI161026-1	10	U	10.347	mg/L	103	90	110			
L36014-02DUP	DUP	03/17/17 13:03			.62	.609	mg/L				2	20	
WG419591LFB2	LFB	03/17/17 13:13	WI161026-1	10		9.865	mg/L	99	90	110			
L36044-02AS	AS	03/17/17 13:30	WI161026-1	10	2.96	13.494	mg/L	105	90	110			
L36044-03DUP	DUP	03/17/17 13:36			.55	.562	mg/L				2	20	
WG419916													
WG419916ICV	ICV	03/23/17 11:53	WI170308-1	11.988		11.963	mg/L	100	90	110			
WG419916ICB	ICB	03/23/17 11:54				U	mg/L		-0.05	0.05			
WG419916LFB	LFB	03/23/17 11:55	WI161026-1	10		10.437	mg/L	104	90	110			
L36080-01AS	AS	03/23/17 12:01	WI161026-1	10	U	10.235	mg/L	102	90	110			
L36080-02DUP	DUP	03/23/17 12:04			U	U	mg/L				0	20	RA

pH (lab) — SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419607													
WG419607LCSW1	LCSW	03/17/17 16:38	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG419607LCSW4	LCSW	03/17/17 20:12	PCN51287	6.01		6.1	units	101	5.9	6.1			
L36030-03DUP	DUP	03/17/17 22:11			2.2	2.2	units				0	20	
L36032-03DUP	DUP	03/17/17 23:03			3.4	3.4	units				0	20	
WG419607LCSW7	LCSW	03/17/17 23:06	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG419607LCSW10	LCSW	03/18/17 2:40	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG419607LCSW13	LCSW	03/18/17 6:41	PCN51287	6.01		6.1	units	101	5.9	6.1			

Phosphorus, total — M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419963													
WG419963ICV	ICV	03/23/17 20:57	WI170222-3	.65228		.672	mg/L	103	90	110			
WG419963ICB	ICB	03/23/17 21:00				U	mg/L		-0.02	0.02			
WG419843LRB	LRB	03/23/17 21:01				.039	mg/L		-0.02	0.02			
WG419843LFB	LFB	03/23/17 21:02	WI170316-4	.5		.492	mg/L	98	90	110			
L35912-01LFM	LFM	03/23/17 21:04	WI170316-4	.5	U	.499	mg/L	100	90	110			
L35912-02DUP	DUP	03/23/17 21:06			.43	.419	mg/L				3	20	
L36034-01LFM	LFM	03/23/17 21:29	WI170316-4	.5	.02	.521	mg/L	100	90	110			
L36034-02DUP	DUP	03/23/17 21:31			U	U	mg/L				0	20	RA
WG420215													
WG420215ICV	ICV	03/28/17 22:28	WI170222-3	.65228		.683	mg/L	105	90	110			
WG420215ICB	ICB	03/28/17 22:30				U	mg/L		-0.02	0.02			
WG420218													
WG420101LRB	LRB	03/29/17 0:06				U	mg/L		-0.02	0.02			
WG420101LFB	LFB	03/29/17 0:07	WI170316-4	.5		.502	mg/L	100	90	110			
L36034-01LFM	LFM	03/29/17 0:11	WI170316-4	.5	.02	.524	mg/L	101	90	110			
L36034-03DUP	DUP	03/29/17 0:13			.03	.032	mg/L				6	20	RA

McClelland Laboratories, Inc. ACZ Project ID: ***L36030***

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	20		19.67	mg/L	98	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.6	0.6			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	99.96532		94.91	mg/L	95	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	99.96532	94.4	189.8	mg/L	95	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	99.96532	94.4	190.6	mg/L	96	85	115	0	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	99.96532	.9	95.93	mg/L	95	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	99.96532	.9	94.41	mg/L	94	85	115	2	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419701													
WG419701PBW	PBW	03/20/17 15:19				U	mg/L		-20	20			
WG419701LCSW	LCSW	03/20/17 15:21	PCN52650	260		260	mg/L	100	80	120			
L36030-08DUP	DUP	03/20/17 15:50			14	16	mg/L				13	10	RA
L36086-01DUP	DUP	03/20/17 16:19			2570	2540	mg/L				1	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		2.03	mg/L	102	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.3	0.3			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	.9868		.97	mg/L	98	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	.9868	U	.96	mg/L	97	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	.9868	U	.97	mg/L	98	85	115	1	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	.9868	U	.97	mg/L	98	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	.9868	U	.96	mg/L	97	85	115	1	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG420130													
WG420130ICV	ICV	03/28/17 1:31	MS170301-3	.05		.05341	mg/L	107	90	110			
WG420130ICB	ICB	03/28/17 1:34				.00013	mg/L		-0.0003	0.0003			
WG420130LFB	LFB	03/28/17 1:38	MS170321-3	.05005		.05079	mg/L	101	85	115			
L36042-01AS	AS	03/28/17 2:23	MS170321-3	.05005	.007	.06051	mg/L	107	70	130			
L36042-01ASD	ASD	03/28/17 2:26	MS170321-3	.05005	.007	.05892	mg/L	104	70	130	3	20	
L36066-02AS	AS	03/28/17 3:01	MS170321-3	.05005	.0055	.05667	mg/L	102	70	130			
L36066-02ASD	ASD	03/28/17 3:05	MS170321-3	.05005	.0055	.0582	mg/L	105	70	130	3	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419918													
WG419918ICV	ICV	03/23/17 13:44	II170316-1	1.002		1.033	mg/L	103	95	105			
WG419918ICB	ICB	03/23/17 13:50				U	mg/L		-0.03	0.03			
WG419918LFB	LFB	03/23/17 14:03	II170317-5	.5		.482	mg/L	96	85	115			
L36030-06AS	AS	03/23/17 14:25	II170317-5	.5	U	.382	mg/L	76	85	115			M2 ZA
L36030-06ASD	ASD	03/23/17 14:28	II170317-5	.5	U	.373	mg/L	75	85	115	2	20	M2 ZA

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ACZ Project ID: ***L36030***

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	100		100.02	mg/L	100	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.6	0.6			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	100.0322		96.37	mg/L	96	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	100.0322	1330	1379	mg/L	49	85	115			M3
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	100.0322	1330	1390	mg/L	60	85	115	1	20	M3
L36030-04AS	AS	03/17/17 20:12	II170220-2	100.0322	2.3	98.74	mg/L	96	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	100.0322	2.3	97.16	mg/L	95	85	115	2	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		2.0258	mg/L	101	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.015	0.015			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	.5015		.4936	mg/L	98	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	.5015	.914	1.379	mg/L	93	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	.5015	.914	1.387	mg/L	94	85	115	1	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	.5015	U	.4979	mg/L	99	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	.5015	U	.4899	mg/L	98	85	115	2	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG420166													
WG420166ICB	ICB	03/28/17 11:54				U	mg/L		-3	3			
WG420166ICV	ICV	03/28/17 11:54	WI170321-2	20		19.4	mg/L	97	90	110			
WG420166LFB	LFB	03/28/17 12:02	WI170131-8	9.99		9.5	mg/L	95	90	110			
L36030-09DUP	DUP	03/28/17 12:26			6.2	5.6	mg/L				10	20	RA
L36030-10AS	AS	03/28/17 14:03	SO4TURB5X	10	22.1	32.4	mg/L	103	90	110			
WG420402													
WG420402ICB	ICB	03/31/17 10:06				U	mg/L		-3	3			
WG420402ICV	ICV	03/31/17 10:06	WI170321-2	20		19.3	mg/L	97	90	110			
WG420402LFB	LFB	03/31/17 10:15	WI170131-8	9.99		9.7	mg/L	97	90	110			
L24141-100DUP	DUP	03/31/17 10:15			37.1	37.9	mg/L				2	20	
L36030-10AS	AS	03/31/17 10:48	SO4TURB2X	10	24.7	34.9	mg/L	102	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG420130													
WG420130ICV	ICV	03/28/17 1:31	MS170301-3	.05		.05189	mg/L	104	90	110			
WG420130ICB	ICB	03/28/17 1:34				U	mg/L		-0.0003	0.0003			
WG420130LFB	LFB	03/28/17 1:38	MS170321-3	.0501		.0488	mg/L	97	85	115			
L36042-01AS	AS	03/28/17 2:23	MS170321-3	.0501	U	.05092	mg/L	102	70	130			
L36042-01ASD	ASD	03/28/17 2:26	MS170321-3	.0501	U	.04967	mg/L	99	70	130	2	20	
L36066-02AS	AS	03/28/17 3:01	MS170321-3	.0501	U	.0509	mg/L	102	70	130			
L36066-02ASD	ASD	03/28/17 3:05	MS170321-3	.0501	U	.05376	mg/L	107	70	130	5	20	

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ACZ Project ID: ***L36030***

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		2.005	mg/L	100	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.12	0.12			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	1.001		.953	mg/L	95	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	1.001	U	.861	mg/L	86	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	1.001	U	.887	mg/L	89	85	115	3	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	1.001	U	.964	mg/L	96	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	1.001	U	.947	mg/L	95	85	115	2	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		2.0312	mg/L	102	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.015	0.015			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	1.002		.9847	mg/L	98	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	1.002	U	.9823	mg/L	98	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	1.002	U	.991	mg/L	99	85	115	1	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	1.002	U	.9938	mg/L	99	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	1.002	U	.9722	mg/L	97	85	115	2	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG420130													
WG420130ICV	ICV	03/28/17 1:31	MS170301-3	.05		.04965	mg/L	99	90	110			
WG420130ICB	ICB	03/28/17 1:34				U	mg/L		-0.0003	0.0003			
WG420130LFB	LFB	03/28/17 1:38	MS170321-3	.05		.04794	mg/L	96	85	115			
L36042-01AS	AS	03/28/17 2:23	MS170321-3	.05	.0084	.06035	mg/L	104	70	130			
L36042-01ASD	ASD	03/28/17 2:26	MS170321-3	.05	.0084	.05905	mg/L	101	70	130	2	20	
L36066-02AS	AS	03/28/17 3:01	MS170321-3	.05	.0033	.05375	mg/L	101	70	130			
L36066-02ASD	ASD	03/28/17 3:05	MS170321-3	.05	.0033	.05673	mg/L	107	70	130	5	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		2.053	mg/L	103	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.015	0.015			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	.4985		.501	mg/L	101	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	.4985	.082	.5672	mg/L	97	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	.4985	.082	.5758	mg/L	99	85	115	2	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	.4985	U	.5038	mg/L	101	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	.4985	U	.4967	mg/L	100	85	115	1	20	

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ACZ Project ID: ***L36030***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG419590													
WG419590ICV	ICV	03/17/17 19:00	II170316-1	2		1.972	mg/L	99	95	105			
WG419590ICB	ICB	03/17/17 19:06				U	mg/L		-0.03	0.03			
WG419590LFB	LFB	03/17/17 19:18	II170220-2	.4942		.493	mg/L	100	85	115			
L36029-02AS	AS	03/17/17 19:31	II170220-2	.4942	U	.434	mg/L	88	85	115			
L36029-02ASD	ASD	03/17/17 19:35	II170220-2	.4942	U	.446	mg/L	90	85	115	3	20	
L36030-04AS	AS	03/17/17 20:12	II170220-2	.4942	.08	.572	mg/L	100	85	115			
L36030-04ASD	ASD	03/17/17 20:15	II170220-2	.4942	.08	.57	mg/L	99	85	115	0	20	

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L36030***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36030-01	WG419590	Boron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG420025	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419670	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419590	Magnesium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG419607	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419963	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG419701	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419918	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG419590	Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG420166	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L36030***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36030-02	WG419590	Boron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG420025	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419752	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419590	Magnesium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG419607	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419963	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG419701	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419918	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG419590	Sodium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG420166	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L36030***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36030-03	WG420025	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419752	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419590	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG419607	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419963	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	B7	Target analyte detected in prep / method blank at or above acceptance limit. Sample value is > 10X the concentration in the method blank.
	WG419701	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419918	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG420166	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L36030***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36030-04	WG420025	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419752	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419590	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG419916	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419963	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG419701	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419918	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG420166	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L36030***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36030-05	WG420025	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419752	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419590	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG419607	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419963	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419701	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419918	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG420166	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc.

ACZ Project ID: ***L36030***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36030-06	WG420025	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419752	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419590	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG419607	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419963	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419701	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419918	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG420166	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L36030***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36030-07	WG420025	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419752	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419590	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG419916	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG420101	Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion	DJ	Sample dilution required due to insufficient sample.
	WG420218		M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419701	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419918	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG420166	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L36030***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36030-08	WG420025	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419752	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419590	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG419607	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419963	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419701	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419918	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG420166	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc.

ACZ Project ID: ***L36030***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36030-09	WG419607	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419752	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419590	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG420045	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419963	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419701	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG419918	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG420166	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L36030***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36030-10	WG419607	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG420044	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419752	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419590	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG420045	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419607	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG419963	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG419701	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG419918	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG419607	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L36030
Date Received: 03/16/2017 10:04
Received By:
Date Printed: 3/16/2017

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA25694	3.7	<=6.0	14	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L36030
Date Received:	03/16/2017 10:04
Received By:	
Date Printed:	3/16/2017

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L36030

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	3/15/17	WW	1	X							
CAL-004 (860-875)		WW	1	X							
CAL-003 (675-685)		WW	1	X							
GMC-012 (832-851)		WW	1	X							
CAL-004 (295-315)		WW	1	X							
CAL-001 (750-762)		WW	1	X							
GMC-014 (176-184)		WW	1	X							
CAL-001 (380-400)		WW	1	X							
CAL-002 (177-187)		WW	1	X							
Calico Leach Res. after CN Destruct		WW	1	X	X	X					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 68
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	3/15/17 9Am	[signature]	3/16/17 1001

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L36030 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, total	[illegible]	[illegible]	[illegible]	[illegible]
Cyanide, WAD[1] (Total Digestion)	SM 4500	[illegible]	[illegible]	[illegible]
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.

[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.

[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

*****Grey out Analyses to ESN Test done on all Samples. Just of the Sample [illegible] *****

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

April 27, 2017

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L36586

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on April 13, 2017. This project has been assigned to ACZ's project number, L36586. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L36586. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after May 27, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L36586-01***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/19/17 16:00	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.73			mg/L	0.03	0.2	04/24/17 19:40	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0102			mg/L	0.0004	0.002	04/25/17 10:36	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0437			mg/L	0.0002	0.001	04/25/17 10:36	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	04/24/17 19:40	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00012	B		mg/L	0.00005	0.0003	04/25/17 10:36	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/25/17 16:53	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 19:40	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	04/25/17 10:36	enb
Calcium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.1	0.5	04/24/17 19:40	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 19:40	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/25/17 16:53	aeh
Copper, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	04/24/17 19:40	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 19:40	aeh
Iron, dissolved	M200.7 ICP	1	4.84			mg/L	0.02	0.05	04/24/17 19:40	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	04/25/17 10:36	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/24/17 19:40	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 19:40	aeh
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/25/17 16:53	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/19/17 15:37	aeh
Mercury, total	M1631, Atomic Fluorescence	10	139			ng/L	2	5	04/26/17 12:01	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/24/17 19:40	aeh
Nickel, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.008	0.04	04/24/17 19:40	aeh
Potassium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	04/24/17 19:40	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 19:40	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	04/25/17 10:36	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/25/17 16:53	aeh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 19:40	aeh
Strontium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.005	0.03	04/24/17 19:40	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0001	0.0005	04/25/17 10:36	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/24/17 19:40	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/24/17 19:40	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	04/25/17 10:36	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/24/17 19:40	aeh
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	04/24/17 19:40	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L36586-01***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-25.8			%			04/27/17 0:00	calc
Sum of Anions			00.6			meq/L			04/27/17 0:00	calc
Sum of Cations			0.354	B		meq/L			04/27/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	04/24/17 12:51	spl
Conductivity @25C	SM2510B	1	244		*	umhos/cm	1	10	04/15/17 4:16	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/24/17 13:49	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.499	B		mg/L	0.2	5	04/27/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	04/22/17 0:17	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/20/17 12:28	bce
pH (lab)	SM4500H+ B									
pH		1	3.3	H	*	units	0.1	0.1	04/15/17 0:00	abd
pH measured at		1	22.5			C	0.1	0.1	04/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	04/20/17 22:50	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	40		*	mg/L	10	20	04/18/17 10:15	emk
Sulfate	D516-02/-07 - Turbidimetric	5	26.2		*	mg/L	5	25	04/25/17 13:00	bce
TDS (calculated)	Calculation		32.2			mg/L			04/27/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.24						04/27/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L36586-02***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/25/17 13:16	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.05	B		mg/L	0.03	0.2	04/24/17 19:43	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0004	0.002	04/25/17 10:40	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0002	0.001	04/25/17 10:40	enb
Barium, dissolved	M200.7 ICP	1	0.091			mg/L	0.003	0.02	04/24/17 19:43	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.00005	0.0003	04/25/17 10:40	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/25/17 16:56	aeh
Boron, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	04/24/17 19:43	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/25/17 10:40	enb
Calcium, dissolved	M200.7 ICP	1	0.5			mg/L	0.1	0.5	04/24/17 19:43	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 19:43	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/25/17 16:56	aeh
Copper, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	04/24/17 19:43	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 19:43	aeh
Iron, dissolved	M200.7 ICP	1	0.12			mg/L	0.02	0.05	04/24/17 19:43	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	04/25/17 10:40	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/24/17 19:43	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 19:43	aeh
Manganese, dissolved	M200.7 ICP	1	0.021	B		mg/L	0.005	0.03	04/25/17 16:56	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/19/17 15:38	aeh
Mercury, total	M1631, Atomic Fluorescence	1	5.8			ng/L	0.2	0.5	04/21/17 13:50	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/24/17 19:43	aeh
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/24/17 19:43	aeh
Potassium, dissolved	M200.7 ICP	1	1.8			mg/L	0.2	1	04/24/17 19:43	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 19:43	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	04/25/17 10:40	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/25/17 16:56	aeh
Sodium, dissolved	M200.7 ICP	1	1.8			mg/L	0.2	1	04/24/17 19:43	aeh
Strontium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.005	0.03	04/24/17 19:43	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	04/25/17 10:40	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/24/17 19:43	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/24/17 19:43	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	04/25/17 10:40	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/24/17 19:43	aeh
Zinc, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	04/24/17 19:43	aeh

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L36586-02***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			04/27/17 0:00	calc
Sum of Anions			0.338	B		meq/L			04/27/17 0:00	calc
Sum of Cations			0.167	B		meq/L			04/27/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	04/24/17 12:51	spl
Conductivity @25C	SM2510B	1	115		*	umhos/cm	1	10	04/15/17 4:20	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/24/17 13:55	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.3	B		mg/L	0.2	5	04/27/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	04/22/17 0:18	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/20/17 12:29	bce
pH (lab)	SM4500H+ B									
pH		1	3.7	H	*	units	0.1	0.1	04/15/17 0:00	abd
pH measured at		1	22.3			C	0.1	0.1	04/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	04/26/17 19:34	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	26		*	mg/L	10	20	04/18/17 10:18	emk
Sulfate	D516-02/-07 - Turbidimetric	1	16.1		*	mg/L	1	5	04/25/17 13:21	bce
TDS (calculated)	Calculation		20.5			mg/L			04/27/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.27						04/27/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L36586-03***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/25/17 13:33	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	12.8			mg/L	0.03	0.2	04/24/17 19:52	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.003			mg/L	0.0004	0.002	04/25/17 10:49	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.476			mg/L	0.0002	0.001	04/25/17 10:49	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	04/24/17 19:52	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00238			mg/L	0.00005	0.0003	04/25/17 10:49	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/25/17 17:06	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 19:52	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	04/25/17 10:49	enb
Calcium, dissolved	M200.7 ICP	1	46.5			mg/L	0.1	0.5	04/24/17 19:52	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 19:52	aeh
Cobalt, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	04/25/17 17:06	aeh
Copper, dissolved	M200.7 ICP	1	0.19			mg/L	0.01	0.05	04/24/17 19:52	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 19:52	aeh
Iron, dissolved	M200.7 ICP	1	192			mg/L	0.02	0.05	04/24/17 19:52	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	04/25/17 10:49	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/24/17 19:52	aeh
Magnesium, dissolved	M200.7 ICP	1	1.2			mg/L	0.2	1	04/24/17 19:52	aeh
Manganese, dissolved	M200.7 ICP	1	0.134			mg/L	0.005	0.03	04/25/17 17:06	aeh
Mercury, dissolved	M245.1 CVAA	1	0.0005	B		mg/L	0.0002	0.001	04/19/17 15:39	aeh
Mercury, total	M1631, Atomic Fluorescence	50	580			ng/L	10	30	04/26/17 12:06	mfm
Molybdenum, dissolved	M200.7 ICP	1	0.16			mg/L	0.02	0.1	04/24/17 19:52	aeh
Nickel, dissolved	M200.7 ICP	1	0.061			mg/L	0.008	0.04	04/24/17 19:52	aeh
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 19:52	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 19:52	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0003	04/25/17 10:49	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/25/17 17:06	aeh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 19:52	aeh
Strontium, dissolved	M200.7 ICP	1	0.039			mg/L	0.005	0.03	04/24/17 19:52	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	04/25/17 10:49	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/24/17 19:52	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/24/17 19:52	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0035			mg/L	0.0001	0.0005	04/25/17 10:49	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/24/17 19:52	aeh
Zinc, dissolved	M200.7 ICP	1	0.30			mg/L	0.01	0.05	04/24/17 19:52	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L36586-03***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-6.7			%			04/27/17 0:00	calc
Sum of Anions			16			meq/L			04/27/17 0:00	calc
Sum of Cations			14.0			meq/L			04/27/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	04/24/17 12:51	spl
Conductivity @25C	SM2510B	1	2530		*	umhos/cm	1	10	04/15/17 4:25	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/24/17 14:02	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		121			mg/L	0.2	5	04/27/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B	*	mg/L	0.02	0.1	04/22/17 0:23	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/20/17 12:30	bce
pH (lab)	SM4500H+ B									
pH		1	2.2	H	*	units	0.1	0.1	04/15/17 0:00	abd
pH measured at		1	22.3			C	0.1	0.1	04/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.28			mg/L	0.02	0.05	04/26/17 19:36	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	1070		*	mg/L	10	20	04/18/17 10:20	emk
Sulfate	D516-02/-07 - Turbidimetric	50	783		*	mg/L	50	250	04/25/17 13:22	bce
TDS (calculated)	Calculation		1040			mg/L			04/27/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.03						04/27/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L36586-04***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/25/17 13:50	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.45			mg/L	0.03	0.2	04/24/17 19:55	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0014	B		mg/L	0.0004	0.002	04/25/17 10:53	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.003			mg/L	0.0002	0.001	04/25/17 10:53	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	04/24/17 19:55	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00009	B		mg/L	0.00005	0.0003	04/25/17 10:53	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/25/17 17:09	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 19:55	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/25/17 10:53	enb
Calcium, dissolved	M200.7 ICP	1		U		mg/L	0.1	0.5	04/24/17 19:55	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 19:55	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/25/17 17:09	aeh
Copper, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	04/24/17 19:55	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 19:55	aeh
Iron, dissolved	M200.7 ICP	1	5.02			mg/L	0.02	0.05	04/24/17 19:55	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	04/25/17 10:53	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/24/17 19:55	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 19:55	aeh
Manganese, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.005	0.03	04/25/17 17:09	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/19/17 15:40	aeh
Mercury, total	M1631, Atomic Fluorescence	1	5.2			ng/L	0.2	0.5	04/21/17 14:49	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/24/17 19:55	aeh
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/24/17 19:55	aeh
Potassium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	04/24/17 19:55	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 19:55	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	04/25/17 10:53	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/25/17 17:09	aeh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 19:55	aeh
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/24/17 19:55	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	04/25/17 10:53	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/24/17 19:55	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/24/17 19:55	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.002			mg/L	0.0001	0.0005	04/25/17 10:53	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/24/17 19:55	aeh
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 19:55	aeh

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L36586-04***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-56.4			%			04/27/17 0:00	calc
Sum of Anions			1.2			meq/L			04/27/17 0:00	calc
Sum of Cations			0.335	B		meq/L			04/27/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	04/24/17 12:51	spl
Conductivity @25C	SM2510B	1	475		*	umhos/cm	1	10	04/15/17 4:29	abd
Fluoride	SM4500F-C	40	5	B	*	mg/L	2	10	04/24/17 14:10	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation			U		mg/L	0.2	5	04/27/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	04/22/17 0:25	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/20/17 12:35	bce
pH (lab)	SM4500H+ B									
pH		1	3.0	H	*	units	0.1	0.1	04/15/17 0:00	abd
pH measured at		1	22.2			C	0.1	0.1	04/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	04/26/17 19:39	pjb
Residue, Filterable (TDS) @180C	SM2540C	2	60		*	mg/L	20	40	04/18/17 10:23	emk
Sulfate	D516-02/-07 - Turbidimetric	5	43.2		*	mg/L	5	25	04/25/17 13:19	bce
TDS (calculated)	Calculation		54.4			mg/L			04/27/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.10						04/27/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L36586-05***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/25/17 13:58	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.28			mg/L	0.03	0.2	04/24/17 19:59	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0004	0.002	04/25/17 10:56	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0002	0.001	04/25/17 10:56	enb
Barium, dissolved	M200.7 ICP	1	0.096			mg/L	0.003	0.02	04/24/17 19:59	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00047			mg/L	0.00005	0.0003	04/25/17 10:56	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/25/17 17:12	aeh
Boron, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	04/24/17 19:59	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	04/25/17 10:56	enb
Calcium, dissolved	M200.7 ICP	1	3.0			mg/L	0.1	0.5	04/24/17 19:59	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 19:59	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/25/17 17:12	aeh
Copper, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	04/24/17 19:59	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 19:59	aeh
Iron, dissolved	M200.7 ICP	1	0.28			mg/L	0.02	0.05	04/24/17 19:59	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0005	04/25/17 10:56	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/24/17 19:59	aeh
Magnesium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	04/24/17 19:59	aeh
Manganese, dissolved	M200.7 ICP	1	0.088			mg/L	0.005	0.03	04/25/17 17:12	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/19/17 15:42	aeh
Mercury, total	M1631, Atomic Fluorescence	1	8.2			ng/L	0.2	0.5	04/21/17 14:54	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/24/17 19:59	aeh
Nickel, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.008	0.04	04/24/17 19:59	aeh
Potassium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	04/24/17 19:59	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 19:59	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0003	04/25/17 10:56	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/25/17 17:12	aeh
Sodium, dissolved	M200.7 ICP	1	1.3			mg/L	0.2	1	04/24/17 19:59	aeh
Strontium, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.005	0.03	04/24/17 19:59	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	04/25/17 10:56	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/24/17 19:59	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/24/17 19:59	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0001	0.0005	04/25/17 10:56	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/24/17 19:59	aeh
Zinc, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	04/24/17 19:59	aeh

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L36586-05***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-41.6			%			04/27/17 0:00	calc
Sum of Anions			0.768			meq/L			04/27/17 0:00	calc
Sum of Cations			0.317	B		meq/L			04/27/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	04/24/17 12:51	spl
Conductivity @25C	SM2510B	1	272		*	umhos/cm	1	10	04/15/17 4:33	abd
Fluoride	SM4500F-C	40	3	B	*	mg/L	2	10	04/24/17 14:32	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		9.1			mg/L	0.2	5	04/27/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	04/22/17 0:26	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/20/17 12:36	bce
pH (lab)	SM4500H+ B									
pH		1	3.3	H	*	units	0.1	0.1	04/15/17 0:00	abd
pH measured at		1	22.2			C	0.1	0.1	04/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	04/26/17 19:40	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	50		*	mg/L	10	20	04/18/17 10:26	emk
Sulfate	D516-02/-07 - Turbidimetric	5	29.0		*	mg/L	5	25	04/25/17 13:19	bce
TDS (calculated)	Calculation		38.3			mg/L			04/27/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.31						04/27/17 0:00	calc

Arizona license number: AZ0102

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L36586-06***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/25/17 14:07	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.11	B		mg/L	0.03	0.2	04/24/17 20:02	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	04/25/17 10:59	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0038			mg/L	0.0002	0.001	04/25/17 10:59	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	04/24/17 20:02	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00022	B		mg/L	0.00005	0.0003	04/25/17 10:59	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/25/17 17:15	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 20:02	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/25/17 10:59	enb
Calcium, dissolved	M200.7 ICP	1	4.2			mg/L	0.1	0.5	04/24/17 20:02	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 20:02	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/25/17 17:15	aeh
Copper, dissolved	M200.7 ICP	1	0.27			mg/L	0.01	0.05	04/24/17 20:02	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 20:02	aeh
Iron, dissolved	M200.7 ICP	1	0.42			mg/L	0.02	0.05	04/24/17 20:02	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	04/25/17 10:59	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/24/17 20:02	aeh
Magnesium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	04/24/17 20:02	aeh
Manganese, dissolved	M200.7 ICP	1	0.021	B		mg/L	0.005	0.03	04/25/17 17:15	aeh
Mercury, dissolved	M245.1 CVAA	1	0.0003	B		mg/L	0.0002	0.001	04/19/17 15:45	aeh
Mercury, total	M1631, Atomic Fluorescence	50	480			ng/L	10	30	04/26/17 12:11	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/24/17 20:02	aeh
Nickel, dissolved	M200.7 ICP	1	0.044			mg/L	0.008	0.04	04/24/17 20:02	aeh
Potassium, dissolved	M200.7 ICP	1	1.9			mg/L	0.2	1	04/24/17 20:02	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 20:02	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0003	04/25/17 10:59	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/25/17 17:15	aeh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 20:02	aeh
Strontium, dissolved	M200.7 ICP	1	0.054			mg/L	0.005	0.03	04/24/17 20:02	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	04/25/17 10:59	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/24/17 20:02	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/24/17 20:02	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0001	0.0005	04/25/17 10:59	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/24/17 20:02	aeh
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	04/24/17 20:02	aeh

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L36586-06***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-16.0			%			04/27/17 0:00	calc
Sum of Anions			0.479	B		meq/L			04/27/17 0:00	calc
Sum of Cations			0.347	B		meq/L			04/27/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	04/24/17 12:51	spl
Conductivity @25C	SM2510B	1	119		*	umhos/cm	1	10	04/15/17 4:38	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/24/17 14:35	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		13			mg/L	0.2	5	04/27/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	04/22/17 0:27	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/20/17 12:37	bce
pH (lab)	SM4500H+ B									
pH		1	3.9	H	*	units	0.1	0.1	04/15/17 0:00	abd
pH measured at		1	22.2			C	0.1	0.1	04/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	04/26/17 19:41	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	34		*	mg/L	10	20	04/18/17 10:28	emk
Sulfate	D516-02/-07 - Turbidimetric	1	22.8		*	mg/L	1	5	04/25/17 13:21	bce
TDS (calculated)	Calculation		30.3			mg/L			04/27/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.12						04/27/17 0:00	calc

Arizona license number: AZ0102

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L36586-07***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/25/17 14:15	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	13.8			mg/L	0.03	0.2	04/24/17 20:05	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0019	B		mg/L	0.0004	0.002	04/25/17 11:02	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.553			mg/L	0.0002	0.001	04/25/17 11:02	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	04/24/17 20:05	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00134			mg/L	0.00005	0.0003	04/25/17 11:02	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/25/17 17:19	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 20:05	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	04/25/17 11:02	enb
Calcium, dissolved	M200.7 ICP	1	0.5			mg/L	0.1	0.5	04/24/17 20:05	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 20:05	aeh
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	04/25/17 17:19	aeh
Copper, dissolved	M200.7 ICP	1	0.19			mg/L	0.01	0.05	04/24/17 20:05	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 20:05	aeh
Iron, dissolved	M200.7 ICP	1	73.3			mg/L	0.02	0.05	04/24/17 20:05	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0001	0.0005	04/25/17 11:02	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/24/17 20:05	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 20:05	aeh
Manganese, dissolved	M200.7 ICP	1	0.041			mg/L	0.005	0.03	04/25/17 17:19	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/19/17 15:46	aeh
Mercury, total	M1631, Atomic Fluorescence	1	2.1			ng/L	0.2	0.5	04/21/17 15:17	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/24/17 20:05	aeh
Nickel, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.008	0.04	04/24/17 20:05	aeh
Potassium, dissolved	M200.7 ICP	1	1.3			mg/L	0.2	1	04/24/17 20:05	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 20:05	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	04/25/17 11:02	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/25/17 17:19	aeh
Sodium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	04/24/17 20:05	aeh
Strontium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	04/24/17 20:05	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	04/25/17 11:02	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/24/17 20:05	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/24/17 20:05	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0044			mg/L	0.0001	0.0005	04/25/17 11:02	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/24/17 20:05	aeh
Zinc, dissolved	M200.7 ICP	1	0.34			mg/L	0.01	0.05	04/24/17 20:05	aeh

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L36586-07***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-9.8			%			04/27/17 0:00	calc
Sum of Anions			6.7			meq/L			04/27/17 0:00	calc
Sum of Cations			5.5			meq/L			04/27/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	04/24/17 12:51	spl
Conductivity @25C	SM2510B	1	1640		*	umhos/cm	1	10	04/15/17 4:42	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/24/17 14:40	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.3	B		mg/L	0.2	5	04/27/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.05	B	*	mg/L	0.02	0.1	04/22/17 0:29	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.05	B	*	mg/L	0.05	0.2	04/20/17 12:39	bce
pH (lab)	SM4500H+ B									
pH		1	2.4	H	*	units	0.1	0.1	04/15/17 0:00	abd
pH measured at		1	22.1			C	0.1	0.1	04/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.17			mg/L	0.02	0.05	04/26/17 19:42	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	520		*	mg/L	10	20	04/18/17 10:34	emk
Sulfate	D516-02/-07 - Turbidimetric	20	319		*	mg/L	20	100	04/25/17 13:28	bce
TDS (calculated)	Calculation		409			mg/L			04/27/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.27						04/27/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L36586-08***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/25/17 14:24	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	04/24/17 20:15	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0004	0.002	04/25/17 11:05	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0042			mg/L	0.0002	0.001	04/25/17 11:05	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	04/24/17 20:15	aeh
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	04/25/17 11:05	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/25/17 17:28	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 20:15	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/25/17 11:05	enb
Calcium, dissolved	M200.7 ICP	1	0.8			mg/L	0.1	0.5	04/24/17 20:15	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 20:15	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/25/17 17:28	aeh
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 20:15	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 20:15	aeh
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	04/24/17 20:15	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	04/25/17 11:05	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/24/17 20:15	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 20:15	aeh
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/25/17 17:28	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/19/17 15:47	aeh
Mercury, total	M1631, Atomic Fluorescence	2	19.7			ng/L	0.4	1	04/21/17 15:32	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/24/17 20:15	aeh
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/24/17 20:15	aeh
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 20:15	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 20:15	aeh
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	04/25/17 11:05	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/25/17 17:28	aeh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 20:15	aeh
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/24/17 20:15	aeh
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/25/17 11:05	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/24/17 20:15	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/24/17 20:15	aeh
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/25/17 11:05	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/24/17 20:15	aeh
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 20:15	aeh

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L36586-08***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	2.5	B		mg/L	2	20	04/18/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/18/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/18/17 0:00	abd
Total Alkalinity		1	2.5	B	*	mg/L	2	20	04/18/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			04/27/17 0:00	calc
Sum of Anions				U		meq/L			04/27/17 0:00	calc
Sum of Cations				U		meq/L			04/27/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	04/24/17 12:52	spl
Conductivity @25C	SM2510B	1	7.6	B	*	umhos/cm	1	10	04/18/17 16:51	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/24/17 14:45	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.0	B		mg/L	0.2	5	04/27/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	04/22/17 0:31	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/20/17 12:40	bce
pH (lab)	SM4500H+ B									
pH		1	7.0	H	*	units	0.1	0.1	04/18/17 0:00	abd
pH measured at		1	19.4			C	0.1	0.1	04/18/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	04/26/17 19:45	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	04/18/17 10:36	emk
Sulfate	D516-02/-07 - Turbidimetric	1	1.2	B	*	mg/L	1	5	04/25/17 13:21	bce
TDS (calculated)	Calculation		3.53			mg/L			04/27/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						04/27/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L36586-09***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/25/17 14:32	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	04/24/17 20:18	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	04/25/17 11:09	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0025			mg/L	0.0002	0.001	04/25/17 11:09	enb
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	04/24/17 20:18	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00011	B		mg/L	0.00005	0.0003	04/25/17 11:09	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/25/17 17:31	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 20:18	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/25/17 11:09	enb
Calcium, dissolved	M200.7 ICP	1	0.6			mg/L	0.1	0.5	04/24/17 20:18	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 20:18	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/25/17 17:31	aeh
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 20:18	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 20:18	aeh
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	04/24/17 20:18	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	04/25/17 11:09	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/24/17 20:18	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 20:18	aeh
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/25/17 17:31	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/19/17 15:48	aeh
Mercury, total	M1631, Atomic Fluorescence	10	86			ng/L	2	5	04/26/17 12:15	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/24/17 20:18	aeh
Nickel, dissolved	M200.7 ICP	1	0.097			mg/L	0.008	0.04	04/24/17 20:18	aeh
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 20:18	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 20:18	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	04/25/17 11:09	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/25/17 17:31	aeh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 20:18	aeh
Strontium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	04/24/17 20:18	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	04/25/17 11:09	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/24/17 20:18	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/24/17 20:18	aeh
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/25/17 11:09	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/24/17 20:18	aeh
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 20:18	aeh

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L36586-09***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/18/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/18/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/18/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/18/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			04/27/17 0:00	calc
Sum of Anions				U		meq/L			04/27/17 0:00	calc
Sum of Cations				U		meq/L			04/27/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	04/24/17 12:52	spl
Conductivity @25C	SM2510B	1	15.9		*	umhos/cm	1	10	04/18/17 16:58	abd
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/24/17 14:49	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	04/27/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	04/22/17 0:33	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/20/17 12:42	bce
pH (lab)	SM4500H+ B									
pH		1	5.6	H	*	units	0.1	0.1	04/18/17 0:00	abd
pH measured at		1	19.4			C	0.1	0.1	04/18/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	04/26/17 19:46	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	04/18/17 10:39	emk
Sulfate	D516-02/-07 - Turbidimetric	1	4.0	B	*	mg/L	1	5	04/25/17 13:21	bce
TDS (calculated)	Calculation		4.61			mg/L			04/27/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						04/27/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L36586-10***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								04/21/17 14:08	bce
Cyanide, WAD	SM4500-CN I- distillation				*				04/21/17 12:03	bce
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								04/25/17 14:40	spl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.97			mg/L	0.03	0.2	04/24/17 20:21	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	04/25/17 11:12	enb
Arsenic, dissolved	M200.8 ICP-MS	1	0.0007	B		mg/L	0.0002	0.001	04/25/17 11:12	enb
Barium, dissolved	M200.7 ICP	1	0.126			mg/L	0.003	0.02	04/24/17 20:21	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00017	B		mg/L	0.00005	0.0003	04/25/17 11:12	enb
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	04/25/17 17:35	aeh
Boron, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	04/24/17 20:21	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	04/25/17 11:12	enb
Calcium, dissolved	M200.7 ICP	1	0.6			mg/L	0.1	0.5	04/24/17 20:21	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/24/17 20:21	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	04/25/17 17:35	aeh
Copper, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	04/24/17 20:21	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 20:21	aeh
Iron, dissolved	M200.7 ICP	1	0.16			mg/L	0.02	0.05	04/24/17 20:21	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	04/25/17 11:12	enb
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/24/17 20:21	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	04/24/17 20:21	aeh
Manganese, dissolved	M200.7 ICP	1	0.031			mg/L	0.005	0.03	04/25/17 17:35	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	04/19/17 15:49	aeh
Mercury, total	M1631, Atomic Fluorescence	1	5.5			ng/L	0.2	0.5	04/21/17 15:51	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	04/24/17 20:21	aeh
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	04/24/17 20:21	aeh
Potassium, dissolved	M200.7 ICP	1	2.0			mg/L	0.2	1	04/24/17 20:21	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	04/24/17 20:21	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	04/25/17 11:12	enb
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	04/25/17 17:35	aeh
Sodium, dissolved	M200.7 ICP	1	1.6			mg/L	0.2	1	04/24/17 20:21	aeh
Strontium, dissolved	M200.7 ICP	1	0.018	B		mg/L	0.005	0.03	04/24/17 20:21	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0005	04/25/17 11:12	enb
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	04/24/17 20:21	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	04/24/17 20:21	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	04/25/17 11:12	enb
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	04/24/17 20:21	aeh
Zinc, dissolved	M200.7 ICP	1	0.13			mg/L	0.01	0.05	04/24/17 20:21	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L36586-10***
Date Sampled: *04/12/17 00:00*
Date Received: *04/13/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	04/18/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	04/18/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	04/18/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	04/18/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-36.5			%			04/27/17 0:00	calc
Sum of Anions			0.6			meq/L			04/27/17 0:00	calc
Sum of Cations			0.279	B		meq/L			04/27/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	04/24/17 12:52	spl
Conductivity @25C	SM2510B	1	197		*	umhos/cm	1	10	04/18/17 17:03	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	04/21/17 22:21	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	04/21/17 21:46	pjb
Fluoride	SM4500F-C	40		U	*	mg/L	2	10	04/24/17 14:53	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	04/27/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.08	B	*	mg/L	0.02	0.1	04/22/17 0:40	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	04/20/17 12:43	bce
pH (lab)	SM4500H+ B									
pH		1	3.4	H	*	units	0.1	0.1	04/18/17 0:00	abd
pH measured at		1	19.4			C	0.1	0.1	04/18/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U		mg/L	0.02	0.05	04/26/17 19:48	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	54		*	mg/L	10	20	04/18/17 10:41	emk
Sulfate	D516-02/-07 - Turbidimetric	1	30.5		*	mg/L	1	5	04/25/17 13:21	bce
TDS (calculated)	Calculation		36.1			mg/L			04/27/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.50						04/27/17 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L36586***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421199													
WG421199PBW1	PBW	04/14/17 15:35				U	mg/L		-20	20			
WG421199LCSW3	LCSW	04/14/17 15:52	WC170411-7	820.0001		804	mg/L	98	90	110			
WG421199LCSW6	LCSW	04/14/17 18:50	WC170411-7	820.0001		807	mg/L	98	90	110			
WG421199PBW2	PBW	04/14/17 18:56				U	mg/L		-20	20			
WG421199LCSW9	LCSW	04/14/17 22:51	WC170411-7	820.0001		811	mg/L	99	90	110			
WG421199PBW3	PBW	04/14/17 22:59				U	mg/L		-20	20			
WG421199LCSW12	LCSW	04/15/17 2:17	WC170411-7	820.0001		813	mg/L	99	90	110			
WG421199PBW4	PBW	04/15/17 2:23				U	mg/L		-20	20			
L36586-07DUP	DUP	04/15/17 4:46			U	U	mg/L				0	20	RA
WG421199LCSW15	LCSW	04/15/17 5:04	WC170411-7	820.0001		819	mg/L	100	90	110			
WG421339													
WG421339PBW1	PBW	04/18/17 16:02				5.4	mg/L		-20	20			
WG421339LCSW3	LCSW	04/18/17 16:19	WC170411-7	820.0001		769	mg/L	94	90	110			
L36598-02DUP	DUP	04/18/17 17:26			60.8	52.2	mg/L				15	20	
WG421339LCSW6	LCSW	04/18/17 19:17	WC170411-7	820.0001		805	mg/L	98	90	110			
WG421339PBW2	PBW	04/18/17 19:24				U	mg/L		-20	20			
WG421339LCSW9	LCSW	04/18/17 22:55	WC170411-7	820.0001		813	mg/L	99	90	110			
WG421339PBW3	PBW	04/18/17 23:03				U	mg/L		-20	20			
WG421339LCSW12	LCSW	04/19/17 2:12	WC170411-7	820.0001		816	mg/L	100	90	110			
WG421339PBW4	PBW	04/19/17 2:19				U	mg/L		-20	20			
WG421339LCSW15	LCSW	04/19/17 5:54	WC170411-7	820.0001		818	mg/L	100	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		1.975	mg/L	99	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.09	0.09			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	1.0013		1.003	mg/L	100	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	1.0013	.05	1.066	mg/L	101	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	1.0013	.05	1.042	mg/L	99	85	115	2	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421708													
WG421708ICV	ICV	04/25/17 10:07	MS170420-2	.02		.02134	mg/L	107	90	110			
WG421708ICB	ICB	04/25/17 10:11				U	mg/L		-0.0012	0.0012			
WG421708LFB	LFB	04/25/17 10:14	MS170321-3	.009980001		.00922	mg/L	92	85	115			
L36581-03AS	AS	04/25/17 10:30	MS170321-3	.009980001	U	.00836	mg/L	84	70	130			
L36581-03ASD	ASD	04/25/17 10:33	MS170321-3	.009980001	U	.00859	mg/L	86	70	130	3	20	
L36620-02AS	AS	04/25/17 11:41	MS170321-3	.009980001	.0008	.00837	mg/L	76	70	130			
L36620-02ASD	ASD	04/25/17 11:44	MS170321-3	.009980001	.0008	.00876	mg/L	80	70	130	5	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L36586***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421708													
WG421708ICV	ICV	04/25/17 10:07	MS170420-2	.05		.05149	mg/L	103	90	110			
WG421708ICB	ICB	04/25/17 10:11				U	mg/L		-0.0006	0.0006			
WG421708LFB	LFB	04/25/17 10:14	MS170321-3	.0501		.04904	mg/L	98	85	115			
L36581-03AS	AS	04/25/17 10:30	MS170321-3	.0501	U	.055	mg/L	110	70	130			
L36581-03ASD	ASD	04/25/17 10:33	MS170321-3	.0501	U	.05425	mg/L	108	70	130	1	20	
L36620-02AS	AS	04/25/17 11:41	MS170321-3	.0501	.0005	.04984	mg/L	98	70	130			
L36620-02ASD	ASD	04/25/17 11:44	MS170321-3	.0501	.0005	.04948	mg/L	98	70	130	1	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		1.9588	mg/L	98	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.009	0.009			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	.5015		.4976	mg/L	99	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	.5015	.091	.5816	mg/L	98	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	.5015	.091	.5713	mg/L	96	85	115	2	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421708													
WG421708ICV	ICV	04/25/17 10:07	MS170420-2	.05		.04904	mg/L	98	90	110			
WG421708ICB	ICB	04/25/17 10:11				.000099	mg/L		-0.00015	0.00015			
WG421708LFB	LFB	04/25/17 10:14	MS170321-3	.05035		.04736	mg/L	94	85	115			
L36581-03AS	AS	04/25/17 10:30	MS170321-3	.05035	U	.05204	mg/L	103	70	130			
L36581-03ASD	ASD	04/25/17 10:33	MS170321-3	.05035	U	.0515	mg/L	102	70	130	1	20	
L36620-02AS	AS	04/25/17 11:41	MS170321-3	.05035	U	.04764	mg/L	95	70	130			
L36620-02ASD	ASD	04/25/17 11:44	MS170321-3	.05035	U	.04838	mg/L	96	70	130	2	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421748													
WG421748ICV	ICV	04/25/17 16:31	II170411-1	2		1.965	mg/L	98	95	105			
WG421748ICB	ICB	04/25/17 16:37				U	mg/L		-0.12	0.12			
WG421748LFB	LFB	04/25/17 16:50	II170417-4	1		1.035	mg/L	104	85	115			
L36586-02AS	AS	04/25/17 16:59	II170417-4	1	U	1.023	mg/L	102	85	115			
L36586-02ASD	ASD	04/25/17 17:03	II170417-4	1	U	1.064	mg/L	106	85	115	4	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		1.954	mg/L	98	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.03	0.03			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	.5005		.499	mg/L	100	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	.5005	.05	.559	mg/L	102	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	.5005	.05	.545	mg/L	99	85	115	3	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L36586***

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421708													
WG421708ICV	ICV	04/25/17 10:07	MS170420-2	.05		.05272	mg/L	105	90	110			
WG421708ICB	ICB	04/25/17 10:11				U	mg/L		-0.0003	0.0003			
WG421708LFB	LFB	04/25/17 10:14	MS170321-3	.05005		.04828	mg/L	96	85	115			
L36581-03AS	AS	04/25/17 10:30	MS170321-3	.05005	.0008	.05292	mg/L	104	70	130			
L36581-03ASD	ASD	04/25/17 10:33	MS170321-3	.05005	.0008	.05187	mg/L	102	70	130	2	20	
L36620-02AS	AS	04/25/17 11:41	MS170321-3	.05005	U	.04803	mg/L	96	70	130			
L36620-02ASD	ASD	04/25/17 11:44	MS170321-3	.05005	U	.04888	mg/L	98	70	130	2	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	100		98.06	mg/L	98	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.3	0.3			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	68.01207		69.47	mg/L	102	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	68.01207	.5	70.1	mg/L	102	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	68.01207	.5	68.83	mg/L	100	85	115	2	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421651													
WG421651ICB	ICB	04/24/17 9:28				U	mg/L		-1.5	1.5			
WG421651ICV	ICV	04/24/17 9:28	WI160701-1	55.055		58.28	mg/L	106	90	110			
WG421651LFB1	LFB	04/24/17 12:51	WI161020-2	30.03		32.77	mg/L	109	90	110			
L36586-01AS	AS	04/24/17 12:51	WI161020-2	30.03	U	32.28	mg/L	107	90	110			
L36586-02DUP	DUP	04/24/17 12:51			U	U	mg/L				0	20	RA
WG421651LFB2	LFB	04/24/17 13:05	WI161020-2	30.03		32.79	mg/L	109	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		1.903	mg/L	95	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.03	0.03			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	.5025		.491	mg/L	98	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	.5025	U	.493	mg/L	98	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	.5025	U	.487	mg/L	97	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421748													
WG421748ICV	ICV	04/25/17 16:31	II170411-1	2.002		1.912	mg/L	96	95	105			
WG421748ICB	ICB	04/25/17 16:37				U	mg/L		-0.03	0.03			
WG421748LFB	LFB	04/25/17 16:50	II170417-4	.5025		.495	mg/L	99	85	115			
L36586-02AS	AS	04/25/17 16:59	II170417-4	.5025	U	.494	mg/L	98	85	115			
L36586-02ASD	ASD	04/25/17 17:03	II170417-4	.5025	U	.504	mg/L	100	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L36586***

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421199													
WG421199LCSW2	LCSW	04/14/17 15:39	PCN52897	1408		1500	umhos/cm	107	90	110			
WG421199LCSW5	LCSW	04/14/17 18:37	PCN52897	1408		1430	umhos/cm	102	90	110			
WG421199LCSW8	LCSW	04/14/17 22:39	PCN52897	1408		1420	umhos/cm	101	90	110			
WG421199LCSW11	LCSW	04/15/17 2:04	PCN52897	1408		1420	umhos/cm	101	90	110			
L36586-07DUP	DUP	04/15/17 4:46			1640	1700	umhos/cm				4	20	
WG421199LCSW14	LCSW	04/15/17 4:51	PCN52897	1408		1430	umhos/cm	102	90	110			
WG421339													
WG421339LCSW2	LCSW	04/18/17 16:07	PCN52897	1408		1500	umhos/cm	107	90	110			
L36598-02DUP	DUP	04/18/17 17:26			801	809	umhos/cm				1	20	
WG421339LCSW5	LCSW	04/18/17 19:04	PCN52897	1408		1440	umhos/cm	102	90	110			
WG421339LCSW8	LCSW	04/18/17 22:43	PCN52897	1408		1440	umhos/cm	102	90	110			
WG421339LCSW11	LCSW	04/19/17 1:59	PCN52897	1408		1390	umhos/cm	99	90	110			
WG421339LCSW14	LCSW	04/19/17 5:42	PCN52897	1408		1370	umhos/cm	97	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		1.923	mg/L	96	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.03	0.03			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	.5005		.5	mg/L	100	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	.5005	.01	.512	mg/L	100	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	.5005	.01	.502	mg/L	98	85	115	2	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421606													
WG421606ICV	ICV	04/21/17 21:42	WI170421-6	.3006		.2849	mg/L	95	90	110			
WG421606ICB	ICB	04/21/17 21:43				U	mg/L		-0.003	0.003			
WG421607													
WG421576LRB	LRB	04/21/17 22:19				U	mg/L		-0.003	0.003			
WG421576LFB	LFB	04/21/17 22:19	WI170421-2	.2		.1976	mg/L	99	90	110			
L36598-02DUP	DUP	04/21/17 22:45			15	14.99	mg/L				0	20	
L36613-07LFM	LFM	04/21/17 22:47	WI170421-2	.2	2.9	2.95	mg/L	25	90	110			M3

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421606													
WG421606ICV	ICV	04/21/17 21:42	WI170421-6	.3006		.2849	mg/L	95	90	110			
WG421606ICB	ICB	04/21/17 21:43				U	mg/L		-0.003	0.003			
WG421554LRB	LRB	04/21/17 21:43				U	mg/L		-0.003	0.003			
WG421554LFB	LFB	04/21/17 21:44	WI170421-4	.2004		.2032	mg/L	101	90	110			
L36595-01DUP	DUP	04/21/17 21:48			U	U	mg/L				0	20	RA
L36692-10LFM	LFM	04/21/17 21:50	WI170421-4	.2004	U	.194	mg/L	97	90	110			

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ACZ Project ID: ***L36586***

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421641													
WG421641ICV	ICV	04/24/17 11:32	WC170414-7	2.006		1.974	mg/L	98	95	105			
WG421641ICB	ICB	04/24/17 11:36				.086	mg/L		-0.15	0.15			
WG421641LFB1	LFB	04/24/17 11:43	WC170320-7	4.995		4.8	mg/L	96	90	110			
L36582-01AS	AS	04/24/17 13:00	WC170320-7	4.995	U	4.324	mg/L	87	90	110			M2
L36582-01DUP	DUP	04/24/17 13:03			U	.179	mg/L				200	20	RA
L36586-04AS	AS	04/24/17 14:13	WC170320-7	199.8	5	181.9	mg/L	89	90	110			M2
L36586-04DUP	DUP	04/24/17 14:17			5	4.9	mg/L				2	20	RA
WG421641LFB2	LFB	04/24/17 14:28	WC170320-7	4.995		4.736	mg/L	95	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		1.93	mg/L	97	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.3	0.3			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	1		1	mg/L	100	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	1	U	.96	mg/L	96	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	1	U	.96	mg/L	96	85	115	0	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		1.916	mg/L	96	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.06	0.06			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	1.0017		.979	mg/L	98	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	1.0017	.12	1.081	mg/L	96	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	1.0017	.12	1.055	mg/L	93	85	115	2	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421708													
WG421708ICV	ICV	04/25/17 10:07	MS170420-2	.05		.05241	mg/L	105	90	110			
WG421708ICB	ICB	04/25/17 10:11				U	mg/L		-0.0003	0.0003			
WG421708LFB	LFB	04/25/17 10:14	MS170321-3	.0501		.04755	mg/L	95	85	115			
L36581-03AS	AS	04/25/17 10:30	MS170321-3	.0501	.0002	.05221	mg/L	104	70	130			
L36581-03ASD	ASD	04/25/17 10:33	MS170321-3	.0501	.0002	.05052	mg/L	100	70	130	3	20	
L36620-02AS	AS	04/25/17 11:41	MS170321-3	.0501	.0013	.05109	mg/L	99	70	130			
L36620-02ASD	ASD	04/25/17 11:44	MS170321-3	.0501	.0013	.05202	mg/L	101	70	130	2	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		1.9345	mg/L	97	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.024	0.024			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	1.001		.9773	mg/L	98	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	1.001	U	.9775	mg/L	98	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	1.001	U	.9593	mg/L	96	85	115	2	20	

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ACZ Project ID: ***L36586***

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	100		98.85	mg/L	99	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.6	0.6			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	50.01344		47.39	mg/L	95	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	50.01344	U	47.48	mg/L	95	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	50.01344	U	46.65	mg/L	93	85	115	2	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421748													
WG421748ICV	ICV	04/25/17 16:31	II170411-1	2		1.9365	mg/L	97	95	105			
WG421748ICB	ICB	04/25/17 16:37				U	mg/L		-0.015	0.015			
WG421748LFB	LFB	04/25/17 16:50	II170417-4	.5		.5155	mg/L	103	85	115			
L36586-02AS	AS	04/25/17 16:59	II170417-4	.5	.021	.5321	mg/L	102	85	115			
L36586-02ASD	ASD	04/25/17 17:03	II170417-4	.5	.021	.5345	mg/L	103	85	115	0	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421387													
WG421387ICV	ICV	04/19/17 15:21	HG170127-2	.005005		.00507	mg/L	101	95	105			
WG421387ICB	ICB	04/19/17 15:22				U	mg/L		-0.0002	0.0002			
WG421387LRB	LRB	04/19/17 15:24				U	mg/L		-0.00044	0.00044			
WG421387LFB	LFB	04/19/17 15:25	HG170412-7	.002002		.00197	mg/L	98	85	115			
L36490-02LFM	LFM	04/19/17 15:27	HG170412-7	.002002	U	.00198	mg/L	99	85	115			
L36490-02LFMD	LFMD	04/19/17 15:28	HG170412-7	.002002	U	.00195	mg/L	97	85	115	2	20	
L36586-04LFM	LFM	04/19/17 15:41	HG170412-7	.002002	U	.00198	mg/L	99	85	115			
L36586-04LFMD	LFMD	04/19/17 15:42	HG170412-7	.002002	U	.00202	mg/L	101	85	115	2	20	

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ACZ Project ID: ***L36586***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421459													
WG421459ICV	ICV	04/21/17 12:27	HG170404-4	10		10.7	ng/L	107	79	121			
WG421459ICB	ICB	04/21/17 12:32				U	ng/L		-0.5	0.5			
WG421459PQV	PQV	04/21/17 12:37	HG170404-6	.5		.46	ng/L	92	70	130			
WG421459LFB	LFB	04/21/17 12:41	HG170404-5	2		2.08	ng/L	104	71	125			
L36547-02MS	MS	04/21/17 13:06	HG170404-5	2	1.2	3.22	ng/L	101	71	125			
L36547-02MSD	MSD	04/21/17 13:11	HG170404-5	2	1.2	3.31	ng/L	106	71	125	3	24	
WG421459CCV1	CCV	04/21/17 13:30	HG170404-4	10		9.47	ng/L	95	76.5	123.4			
WG421459CCB1	CCB	04/21/17 13:35				U	ng/L		-0.5	0.5			
WG421459CCV2	CCV	04/21/17 15:22	HG170404-4	10		11.3	ng/L	113	76.5	123.4			
WG421459CCB2	CCB	04/21/17 15:27				U	ng/L		-0.5	0.5			
L36586-08MS	MS	04/21/17 15:37	HG2XPREP	8	19.7	22.8	ng/L	78	71	125			
L36586-08MSD	MSD	04/21/17 15:42	HG2XPREP	8	19.7	23.6	ng/L	98	71	125	3	24	
WG421459CCV3	CCV	04/21/17 16:06	HG170404-4	10		11.2	ng/L	112	76.5	123.4			
WG421459CCB3	CCB	04/21/17 16:11				U	ng/L		-0.5	0.5			
WG421800													
WG421800CCV1	CCV	04/26/17 11:26	HG170404-4	10		11	ng/L	110	76.5	123.4			
WG421800CCB1	CCB	04/26/17 11:31				U	ng/L		-0.5	0.5			
WG421800PQV	PQV	04/26/17 11:36	HG170404-6	.5		.38	ng/L	76	70	130			
WG421800LFB	LFB	04/26/17 11:41	HG170404-5	2		1.7	ng/L	85	71	125			
L36602-01MS	MS	04/26/17 12:25	HG170404-5	2	11.6	13.3	ng/L	85	71	125			
L36602-01MSD	MSD	04/26/17 12:30	HG170404-5	2	11.6	13.5	ng/L	95	71	125	1	24	
WG421800CCV2	CCV	04/26/17 12:40	HG170404-4	10		9.78	ng/L	98	76.5	123.4			
WG421800CCB2	CCB	04/26/17 12:45				U	ng/L		-0.5	0.5			
WG421800CCV3	CCV	04/26/17 13:04	HG170404-4	10		9.86	ng/L	99	76.5	123.4			
WG421800CCB3	CCB	04/26/17 13:09				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		1.993	mg/L	100	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.06	0.06			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	.4985		.496	mg/L	99	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	.4985	U	.495	mg/L	99	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	.4985	U	.487	mg/L	98	85	115	2	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2.002		2.029	mg/L	101	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.024	0.024			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	.498		.5007	mg/L	101	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	.498	U	.5049	mg/L	101	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	.498	U	.4965	mg/L	100	85	115	2	20	

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ACZ Project ID: ***L36586***

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421605													
WG421605ICV	ICV	04/21/17 20:26	WI170310-3	2.416		2.342	mg/L	97	90	110			
WG421605ICB	ICB	04/21/17 20:27				U	mg/L		-0.02	0.02			
WG421610													
WG421610LFB1	LFB	04/21/17 23:50	WI170104-22	2		2.062	mg/L	103	90	110			
L36584-01AS	AS	04/22/17 0:12	WI170104-22	2	.04	2.147	mg/L	105	90	110			
L36584-02DUP	DUP	04/22/17 0:14			.07	.08	mg/L				13	20	RA
WG421610LFB2	LFB	04/22/17 0:30	WI170104-22	2		2.105	mg/L	105	90	110			
L36586-08AS	AS	04/22/17 0:32	WI170104-22	2	.02	2.116	mg/L	105	90	110			
L36586-09DUP	DUP	04/22/17 0:35			.02	.026	mg/L				26	20	RA

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421478													
WG421478ICV	ICV	04/20/17 10:57	WI170404-1	11.988		12.056	mg/L	101	90	110			
WG421478ICB	ICB	04/20/17 10:58				U	mg/L		-0.05	0.05			
WG421482													
WG421482LFB1	LFB	04/20/17 12:18	WI161026-1	10		10.389	mg/L	104	90	110			
L36583-01AS	AS	04/20/17 12:20	WI161026-1	10	U	10.569	mg/L	106	90	110			
L36584-01DUP	DUP	04/20/17 12:23			U	U	mg/L				0	20	RA
L36589-01AS	AS	04/20/17 12:46	WI161026-1	10	U	9.942	mg/L	99	90	110			
WG421482LFB2	LFB	04/20/17 12:59	WI161026-1	10		9.968	mg/L	100	90	110			
L36590-01DUP	DUP	04/20/17 13:48			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421199													
WG421199LCSW1	LCSW	04/14/17 15:38	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG421199LCSW4	LCSW	04/14/17 18:35	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG421199LCSW7	LCSW	04/14/17 22:37	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG421199LCSW10	LCSW	04/15/17 2:02	PCN51287	6.01		6.1	units	101	5.9	6.1			
L36586-07DUP	DUP	04/15/17 4:46			2.4	2.4	units				0	20	
WG421199LCSW13	LCSW	04/15/17 4:50	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG421339													
WG421339LCSW1	LCSW	04/18/17 16:05	PCN51287	6.01		6.1	units	101	5.9	6.1			
L36598-02DUP	DUP	04/18/17 17:26			9.5	9.5	units				0	20	
WG421339LCSW4	LCSW	04/18/17 19:03	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG421339LCSW7	LCSW	04/18/17 22:41	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG421339LCSW10	LCSW	04/19/17 1:58	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG421339LCSW13	LCSW	04/19/17 5:40	PCN51287	6.01		6.1	units	101	5.9	6.1			

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ACZ Project ID: ***L36586***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421539													
WG421539ICV	ICV	04/20/17 20:37	WI170419-3	.65228		.65	mg/L	100	90	110			
WG421539ICB	ICB	04/20/17 20:39				U	mg/L		-0.02	0.02			
WG421540													
WG421402LRB	LRB	04/20/17 22:16				U	mg/L		-0.02	0.02			
WG421402LFB	LFB	04/20/17 22:17	WI170418-5	.5		.476	mg/L	95	90	110			
L36570-01LFM	LFM	04/20/17 22:36	WI170418-5	.5	.22	.738	mg/L	104	90	110			
L36570-02DUP	DUP	04/20/17 22:55			1.5	1.5	mg/L				0	20	
WG421886													
WG421886ICV	ICV	04/26/17 19:28	WI170419-3	.65228		.657	mg/L	101	90	110			
WG421886ICB	ICB	04/26/17 19:31				U	mg/L		-0.02	0.02			
WG421755LRB	LRB	04/26/17 19:32				U	mg/L		-0.02	0.02			
WG421755LFB	LFB	04/26/17 19:33	WI170418-5	.5		.492	mg/L	98	90	110			
L36586-02LFM	LFM	04/26/17 19:35	WI170418-5	.5	U	.487	mg/L	97	90	110			
L36586-03DUP	DUP	04/26/17 19:37			.28	.275	mg/L				2	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	20		19.61	mg/L	98	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.6	0.6			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	99.98315		99.73	mg/L	100	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	99.98315	1.8	101.4	mg/L	100	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	99.98315	1.8	99.66	mg/L	98	85	115	2	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421306													
WG421306PBW	PBW	04/18/17 10:00				U	mg/L		-20	20			
WG421306LCSW	LCSW	04/18/17 10:02	PCN52656	260		252	mg/L	97	80	120			
L36586-05DUP	DUP	04/18/17 10:31			50	60	mg/L				18	10	RA
L36622-01DUP	DUP	04/18/17 11:00			38600	37600	mg/L				3	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		1.95	mg/L	98	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.3	0.3			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	.9868		1.01	mg/L	102	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	.9868	U	1	mg/L	101	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	.9868	U	.98	mg/L	99	85	115	2	20	

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ACZ Project ID: ***L36586***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421708													
WG421708ICV	ICV	04/25/17 10:07	MS170420-2	.05		.05185	mg/L	104	90	110			
WG421708ICB	ICB	04/25/17 10:11				.00011	mg/L		-0.0003	0.0003			
WG421708LFB	LFB	04/25/17 10:14	MS170321-3	.05005		.04736	mg/L	95	85	115			
L36581-03AS	AS	04/25/17 10:30	MS170321-3	.05005	U	.05814	mg/L	116	70	130			
L36581-03ASD	ASD	04/25/17 10:33	MS170321-3	.05005	U	.05698	mg/L	114	70	130	2	20	
L36620-02AS	AS	04/25/17 11:41	MS170321-3	.05005	U	.05075	mg/L	101	70	130			
L36620-02ASD	ASD	04/25/17 11:44	MS170321-3	.05005	U	.05167	mg/L	103	70	130	2	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421748													
WG421748ICV	ICV	04/25/17 16:31	II170411-1	1.002		1.028	mg/L	103	95	105			
WG421748ICB	ICB	04/25/17 16:37				U	mg/L		-0.03	0.03			
WG421748LFB	LFB	04/25/17 16:50	II170417-4	.5		.514	mg/L	103	85	115			
L36586-02AS	AS	04/25/17 16:59	II170417-4	.5	U	.275	mg/L	55	85	115			M2 ZA
L36586-02ASD	ASD	04/25/17 17:03	II170417-4	.5	U	.281	mg/L	56	85	115	2	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	100		99.78	mg/L	100	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.6	0.6			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	100.0511		101.1	mg/L	101	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	100.0511	1.8	102.6	mg/L	101	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	100.0511	1.8	100.9	mg/L	99	85	115	2	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		1.9388	mg/L	97	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.015	0.015			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	.5015		.4976	mg/L	99	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	.5015	.012	.5068	mg/L	99	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	.5015	.012	.4979	mg/L	97	85	115	2	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421752													
WG421752ICB	ICB	04/25/17 10:59				U	mg/L		-3	3			
WG421752ICV	ICV	04/25/17 10:59	WI170420-2	20		19.9	mg/L	100	90	110			
WG421752LFB	LFB	04/25/17 12:51	WI170131-8	9.99		10.1	mg/L	101	90	110			
L36586-02DUP	DUP	04/25/17 13:21			16.1	17.1	mg/L				6	20	
L36586-03AS	AS	04/25/17 13:22	SO4TURB50X	10	783	886	mg/L	1030	90	110			M3

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ACZ Project ID: ***L36586***

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421708													
WG421708ICV	ICV	04/25/17 10:07	MS170420-2	.05		.05151	mg/L	103	90	110			
WG421708ICB	ICB	04/25/17 10:11				U	mg/L		-0.0003	0.0003			
WG421708LFB	LFB	04/25/17 10:14	MS170321-3	.0501		.04637	mg/L	93	85	115			
L36581-03AS	AS	04/25/17 10:30	MS170321-3	.0501	U	.05143	mg/L	103	70	130			
L36581-03ASD	ASD	04/25/17 10:33	MS170321-3	.0501	U	.05005	mg/L	100	70	130	3	20	
L36620-02AS	AS	04/25/17 11:41	MS170321-3	.0501	U	.04871	mg/L	97	70	130			
L36620-02ASD	ASD	04/25/17 11:44	MS170321-3	.0501	U	.04949	mg/L	99	70	130	2	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		2.019	mg/L	101	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.12	0.12			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	1.001		.998	mg/L	100	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	1.001	U	1.018	mg/L	102	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	1.001	U	.996	mg/L	100	85	115	2	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		1.9902	mg/L	100	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.015	0.015			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	1.001		1.019	mg/L	102	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	1.001	U	1.016	mg/L	101	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	1.001	U	.9944	mg/L	99	85	115	2	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421708													
WG421708ICV	ICV	04/25/17 10:07	MS170420-2	.05		.04881	mg/L	98	90	110			
WG421708ICB	ICB	04/25/17 10:11				U	mg/L		-0.0003	0.0003			
WG421708LFB	LFB	04/25/17 10:14	MS170321-3	.05		.04511	mg/L	90	85	115			
L36581-03AS	AS	04/25/17 10:30	MS170321-3	.05	U	.05135	mg/L	103	70	130			
L36581-03ASD	ASD	04/25/17 10:33	MS170321-3	.05	U	.04963	mg/L	99	70	130	3	20	
L36620-02AS	AS	04/25/17 11:41	MS170321-3	.05	U	.05021	mg/L	100	70	130			
L36620-02ASD	ASD	04/25/17 11:44	MS170321-3	.05	U	.05135	mg/L	103	70	130	2	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		1.986	mg/L	99	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.015	0.015			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	.4985		.5075	mg/L	102	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	.4985	U	.5032	mg/L	101	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	.4985	U	.5028	mg/L	101	85	115	0	20	

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ACZ Project ID: ***L36586***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG421693													
WG421693ICV	ICV	04/24/17 19:18	II170411-1	2		1.968	mg/L	98	95	105			
WG421693ICB	ICB	04/24/17 19:24				U	mg/L		-0.03	0.03			
WG421693LFB	LFB	04/24/17 19:36	II170417-4	.4942		.514	mg/L	104	85	115			
L36586-02AS	AS	04/24/17 19:46	II170417-4	.4942	.05	.569	mg/L	105	85	115			
L36586-02ASD	ASD	04/24/17 19:49	II170417-4	.4942	.05	.56	mg/L	103	85	115	2	20	

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36586-01	WG421651	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421199	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421641	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421610	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421482	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421199	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421306	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421748	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG421752	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG421199	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L36586***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36586-02	WG421651	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421199	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421641	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421610	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421482	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421199	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421306	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421748	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG421752	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG421199	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L36586***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36586-03	WG421651	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421199	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421641	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421610	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421482	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421199	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421306	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421748	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG421752	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG421199	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L36586***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36586-04	WG421651	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421199	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421641	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421610	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421482	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421199	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421306	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421748	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG421752	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG421199	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L36586***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36586-05	WG421651	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421199	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421641	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421610	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421482	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421199	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421306	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421748	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG421752	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG421199	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc.

ACZ Project ID: ***L36586***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36586-06	WG421651	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421199	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421641	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421610	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421482	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421199	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421306	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421748	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG421752	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG421199	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

ACZ Laboratories, Inc.
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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L36586***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36586-07	WG421651	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421199	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421641	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421610	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421482	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421199	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421306	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG421748	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG421752	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG421199	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L36586***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36586-08	WG421651	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421339	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421641	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421610	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421482	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421339	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421306	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG421748	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG421752	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG421339	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
L36586-09	WG421651	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421339	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421641	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421610	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421482	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421339	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421306	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG421748	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG421752	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG421339	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

ACZ Laboratories, Inc.
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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L36586***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L36586-10	WG421651	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421339	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421607	Cyanide, total	M335.4 - Colorimetric w/ distillation	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG421606	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421641	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421610	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421482	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG421339	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG421306	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG421748	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG421752	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG421339	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
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Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L36586
Date Received: 04/13/2017 10:18
Received By:
Date Printed: 4/13/2017

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA25851	1.7	<=6.0	14	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
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Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L36586
Date Received:	04/13/2017 10:18
Received By:	
Date Printed:	4/13/2017

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L36586

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:

Project/PO #: 3981

Reporting state for compliance testing:

Sampler's Name: Robert

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500	Mercury by 1631E				
CAL-002 (86-95)	4/12/17	WW	1	X			X				
CAL-004 (860-875)		WW	1	X			X				
CAL-003 (675-685)		WW	1	X			X				
GMC-012 (832-851)		WW	1	X			X				
CAL-004 (295-315)		WW	1	X			X				
CAL-001 (750-762)		WW	1	X			X				
GMC-014 (176-184)		WW	1	X			X				
CAL-001 (380-400)		WW	1	X			X				
CAL-002 (177-187)		WW	1	X			X				
Calico Leach Res. after CN Destruct		WW	1	X	X	X	X				

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 72
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	4/12/17 9AM	[signature]	4/13/17 10:15

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L36586 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

[redacted]

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

May 22, 2017

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L37089

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on May 11, 2017. This project has been assigned to ACZ's project number, L37089. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L37089. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after June 21, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACCREDITED IN ACCORDANCE WITH nelac

ACIL

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L37089-01***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/17 12:00	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.65			mg/L	0.03	0.2	05/15/17 20:59	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0098			mg/L	0.0004	0.002	05/15/17 19:47	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0425			mg/L	0.0002	0.001	05/15/17 19:47	mfm
Barium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.003	0.02	05/15/17 20:59	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00011	B		mg/L	0.00005	0.0003	05/15/17 19:47	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/15/17 20:59	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 20:59	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	05/15/17 19:47	mfm
Calcium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.1	0.5	05/15/17 20:59	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 20:59	gss
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	05/15/17 20:59	gss
Copper, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	05/15/17 20:59	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 20:59	gss
Iron, dissolved	M200.7 ICP	1	5.26			mg/L	0.02	0.05	05/15/17 20:59	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	05/15/17 19:47	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 20:59	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/15/17 20:59	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/15/17 20:59	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/17/17 16:39	sck
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/15/17 20:59	gss
Nickel, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.008	0.04	05/15/17 20:59	gss
Potassium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.2	1	05/15/17 20:59	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 20:59	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	05/15/17 19:47	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/15/17 20:59	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/15/17 20:59	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/15/17 20:59	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0001	0.0005	05/15/17 19:47	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/15/17 20:59	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/15/17 20:59	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	05/15/17 19:47	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/15/17 20:59	gss
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	05/15/17 20:59	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L37089-01***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/16/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-33.4			%			05/22/17 0:00	calc
Sum of Anions			0.745			meq/L			05/22/17 0:00	calc
Sum of Cations			0.372	B		meq/L			05/22/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	05/16/17 14:47	bce
Conductivity @25C	SM2510B	1	232		*	umhos/cm	1	10	05/16/17 18:04	sck
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	05/17/17 19:41	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.499	B		mg/L	0.2	5	05/22/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	05/19/17 23:53	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/16/17 14:52	spl
pH (lab)	SM4500H+ B									
pH		1	3.3	H	*	units	0.1	0.1	05/16/17 0:00	sck
pH measured at		1	21.4			C	0.1	0.1	05/16/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	05/18/17 22:47	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	44		*	mg/L	10	20	05/13/17 12:10	emk
Sulfate	D516-02/-07 - Turbidimetric	1	35.5		*	mg/L	1	5	05/15/17 12:56	bce
TDS (calculated)	Calculation		42			mg/L			05/22/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.05						05/22/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L37089-02***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/17 12:16	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.11	B		mg/L	0.03	0.2	05/15/17 21:02	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0004	0.002	05/15/17 19:50	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0002	0.001	05/15/17 19:50	mfm
Barium, dissolved	M200.7 ICP	1	0.107			mg/L	0.003	0.02	05/15/17 21:02	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00033			mg/L	0.00005	0.0003	05/15/17 19:50	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/15/17 21:02	gss
Boron, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	05/15/17 21:02	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	05/15/17 19:50	mfm
Calcium, dissolved	M200.7 ICP	1	0.6			mg/L	0.1	0.5	05/15/17 21:02	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:02	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:02	gss
Copper, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	05/15/17 21:02	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:02	gss
Iron, dissolved	M200.7 ICP	1	0.09			mg/L	0.02	0.05	05/15/17 21:02	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	05/15/17 19:50	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 21:02	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/15/17 21:02	gss
Manganese, dissolved	M200.7 ICP	1	0.025	B		mg/L	0.005	0.03	05/15/17 21:02	gss
Mercury, dissolved	M245.1 CVAA	1	0.0003	B		mg/L	0.0002	0.001	05/17/17 16:40	sck
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/15/17 21:02	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 21:02	gss
Potassium, dissolved	M200.7 ICP	1	2.7			mg/L	0.2	1	05/15/17 21:02	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:02	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	05/15/17 19:50	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/15/17 21:02	gss
Sodium, dissolved	M200.7 ICP	1	1.8			mg/L	0.2	1	05/15/17 21:02	gss
Strontium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.005	0.03	05/15/17 21:02	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.002			mg/L	0.0001	0.0005	05/15/17 19:50	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/15/17 21:02	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/15/17 21:02	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	05/15/17 19:50	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/15/17 21:02	gss
Zinc, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	05/15/17 21:02	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L37089-02***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/16/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-29.8			%			05/22/17 0:00	calc
Sum of Anions			0.372	B		meq/L			05/22/17 0:00	calc
Sum of Cations			0.201	B		meq/L			05/22/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	05/16/17 14:49	bce
Conductivity @25C	SM2510B	1	100.0		*	umhos/cm	1	10	05/16/17 18:08	sck
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	05/17/17 19:59	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	05/22/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B	*	mg/L	0.02	0.1	05/19/17 23:56	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/16/17 14:54	spl
pH (lab)	SM4500H+ B									
pH		1	3.8	H	*	units	0.1	0.1	05/16/17 0:00	sck
pH measured at		1	21.5			C	0.1	0.1	05/16/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	05/18/17 22:49	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	24		*	mg/L	10	20	05/13/17 12:13	emk
Sulfate	D516-02/-07 - Turbidimetric	1	17.7		*	mg/L	1	5	05/15/17 12:56	bce
TDS (calculated)	Calculation		23.1			mg/L			05/22/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.04						05/22/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L37089-03***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/17 12:24	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	13.9			mg/L	0.03	0.2	05/15/17 21:12	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0004	0.002	05/15/17 19:54	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.419			mg/L	0.0002	0.001	05/15/17 19:54	mfm
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	05/15/17 21:12	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00269			mg/L	0.00005	0.0003	05/15/17 19:54	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/15/17 21:12	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:12	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	05/15/17 19:54	mfm
Calcium, dissolved	M200.7 ICP	1	43.0			mg/L	0.1	0.5	05/15/17 21:12	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:12	gss
Cobalt, dissolved	M200.7 ICP	1	0.05			mg/L	0.01	0.05	05/15/17 21:12	gss
Copper, dissolved	M200.7 ICP	1	0.16			mg/L	0.01	0.05	05/15/17 21:12	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:12	gss
Iron, dissolved	M200.7 ICP	1	162			mg/L	0.02	0.05	05/15/17 21:12	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	05/15/17 19:54	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 21:12	gss
Magnesium, dissolved	M200.7 ICP	1	1.2			mg/L	0.2	1	05/15/17 21:12	gss
Manganese, dissolved	M200.7 ICP	1	0.128			mg/L	0.005	0.03	05/15/17 21:12	gss
Mercury, dissolved	M245.1 CVAA	1	0.0004	B		mg/L	0.0002	0.001	05/17/17 16:40	sck
Molybdenum, dissolved	M200.7 ICP	1	0.15			mg/L	0.02	0.1	05/15/17 21:12	gss
Nickel, dissolved	M200.7 ICP	1	0.058			mg/L	0.008	0.04	05/15/17 21:12	gss
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	05/15/17 21:12	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:12	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0001	0.0003	05/15/17 19:54	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/15/17 21:12	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/15/17 21:12	gss
Strontium, dissolved	M200.7 ICP	1	0.033			mg/L	0.005	0.03	05/15/17 21:12	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	05/15/17 19:54	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/15/17 21:12	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/15/17 21:12	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0043			mg/L	0.0001	0.0005	05/15/17 19:54	mfm
Vanadium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	05/15/17 21:12	gss
Zinc, dissolved	M200.7 ICP	1	0.31			mg/L	0.01	0.05	05/15/17 21:12	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L37089-03***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/16/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.0			%			05/22/17 0:00	calc
Sum of Anions			13			meq/L			05/22/17 0:00	calc
Sum of Cations			12			meq/L			05/22/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	05/19/17 11:55	bce
Conductivity @25C	SM2510B	1	2450		*	umhos/cm	1	10	05/16/17 18:13	sck
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	05/17/17 20:16	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		112			mg/L	0.2	5	05/22/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	05/19/17 23:58	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/16/17 14:57	spl
pH (lab)	SM4500H+ B									
pH		1	2.3	H	*	units	0.1	0.1	05/16/17 0:00	sck
pH measured at		1	21.1			C	0.1	0.1	05/16/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.26		*	mg/L	0.02	0.05	05/18/17 22:50	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	988		*	mg/L	10	20	05/13/17 12:15	emk
Sulfate	D516-02/-07 - Turbidimetric	50	626			mg/L	50	250	05/15/17 13:19	bce
TDS (calculated)	Calculation		847			mg/L			05/22/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.17						05/22/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L37089-04***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/17 12:31	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.26			mg/L	0.03	0.2	05/15/17 21:15	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.001	B		mg/L	0.0004	0.002	05/15/17 19:57	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0018			mg/L	0.0002	0.001	05/15/17 19:57	mfm
Barium, dissolved	M200.7 ICP	1	0.138			mg/L	0.003	0.02	05/15/17 21:15	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	05/15/17 19:57	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/15/17 21:15	gss
Boron, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	05/15/17 21:15	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	05/15/17 19:57	mfm
Calcium, dissolved	M200.7 ICP	1	0.5			mg/L	0.1	0.5	05/15/17 21:15	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:15	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:15	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:15	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:15	gss
Iron, dissolved	M200.7 ICP	1	1.79			mg/L	0.02	0.05	05/15/17 21:15	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	05/15/17 19:57	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 21:15	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/15/17 21:15	gss
Manganese, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	05/15/17 21:15	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/17/17 16:41	sck
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/15/17 21:15	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 21:15	gss
Potassium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	05/15/17 21:15	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:15	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0003	05/15/17 19:57	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/15/17 21:15	gss
Sodium, dissolved	M200.7 ICP	1	1.8			mg/L	0.2	1	05/15/17 21:15	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/15/17 21:15	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/15/17 19:57	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/15/17 21:15	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/15/17 21:15	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	05/15/17 19:57	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/15/17 21:15	gss
Zinc, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	05/15/17 21:15	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L37089-04***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/16/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-49.3			%			05/22/17 0:00	calc
Sum of Anions			0.727			meq/L			05/22/17 0:00	calc
Sum of Cations			0.247	B		meq/L			05/22/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	05/16/17 14:49	bce
Conductivity @25C	SM2510B	1	339		*	umhos/cm	1	10	05/16/17 18:17	sck
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	05/17/17 20:24	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.3	B		mg/L	0.2	5	05/22/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B	*	mg/L	0.02	0.1	05/20/17 0:00	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/16/17 14:59	spl
pH (lab)	SM4500H+ B									
pH		1	3.2	H	*	units	0.1	0.1	05/16/17 0:00	sck
pH measured at		1	21.3			C	0.1	0.1	05/16/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	05/18/17 22:52	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	46		*	mg/L	10	20	05/13/17 12:18	emk
Sulfate	D516-02/-07 - Turbidimetric	1	34.6			mg/L	1	5	05/15/17 12:56	bce
TDS (calculated)	Calculation		39.7			mg/L			05/22/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.16						05/22/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L37089-05***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/17 12:47	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.12	B		mg/L	0.03	0.2	05/15/17 21:18	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	05/15/17 20:00	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0002	0.001	05/15/17 20:00	mfm
Barium, dissolved	M200.7 ICP	1	0.109			mg/L	0.003	0.02	05/15/17 21:18	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00022	B		mg/L	0.00005	0.0003	05/15/17 20:00	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/15/17 21:18	gss
Boron, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	05/15/17 21:18	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	05/15/17 20:00	mfm
Calcium, dissolved	M200.7 ICP	1	1.7			mg/L	0.1	0.5	05/15/17 21:18	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:18	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:18	gss
Copper, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	05/15/17 21:18	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:18	gss
Iron, dissolved	M200.7 ICP	1	0.13			mg/L	0.02	0.05	05/15/17 21:18	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	05/15/17 20:00	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 21:18	gss
Magnesium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	05/15/17 21:18	gss
Manganese, dissolved	M200.7 ICP	1	0.044			mg/L	0.005	0.03	05/15/17 21:18	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/17/17 16:42	sck
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/15/17 21:18	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 21:18	gss
Potassium, dissolved	M200.7 ICP	1	0.7	B		mg/L	0.2	1	05/15/17 21:18	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:18	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0003	05/15/17 20:00	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/15/17 21:18	gss
Sodium, dissolved	M200.7 ICP	1	1.2			mg/L	0.2	1	05/15/17 21:18	gss
Strontium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	05/15/17 21:18	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	05/15/17 20:00	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/15/17 21:18	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/15/17 21:18	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0005	05/15/17 20:00	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/15/17 21:18	gss
Zinc, dissolved	M200.7 ICP	1	0.07			mg/L	0.01	0.05	05/15/17 21:18	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L37089-05***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/16/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			05/22/17 0:00	calc
Sum of Anions			0.468	B		meq/L			05/22/17 0:00	calc
Sum of Cations			0.198	B		meq/L			05/22/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	05/16/17 14:49	bce
Conductivity @25C	SM2510B	1	185		*	umhos/cm	1	10	05/16/17 18:25	sck
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	05/17/17 20:31	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		5.1			mg/L	0.2	5	05/22/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.06	B	*	mg/L	0.02	0.1	05/20/17 0:01	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/16/17 15:01	spl
pH (lab)	SM4500H+ B									
pH		1	3.5	H	*	units	0.1	0.1	05/16/17 0:00	sck
pH measured at		1	21.7			C	0.1	0.1	05/16/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	05/18/17 22:54	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	32		*	mg/L	10	20	05/13/17 12:20	emk
Sulfate	D516-02/-07 - Turbidimetric	1	22.3			mg/L	1	5	05/15/17 12:56	bce
TDS (calculated)	Calculation		26.5			mg/L			05/22/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.21						05/22/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L37089-06***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/17 12:55	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.14	B		mg/L	0.03	0.2	05/15/17 21:21	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	05/15/17 20:03	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0048			mg/L	0.0002	0.001	05/15/17 20:03	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	05/15/17 21:21	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00017	B		mg/L	0.00005	0.0003	05/15/17 20:03	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/15/17 21:21	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:21	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/15/17 20:03	mfm
Calcium, dissolved	M200.7 ICP	1	4.0			mg/L	0.1	0.5	05/15/17 21:21	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:21	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	05/15/17 21:21	gss
Copper, dissolved	M200.7 ICP	1	0.27			mg/L	0.01	0.05	05/15/17 21:21	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:21	gss
Iron, dissolved	M200.7 ICP	1	0.50			mg/L	0.02	0.05	05/15/17 21:21	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	05/15/17 20:03	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 21:21	gss
Magnesium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	05/15/17 21:21	gss
Manganese, dissolved	M200.7 ICP	1	0.024	B		mg/L	0.005	0.03	05/15/17 21:21	gss
Mercury, dissolved	M245.1 CVAA	1	0.0004	B		mg/L	0.0002	0.001	05/17/17 16:43	sck
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/15/17 21:21	gss
Nickel, dissolved	M200.7 ICP	1	0.051			mg/L	0.008	0.04	05/15/17 21:21	gss
Potassium, dissolved	M200.7 ICP	1	2.2			mg/L	0.2	1	05/15/17 21:21	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:21	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0003	05/15/17 20:03	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/15/17 21:21	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/15/17 21:21	gss
Strontium, dissolved	M200.7 ICP	1	0.053			mg/L	0.005	0.03	05/15/17 21:21	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	05/15/17 20:03	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/15/17 21:21	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/15/17 21:21	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0036			mg/L	0.0001	0.0005	05/15/17 20:03	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/15/17 21:21	gss
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	05/15/17 21:21	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L37089-06***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/16/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-17.5			%			05/22/17 0:00	calc
Sum of Anions			0.514			meq/L			05/22/17 0:00	calc
Sum of Cations			0.361	B		meq/L			05/22/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	05/16/17 14:49	bce
Conductivity @25C	SM2510B	1	128		*	umhos/cm	1	10	05/16/17 18:30	sck
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	05/17/17 20:37	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		13			mg/L	0.2	5	05/22/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	05/20/17 0:02	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/16/17 15:02	spl
pH (lab)	SM4500H+ B									
pH		1	3.8	H	*	units	0.1	0.1	05/16/17 0:00	sck
pH measured at		1	21.7			C	0.1	0.1	05/16/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	05/18/17 22:55	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	424		*	mg/L	10	20	05/15/17 10:55	els
Sulfate	D516-02/-07 - Turbidimetric	1	24.5			mg/L	1	5	05/15/17 12:56	bce
TDS (calculated)	Calculation		32.3			mg/L			05/22/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		13.13						05/22/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L37089-07***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/17 13:03	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	10.5			mg/L	0.03	0.2	05/15/17 21:25	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0018	B		mg/L	0.0004	0.002	05/15/17 20:06	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	1.13			mg/L	0.0002	0.001	05/15/17 20:06	mfm
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	05/15/17 21:25	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00097			mg/L	0.00005	0.0003	05/15/17 20:06	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/15/17 21:25	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:25	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	05/15/17 20:06	mfm
Calcium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.1	0.5	05/15/17 21:25	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:25	gss
Cobalt, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	05/15/17 21:25	gss
Copper, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	05/15/17 21:25	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:25	gss
Iron, dissolved	M200.7 ICP	1	82.8			mg/L	0.02	0.05	05/15/17 21:25	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	05/15/17 20:06	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 21:25	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/15/17 21:25	gss
Manganese, dissolved	M200.7 ICP	1	0.040			mg/L	0.005	0.03	05/15/17 21:25	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/17/17 16:44	sck
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/15/17 21:25	gss
Nickel, dissolved	M200.7 ICP	1	0.020	B		mg/L	0.008	0.04	05/15/17 21:25	gss
Potassium, dissolved	M200.7 ICP	1	2.0			mg/L	0.2	1	05/15/17 21:25	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:25	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	05/15/17 20:06	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/15/17 21:25	gss
Sodium, dissolved	M200.7 ICP	1	0.9	B		mg/L	0.2	1	05/15/17 21:25	gss
Strontium, dissolved	M200.7 ICP	1	0.008	B		mg/L	0.005	0.03	05/15/17 21:25	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	05/15/17 20:06	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/15/17 21:25	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/15/17 21:25	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0033			mg/L	0.0001	0.0005	05/15/17 20:06	mfm
Vanadium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	05/15/17 21:25	gss
Zinc, dissolved	M200.7 ICP	1	0.29			mg/L	0.01	0.05	05/15/17 21:25	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L37089-07***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/16/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-6.6			%			05/22/17 0:00	calc
Sum of Anions			6.5			meq/L			05/22/17 0:00	calc
Sum of Cations			5.7			meq/L			05/22/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	05/16/17 14:49	bce
Conductivity @25C	SM2510B	1	1610		*	umhos/cm	1	10	05/16/17 18:34	sck
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	05/17/17 20:44	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.999	B		mg/L	0.2	5	05/22/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.07	B	*	mg/L	0.02	0.1	05/20/17 0:03	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/16/17 15:55	spl
pH (lab)	SM4500H+ B									
pH		1	2.5	H	*	units	0.1	0.1	05/16/17 0:00	sck
pH measured at		1	21.8			C	0.1	0.1	05/16/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.25		*	mg/L	0.02	0.05	05/18/17 22:58	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	516		*	mg/L	10	20	05/15/17 10:58	els
Sulfate	D516-02/-07 - Turbidimetric	10	310			mg/L	10	50	05/15/17 13:20	bce
TDS (calculated)	Calculation		407			mg/L			05/22/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.27						05/22/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L37089-08***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/17 13:10	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	05/15/17 21:34	gss
Antimony, dissolved	M200.8 ICP-MS	1	0.0008	B		mg/L	0.0004	0.002	05/15/17 20:21	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0052			mg/L	0.0002	0.001	05/15/17 20:21	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	05/15/17 21:34	gss
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	05/15/17 20:21	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/15/17 21:34	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:34	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/15/17 20:21	mfm
Calcium, dissolved	M200.7 ICP	1	0.8			mg/L	0.1	0.5	05/15/17 21:34	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:34	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:34	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:34	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:34	gss
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	05/15/17 21:34	gss
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/15/17 20:21	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 21:34	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/15/17 21:34	gss
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/15/17 21:34	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/17/17 16:47	sck
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/15/17 21:34	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 21:34	gss
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/15/17 21:34	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:34	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0003	05/15/17 20:21	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/15/17 21:34	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/15/17 21:34	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/15/17 21:34	gss
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/15/17 20:21	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/15/17 21:34	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/15/17 21:34	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/15/17 20:21	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/15/17 21:34	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:34	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L37089-08***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/16/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			05/22/17 0:00	calc
Sum of Anions				U		meq/L			05/22/17 0:00	calc
Sum of Cations				U		meq/L			05/22/17 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	05/16/17 14:49	bce
Conductivity @25C	SM2510B	1	9.2	B	*	umhos/cm	1	10	05/16/17 18:43	sck
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	05/17/17 20:50	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.0	B		mg/L	0.2	5	05/22/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	05/20/17 0:34	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/16/17 15:56	spl
pH (lab)	SM4500H+ B									
pH		1	6.6	H	*	units	0.1	0.1	05/16/17 0:00	sck
pH measured at		1	22.1			C	0.1	0.1	05/16/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	05/18/17 23:00	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	05/15/17 11:00	els
Sulfate	D516-02/-07 - Turbidimetric	1		U		mg/L	1	5	05/15/17 12:58	bce
TDS (calculated)	Calculation		1.3			mg/L			05/22/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						05/22/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L37089-09***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/17 13:18	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	05/15/17 21:37	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	05/15/17 20:24	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0002	0.001	05/15/17 20:24	mfm
Barium, dissolved	M200.7 ICP	1	0.003	B		mg/L	0.003	0.02	05/15/17 21:37	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00013	B		mg/L	0.00005	0.0003	05/15/17 20:24	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/15/17 21:37	gss
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:37	gss
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/15/17 20:24	mfm
Calcium, dissolved	M200.7 ICP	1	0.5			mg/L	0.1	0.5	05/15/17 21:37	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:37	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:37	gss
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:37	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:37	gss
Iron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.05	05/15/17 21:37	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	05/15/17 20:24	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 21:37	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/15/17 21:37	gss
Manganese, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	05/15/17 21:37	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/17/17 16:48	sck
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/15/17 21:37	gss
Nickel, dissolved	M200.7 ICP	1	0.091			mg/L	0.008	0.04	05/15/17 21:37	gss
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	05/15/17 21:37	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:37	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	05/15/17 20:24	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/15/17 21:37	gss
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/15/17 21:37	gss
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/15/17 21:37	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	05/15/17 20:24	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/15/17 21:37	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/15/17 21:37	gss
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	05/15/17 20:24	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/15/17 21:37	gss
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:37	gss

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L37089-09***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/16/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			05/22/17 0:00	calc
Sum of Anions				U		meq/L			05/22/17 0:00	calc
Sum of Cations				U		meq/L			05/22/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	05/16/17 14:49	bce
Conductivity @25C	SM2510B	1	21.5		*	umhos/cm	1	10	05/16/17 18:48	sck
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	05/17/17 20:57	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.3	B		mg/L	0.2	5	05/22/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	05/20/17 0:35	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/16/17 15:58	spl
pH (lab)	SM4500H+ B									
pH		1	4.8	H	*	units	0.1	0.1	05/16/17 0:00	sck
pH measured at		1	20.9			C	0.1	0.1	05/16/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	05/18/17 23:01	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	05/15/17 11:03	els
Sulfate	D516-02/-07 - Turbidimetric	1	2.6	B		mg/L	1	5	05/15/17 12:58	bce
TDS (calculated)	Calculation		3.43			mg/L			05/22/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						05/22/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L37089-10***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								05/16/17 13:52	wtc/bsu
Cyanide, WAD	SM4500-CN I- distillation				*				05/17/17 12:57	wtc/bsu
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								05/17/17 13:26	bsu

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.78			mg/L	0.03	0.2	05/15/17 21:40	gss
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	05/15/17 20:27	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0002	0.001	05/15/17 20:27	mfm
Barium, dissolved	M200.7 ICP	1	0.137			mg/L	0.003	0.02	05/15/17 21:40	gss
Beryllium, dissolved	M200.8 ICP-MS	1	0.00019	B		mg/L	0.00005	0.0003	05/15/17 20:27	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	05/15/17 21:40	gss
Boron, dissolved	M200.7 ICP	1	0.06			mg/L	0.01	0.05	05/15/17 21:40	gss
Cadmium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	05/15/17 20:27	mfm
Calcium, dissolved	M200.7 ICP	1	0.6			mg/L	0.1	0.5	05/15/17 21:40	gss
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:40	gss
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	05/15/17 21:40	gss
Copper, dissolved	M200.7 ICP	1	0.10			mg/L	0.01	0.05	05/15/17 21:40	gss
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:40	gss
Iron, dissolved	M200.7 ICP	1	0.09			mg/L	0.02	0.05	05/15/17 21:40	gss
Lead, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0005	05/15/17 20:27	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 21:40	gss
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	05/15/17 21:40	gss
Manganese, dissolved	M200.7 ICP	1	0.034			mg/L	0.005	0.03	05/15/17 21:40	gss
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	05/17/17 16:49	sck
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	05/15/17 21:40	gss
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	05/15/17 21:40	gss
Potassium, dissolved	M200.7 ICP	1	2.1			mg/L	0.2	1	05/15/17 21:40	gss
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	05/15/17 21:40	gss
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	05/15/17 20:27	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	05/15/17 21:40	gss
Sodium, dissolved	M200.7 ICP	1	1.6			mg/L	0.2	1	05/15/17 21:40	gss
Strontium, dissolved	M200.7 ICP	1	0.018	B		mg/L	0.005	0.03	05/15/17 21:40	gss
Thallium, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0005	05/15/17 20:27	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	05/15/17 21:40	gss
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	05/15/17 21:40	gss
Uranium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	05/15/17 20:27	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	05/15/17 21:40	gss
Zinc, dissolved	M200.7 ICP	1	0.11			mg/L	0.01	0.05	05/15/17 21:40	gss

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L37089-10***
Date Sampled: *05/10/17 00:00*
Date Received: *05/11/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Carbonate as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Hydroxide as CaCO3		1		U		mg/L	2	20	05/16/17 0:00	sck
Total Alkalinity		1		U	*	mg/L	2	20	05/16/17 0:00	sck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-24.0			%			05/22/17 0:00	calc
Sum of Anions			0.418	B		meq/L			05/22/17 0:00	calc
Sum of Cations			0.256	B		meq/L			05/22/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	05/16/17 14:49	bce
Conductivity @25C	SM2510B	1	194		*	umhos/cm	1	10	05/16/17 18:52	sck
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	05/16/17 19:51	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	05/17/17 20:02	pjb
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	05/17/17 21:14	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	05/22/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	05/20/17 0:36	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	05/16/17 15:59	spl
pH (lab)	SM4500H+ B									
pH		1	3.4	H	*	units	0.1	0.1	05/16/17 0:00	sck
pH measured at		1	21.2			C	0.1	0.1	05/16/17 0:00	sck
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	05/18/17 23:02	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	50		*	mg/L	10	20	05/15/17 11:06	els
Sulfate	D516-02/-07 - Turbidimetric	1	19.9			mg/L	1	5	05/15/17 12:58	bce
TDS (calculated)	Calculation		25.3			mg/L			05/22/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.98						05/22/17 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L37089***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422949													
WG422949PBW1	PBW	05/16/17 16:40				U	mg/L		-20	20			
WG422949LCSW3	LCSW	05/16/17 16:58	WC170502-8	820.0001		796	mg/L	97	90	110			
L37089-04DUP	DUP	05/16/17 18:21			U	U	mg/L				0	20	RA
L37091-02DUP	DUP	05/16/17 19:37			153	153	mg/L				0	20	
WG422949LCSW6	LCSW	05/16/17 19:54	WC170502-8	820.0001		809	mg/L	99	90	110			
WG422949PBW2	PBW	05/16/17 20:01				U	mg/L		-20	20			
WG422949LCSW9	LCSW	05/16/17 23:57	WC170502-8	820.0001		808	mg/L	99	90	110			
WG422949PBW3	PBW	05/17/17 0:04				U	mg/L		-20	20			
WG422949LCSW12	LCSW	05/17/17 2:10	WC170502-8	820.0001		811	mg/L	99	90	110			
WG422949PBW4	PBW	05/17/17 2:17				U	mg/L		-20	20			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		2.012	mg/L	101	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.09	0.09			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	1.0013		1.007	mg/L	101	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	1.0013	.11	1.11	mg/L	100	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	1.0013	.11	1.117	mg/L	101	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422854													
WG422854ICV	ICV	05/15/17 18:55	MS170420-2	.02		.01999	mg/L	100	90	110			
WG422854ICB	ICB	05/15/17 18:58				.00047	mg/L		-0.0012	0.0012			
WG422854LFB	LFB	05/15/17 19:01	MS170321-3	.009980001		.00853	mg/L	85	85	115			
L37089-07AS	AS	05/15/17 20:15	MS170321-3	.009980001	.0018	.00909	mg/L	73	70	130			
L37089-07ASD	ASD	05/15/17 20:18	MS170321-3	.009980001	.0018	.00958	mg/L	78	70	130	5	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422854													
WG422854ICV	ICV	05/15/17 18:55	MS170420-2	.05		.05072	mg/L	101	90	110			
WG422854ICB	ICB	05/15/17 18:58				U	mg/L		-0.0006	0.0006			
WG422854LFB	LFB	05/15/17 19:01	MS170321-3	.0501		.04657	mg/L	93	85	115			
L37089-07AS	AS	05/15/17 20:15	MS170321-3	.0501	1.13	1.178	mg/L	96	70	130			
L37089-07ASD	ASD	05/15/17 20:18	MS170321-3	.0501	1.13	1.176	mg/L	92	70	130	0	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		1.9848	mg/L	99	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.009	0.009			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	.5015		.4843	mg/L	97	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	.5015	.107	.586	mg/L	96	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	.5015	.107	.5858	mg/L	95	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L37089***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422854													
WG422854ICV	ICV	05/15/17 18:55	MS170420-2	.05		.04855	mg/L	97	90	110			
WG422854ICB	ICB	05/15/17 18:58				.000094	mg/L		-0.00015	0.00015			
WG422854LFB	LFB	05/15/17 19:01	MS170321-3	.05035		.04565	mg/L	91	85	115			
L37089-07AS	AS	05/15/17 20:15	MS170321-3	.05035	.00097	.04878	mg/L	95	70	130			
L37089-07ASD	ASD	05/15/17 20:18	MS170321-3	.05035	.00097	.04948	mg/L	96	70	130	1	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		1.917	mg/L	96	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.12	0.12			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	1		.975	mg/L	98	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	1	U	.992	mg/L	99	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	1	U	.984	mg/L	98	85	115	1	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		1.953	mg/L	98	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.03	0.03			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	.5005		.483	mg/L	97	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	.5005	.06	.54	mg/L	96	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	.5005	.06	.534	mg/L	95	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422854													
WG422854ICV	ICV	05/15/17 18:55	MS170420-2	.05		.05106	mg/L	102	90	110			
WG422854ICB	ICB	05/15/17 18:58				U	mg/L		-0.0003	0.0003			
WG422854LFB	LFB	05/15/17 19:01	MS170321-3	.05005		.04702	mg/L	94	85	115			
L37089-07AS	AS	05/15/17 20:15	MS170321-3	.05005	.0007	.04945	mg/L	97	70	130			
L37089-07ASD	ASD	05/15/17 20:18	MS170321-3	.05005	.0007	.04966	mg/L	98	70	130	0	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	100		98.25	mg/L	98	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.3	0.3			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	68.01207		67.63	mg/L	99	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	68.01207	.6	68.02	mg/L	99	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	68.01207	.6	67.95	mg/L	99	85	115	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L37089***

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422946													
WG422946ICB	ICB	05/16/17 13:48				U	mg/L		-1.5	1.5			
WG422946ICV	ICV	05/16/17 13:48	WI160701-1	55.055		58.58	mg/L	106	90	110			
WG422946LFB2	LFB	05/16/17 14:49	WI161020-2	30.03		31.42	mg/L	105	90	110			
L37090-02DUP	DUP	05/16/17 14:55			U	U	mg/L				0	20	RA
L37088-06AS	AS	05/16/17 15:03	CL10X	30	555	573	mg/L	60	90	110			M3
L37088-07DUP	DUP	05/16/17 15:04			395	394.3	mg/L				0	20	
WG422946LFB1	LFB	05/16/17 15:04	WI161020-2	30.03		33.34	mg/L	111	90	110			LA
L37090-01AS	AS	05/16/17 15:20	WI161020-2	30.03	73.5	99.74	mg/L	87	90	110			M2
WG423196													
WG423196ICB	ICB	05/19/17 10:59				U	mg/L		-1.5	1.5			
WG423196ICV	ICV	05/19/17 10:59	WI160701-1	55.055		59.17	mg/L	107	90	110			
WG423196LFB1	LFB	05/19/17 11:45	WI161020-2	30.03		31.27	mg/L	104	90	110			
WG423196LFB2	LFB	05/19/17 11:49	WI161020-2	30.03		31.19	mg/L	104	90	110			
L37061-11AS	AS	05/19/17 11:49	WI161020-2	30.03	3.6	36.18	mg/L	108	90	110			
L37066-02DUP	DUP	05/19/17 11:49			U	U	mg/L				0	20	RA

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		1.894	mg/L	95	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.03	0.03			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	.5025		.468	mg/L	93	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	.5025	U	.477	mg/L	95	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	.5025	U	.471	mg/L	94	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2.002		1.898	mg/L	95	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.03	0.03			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	.5025		.476	mg/L	95	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	.5025	U	.481	mg/L	96	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	.5025	U	.48	mg/L	96	85	115	0	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422949													
WG422949LCSW2	LCSW	05/16/17 16:45	PCN52897	1408		1540	umhos/cm	109	90	110			
L37089-04DUP	DUP	05/16/17 18:21			339	285	umhos/cm				17	20	
L37091-02DUP	DUP	05/16/17 19:37			513	498	umhos/cm				3	20	
WG422949LCSW5	LCSW	05/16/17 19:41	PCN52897	1408		1480	umhos/cm	105	90	110			
WG422949LCSW8	LCSW	05/16/17 23:44	PCN52897	1408		1440	umhos/cm	102	90	110			
WG422949LCSW11	LCSW	05/17/17 1:57	PCN52897	1408		1420	umhos/cm	101	90	110			
WG422949LCSW14	LCSW	05/17/17 4:27	PCN52897	1408		1430	umhos/cm	102	90	110			

McClelland Laboratories, Inc.

ACZ Project ID: ***L37089***

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		1.975	mg/L	99	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.03	0.03			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	.5005		.489	mg/L	98	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	.5005	.01	.498	mg/L	98	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	.5005	.01	.498	mg/L	98	85	115	0	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422965													
WG422965ICV	ICV	05/16/17 18:47	WI170508-14	.3006		.2783	mg/L	93	90	110			
WG422965ICB	ICB	05/16/17 18:48				U	mg/L		-0.003	0.003			
WG422966													
WG422913LRB	LRB	05/16/17 19:39				U	mg/L		-0.003	0.003			
WG422913LFB	LFB	05/16/17 19:40	WI170508-10	.2		.1819	mg/L	91	90	110			
L37015-01DUP	DUP	05/16/17 19:42			U	U	mg/L				0	20	RA
L37068-01LFM	LFM	05/16/17 19:44	WI170508-10	.2	.003	.1678	mg/L	82	90	110			M2

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG423072													
WG423072ICV	ICV	05/17/17 19:18	WI170508-14	.3006		.2768	mg/L	92	90	110			
WG423072ICB	ICB	05/17/17 19:19				U	mg/L		-0.003	0.003			
WG423074													
WG423019LRB	LRB	05/17/17 19:54				U	mg/L		-0.003	0.003			
WG423019LFB	LFB	05/17/17 19:55	WI170508-12	.2004		.1885	mg/L	94	90	110			
L37077-01DUP	DUP	05/17/17 19:57			U	U	mg/L				0	20	RA
L37077-02LFM	LFM	05/17/17 19:59	WI170508-12	.2004	U	.1784	mg/L	89	90	110			M2

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422992													
WG422992ICV	ICV	05/17/17 10:40	WC170509-7	2.006		1.937	mg/L	97	95	105			
WG422992ICB	ICB	05/17/17 10:44				.057	mg/L		-0.15	0.15			
WG422995													
WG422995LFB1	LFB	05/17/17 15:48	WC170320-7	4.995		4.536	mg/L	91	90	110			
WG422995LFB2	LFB	05/17/17 18:34	WC170320-7	4.995		4.708	mg/L	94	90	110			
L37061-05AS	AS	05/17/17 18:40	WC170320-7	4.995	.09	4.818	mg/L	95	90	110			
L37061-05DUP	DUP	05/17/17 18:44			.09	.09	mg/L				0	20	RA
L37089-02AS	AS	05/17/17 20:02	WC170320-7	399.6	U	374.9	mg/L	94	90	110			
L37089-02DUP	DUP	05/17/17 20:08			U	U	mg/L				0	20	RA

McClelland Laboratories, Inc.

ACZ Project ID: ***L37089***

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		1.97	mg/L	99	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.3	0.3			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	1		.95	mg/L	95	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	1	U	.98	mg/L	98	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	1	U	.96	mg/L	96	85	115	2	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		1.942	mg/L	97	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.06	0.06			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	1.0017		.961	mg/L	96	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	1.0017	.09	1.029	mg/L	94	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	1.0017	.09	1.027	mg/L	94	85	115	0	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422854													
WG422854ICV	ICV	05/15/17 18:55	MS170420-2	.05		.05267	mg/L	105	90	110			
WG422854ICB	ICB	05/15/17 18:58				U	mg/L		-0.0003	0.0003			
WG422854LFB	LFB	05/15/17 19:01	MS170321-3	.0501		.04843	mg/L	97	85	115			
L37089-07AS	AS	05/15/17 20:15	MS170321-3	.0501	.0011	.04952	mg/L	97	70	130			
L37089-07ASD	ASD	05/15/17 20:18	MS170321-3	.0501	.0011	.05013	mg/L	98	70	130	1	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		1.965	mg/L	98	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.024	0.024			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	1.001		.9614	mg/L	96	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	1.001	U	.9514	mg/L	95	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	1.001	U	.9555	mg/L	95	85	115	0	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	100		98.83	mg/L	99	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.6	0.6			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	50.01344		45.9	mg/L	92	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	50.01344	U	46.05	mg/L	92	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	50.01344	U	45.96	mg/L	92	85	115	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L37089***

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		1.9098	mg/L	95	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.015	0.015			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	.5		.4895	mg/L	98	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	.5	.025	.5109	mg/L	97	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	.5	.025	.5109	mg/L	97	85	115	0	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG423021													
WG423021ICV	ICV	05/17/17 16:23	HG170426-2	.005005		.0051	mg/L	102	95	105			
WG423021ICB	ICB	05/17/17 16:24				U	mg/L		-0.0002	0.0002			
WG423021LRB	LRB	05/17/17 16:25				U	mg/L		-0.00044	0.00044			
WG423021LFB	LFB	05/17/17 16:26	HG170509-3	.002002		.00197	mg/L	98	85	115			
L37055-02LFM	LFM	05/17/17 16:31	HG170509-3	.002002	U	.00194	mg/L	97	85	115			
L37055-02LFMD	LFMD	05/17/17 16:32	HG170509-3	.002002	U	.00188	mg/L	94	85	115	3	20	
L37131-02LFM	LFM	05/17/17 16:51	HG170509-3	.002002	U	.00201	mg/L	100	85	115			
L37131-02LFMD	LFMD	05/17/17 16:52	HG170509-3	.002002	U	.00201	mg/L	100	85	115	0	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		2.002	mg/L	100	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.06	0.06			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	.4985		.491	mg/L	98	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	.4985	U	.495	mg/L	99	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	.4985	U	.49	mg/L	98	85	115	1	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2.002		2.0175	mg/L	101	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.024	0.024			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	.498		.4868	mg/L	98	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	.498	U	.4928	mg/L	99	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	.498	U	.4874	mg/L	98	85	115	1	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG423239													
WG423239ICV	ICV	05/19/17 21:23	WI170310-3	2.416		2.355	mg/L	97	90	110			
WG423239ICB	ICB	05/19/17 21:24				U	mg/L		-0.02	0.02			
WG423244													
WG423244LFB	LFB	05/19/17 23:52	WI170104-22	2		1.968	mg/L	98	90	110			
L37089-01AS	AS	05/19/17 23:54	WI170104-22	2	U	2.066	mg/L	103	90	110			
L37089-02DUP	DUP	05/19/17 23:57			.06	.06	mg/L				0	20	RA

McClelland Laboratories, Inc. ACZ Project ID: ***L37089***

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422941													
WG422941ICV	ICV	05/16/17 14:29	WI170404-1	11.988		12.176	mg/L	102	90	110			
WG422941ICB	ICB	05/16/17 14:31				U	mg/L		-0.05	0.05			
WG422941LFB1	LFB	05/16/17 14:32	WI170420-10	10		10.789	mg/L	108	90	110			
L37077-02AS	AS	05/16/17 14:35	WI170420-10	10	U	10.92	mg/L	109	90	110			
L37077-03DUP	DUP	05/16/17 14:38			U	.065	mg/L				200	20	RA
L37089-02AS	AS	05/16/17 14:55	WI170420-10	10	U	10.609	mg/L	106	90	110			
L37089-03DUP	DUP	05/16/17 14:58			U	U	mg/L				0	20	RA
WG422941ICV1	ICV	05/16/17 15:52	WI170404-1	11.988		12.009	mg/L	100	90	110			
WG422941ICB1	ICB	05/16/17 15:53				U	mg/L		-0.05	0.05			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422949													
WG422949LCSW1	LCSW	05/16/17 16:43	PCN51287	6.01		6.1	units	101	5.9	6.1			
L37089-04DUP	DUP	05/16/17 18:21			3.2	3.3	units				3	20	
L37091-02DUP	DUP	05/16/17 19:37			8.2	8.2	units				0	20	
WG422949LCSW4	LCSW	05/16/17 19:40	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG422949LCSW7	LCSW	05/16/17 23:43	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG422949LCSW10	LCSW	05/17/17 1:56	PCN51287	6.01		6.1	units	101	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG423160													
WG423160ICV	ICV	05/18/17 21:55	WI170505-5	.65228		.673	mg/L	103	90	110			
WG423160ICB	ICB	05/18/17 21:58				U	mg/L		-0.02	0.02			
WG423163													
WG423031LRB	LRB	05/18/17 22:45				U	mg/L		-0.02	0.02			
WG423031LFB	LFB	05/18/17 22:46	WI170505-4	.5		.503	mg/L	101	90	110			
L37089-01LFM	LFM	05/18/17 22:48	WI170505-4	.5	U	.507	mg/L	101	90	110			
L37089-04DUP	DUP	05/18/17 22:53			U	U	mg/L				0	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	20		19.59	mg/L	98	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.6	0.6			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	99.98315		96.41	mg/L	96	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	99.98315	2.7	98.91	mg/L	96	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	99.98315	2.7	99.35	mg/L	97	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L37089***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422784													
WG422784PBW	PBW	05/13/17 12:00				U	mg/L		-20	20			
WG422784LCSW	LCSW	05/13/17 12:02	PCN53184	260		252	mg/L	97	80	120			
L37122-03DUP	DUP	05/13/17 12:31			244	238	mg/L				2	10	
WG422809													
WG422809PBW	PBW	05/15/17 10:40				U	mg/L		-20	20			
WG422809LCSW	LCSW	05/15/17 10:42	PCN53184	260		254	mg/L	98	80	120			
L37096-01DUP	DUP	05/15/17 11:11			3860	3880	mg/L				1	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		1.98	mg/L	99	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.3	0.3			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	.9868		.98	mg/L	99	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	.9868	U	.99	mg/L	100	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	.9868	U	.98	mg/L	99	85	115	1	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422854													
WG422854ICV	ICV	05/15/17 18:55	MS170420-2	.05		.05181	mg/L	104	90	110			
WG422854ICB	ICB	05/15/17 18:58				U	mg/L		-0.0003	0.0003			
WG422854LFB	LFB	05/15/17 19:01	MS170321-3	.05005		.04801	mg/L	96	85	115			
L37089-07AS	AS	05/15/17 20:15	MS170321-3	.05005	.0004	.05149	mg/L	102	70	130			
L37089-07ASD	ASD	05/15/17 20:18	MS170321-3	.05005	.0004	.05225	mg/L	104	70	130	1	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	1.002		1.016	mg/L	101	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.03	0.03			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	.5		.479	mg/L	96	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	.5	U	.385	mg/L	77	85	115			M2 ZA
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	.5	U	.369	mg/L	74	85	115	4	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	100		100.23	mg/L	100	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.6	0.6			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	100.0511		98.1	mg/L	98	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	100.0511	1.8	100	mg/L	98	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	100.0511	1.8	100.1	mg/L	98	85	115	0	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		1.9785	mg/L	99	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.015	0.015			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	.5015		.4914	mg/L	98	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	.5015	.011	.5033	mg/L	98	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	.5015	.011	.5014	mg/L	98	85	115	0	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422844													
WG422844ICB	ICB	05/15/17 9:41				U	mg/L		-3	3			
WG422844ICV	ICV	05/15/17 9:41	WI170505-2	20		19.8	mg/L	99	90	110			
WG422844LFB	LFB	05/15/17 12:54	WI170131-8	9.99		10	mg/L	100	90	110			
L37089-04DUP	DUP	05/15/17 12:56			34.6	31.5	mg/L				9	20	
L37089-05AS	AS	05/15/17 12:56	WI170131-8	9.99	22.3	31.9	mg/L	96	90	110			
L37038-01DUP	DUP	05/15/17 13:37			4270	4340	mg/L				2	20	
L37038-02AS	AS	05/15/17 14:08	SO4TURB20X	200	7490	8040	mg/L	275	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422854													
WG422854ICV	ICV	05/15/17 18:55	MS170420-2	.05		.05426	mg/L	109	90	110			
WG422854ICB	ICB	05/15/17 18:58				U	mg/L		-0.0003	0.0003			
WG422854LFB	LFB	05/15/17 19:01	MS170321-3	.0501		.04862	mg/L	97	85	115			
L37089-07AS	AS	05/15/17 20:15	MS170321-3	.0501	.0016	.05192	mg/L	100	70	130			
L37089-07ASD	ASD	05/15/17 20:18	MS170321-3	.0501	.0016	.05281	mg/L	102	70	130	2	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		1.999	mg/L	100	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.12	0.12			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	1.001		.963	mg/L	96	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	1.001	U	.974	mg/L	97	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	1.001	U	.984	mg/L	98	85	115	1	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		2.0045	mg/L	100	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.015	0.015			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	1.001		.9871	mg/L	99	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	1.001	U	.9871	mg/L	99	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	1.001	U	.9848	mg/L	98	85	115	0	20	

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ACZ Project ID: ***L37089***

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422854													
WG422854ICV	ICV	05/15/17 18:55	MS170420-2	.05		.05181	mg/L	104	90	110			
WG422854ICB	ICB	05/15/17 18:58				U	mg/L		-0.0003	0.0003			
WG422854LFB	LFB	05/15/17 19:01	MS170321-3	.05		.04886	mg/L	98	85	115			
L37089-07AS	AS	05/15/17 20:15	MS170321-3	.05	.0033	.05247	mg/L	98	70	130			
L37089-07ASD	ASD	05/15/17 20:18	MS170321-3	.05	.0033	.05296	mg/L	99	70	130	1	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		2.0215	mg/L	101	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.015	0.015			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	.4985		.4995	mg/L	100	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	.4985	U	.5016	mg/L	101	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	.4985	U	.5015	mg/L	101	85	115	0	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG422838													
WG422838ICV	ICV	05/15/17 20:37	II170426-1	2		1.948	mg/L	97	95	105			
WG422838ICB	ICB	05/15/17 20:43				U	mg/L		-0.03	0.03			
WG422838LFB	LFB	05/15/17 20:56	II170417-4	.4942		.561	mg/L	114	85	115			
L37089-02AS	AS	05/15/17 21:06	II170417-4	.4942	.06	.566	mg/L	102	85	115			
L37089-02ASD	ASD	05/15/17 21:09	II170417-4	.4942	.06	.561	mg/L	101	85	115	1	20	

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ACZ Project ID: ***L37089***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37089-01	WG422946	Chloride	SM4500Cl-E	LA	Recovery for target analyte in the control sample (LCS or LFB) exceeded the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG422949	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG422995	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG423244	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422941	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG423163	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422784	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG422838	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG422844	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG422949	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L37089***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37089-02	WG422946	Chloride	SM4500Cl-E	LA	Recovery for target analyte in the control sample (LCS or LFB) exceeded the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG422949	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG422995	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG423244	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422941	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG423163	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422784	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG422838	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG422844	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG422949	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L37089***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37089-03	WG423196	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG422995	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG423244	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422941	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG423163	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422784	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG422838	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG422949	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L37089***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37089-04	WG422946	Chloride	SM4500Cl-E	LA	Recovery for target analyte in the control sample (LCS or LFB) exceeded the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG422949	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG422995	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG423244	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422941	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG423163	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422784	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG422838	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG422949	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37089-05	WG422946	Chloride	SM4500Cl-E	LA	Recovery for target analyte in the control sample (LCS or LFB) exceeded the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG422949	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG422995	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG423244	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422941	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG423163	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422784	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG422838	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG422949	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37089-06	WG422946	Chloride	SM4500Cl-E	LA	Recovery for target analyte in the control sample (LCS or LFB) exceeded the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG422949	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG422995	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG423244	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422941	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG423163	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422809	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG422838	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG422949	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
L37089-07	WG422946	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG422995	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG423244	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422941	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG423163	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422809	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG422838	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG422949	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37089-08	WG422946	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG422995	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG423244	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422941	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG423163	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422809	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG422838	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG422949	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
L37089-09	WG422946	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG422995	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG423244	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422941	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG423163	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422809	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG422838	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG422949	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

McClelland Laboratories, Inc. ACZ Project ID: ***L37089***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37089-10	WG422946	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG422966	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG423074	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422995	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG423244	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422941	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422949	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG423163	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG422809	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG422838	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG422949	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L37089
Date Received: 05/11/2017 10:35
Received By:
Date Printed: 5/11/2017

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA26045	2.6	<=6.0	18	N/A

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L37089
Date Received:	05/11/2017 10:35
Received By:	
Date Printed:	5/11/2017

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc.

L37089

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:

Project/PO #: 3981

Reporting state for compliance testing:

Sampler's Name: Robert

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	5/10/17	WW	1	X							
CAL-004 (860-875)		WW	1	X							
CAL-003 (675-685)		WW	1	X							
GMC-012 (832-851)		WW	1	X							
CAL-004 (295-315)		WW	1	X							
CAL-001 (750-762)		WW	1	X							
GMC-014 (176-184)		WW	1	X							
CAL-001 (380-400)		WW	1	X							
CAL-002 (177-187)		WW	1	X							
Calico Leach Res. after CN Destruct		WW	1	X	X	X					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 76
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	5/10/17 9AM	[signature]	5/11/17 1030

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L37089 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

[redacted]

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

June 30, 2017

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L37686

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 08, 2017. This project has been assigned to ACZ's project number, L37686. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L37686. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after July 30, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L37686-01***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/12/17 16:21	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.79			mg/L	0.03	0.2	06/21/17 0:15	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0089			mg/L	0.0004	0.002	06/19/17 12:31	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.040			mg/L	0.0002	0.001	06/19/17 12:31	mfm
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	06/21/17 0:15	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00013	B		mg/L	0.00005	0.0003	06/19/17 12:31	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/21/17 0:15	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:15	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	06/19/17 12:31	mfm
Calcium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.1	0.5	06/21/17 0:15	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:15	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:15	aeh
Copper, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	06/21/17 0:15	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:15	aeh
Iron, dissolved	M200.7 ICP	1	5.35			mg/L	0.02	0.05	06/21/17 0:15	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	06/19/17 12:31	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:15	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:15	aeh
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/21/17 0:15	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/13/17 16:57	sck
Mercury, total	M1631, Atomic Fluorescence	5	51			ng/L	1	3	06/21/17 10:43	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/21/17 0:15	aeh
Nickel, dissolved	M200.7 ICP	1	0.014	B		mg/L	0.008	0.04	06/21/17 0:15	aeh
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	06/21/17 0:15	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:15	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	06/19/17 12:31	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/21/17 0:15	aeh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:15	aeh
Strontium, dissolved	M200.7 ICP	1	0.009	B		mg/L	0.005	0.03	06/21/17 0:15	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0029			mg/L	0.0001	0.0005	06/19/17 12:31	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/21/17 0:15	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/21/17 0:15	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	06/19/17 12:31	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/21/17 0:15	aeh
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	06/21/17 0:15	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L37686-01***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	06/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-30.4			%			06/30/17 0:00	calc
Sum of Anions			0.749			meq/L			06/30/17 0:00	calc
Sum of Cations			0.4	B		meq/L			06/30/17 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	06/20/17 11:08	spl
Conductivity @25C	SM2510B	1	216		*	umhos/cm	1	10	06/15/17 1:41	abd
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/19/17 14:06	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.499	B		mg/L	0.2	5	06/30/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	06/17/17 16:47	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/28/17 17:00	bsu
pH (lab)	SM4500H+ B									
pH		1	3.4	H	*	units	0.1	0.1	06/15/17 0:00	abd
pH measured at		1	23.0			C	0.1	0.1	06/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	06/17/17 1:10	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	38		*	mg/L	10	20	06/13/17 15:06	che
Sulfate	D516-02/-07 - Turbidimetric	1	35.0			mg/L	1	5	06/22/17 16:15	bce
TDS (calculated)	Calculation		42.2			mg/L			06/30/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.90						06/30/17 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L37686-02***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/12/17 16:27	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.07	B		mg/L	0.03	0.2	06/21/17 0:19	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/19/17 12:34	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0002	0.001	06/19/17 12:34	mfm
Barium, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.003	0.02	06/21/17 0:19	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00027	B		mg/L	0.00005	0.0003	06/19/17 12:34	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/21/17 0:19	aeh
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	06/21/17 0:19	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/19/17 12:34	mfm
Calcium, dissolved	M200.7 ICP	1	0.1	B		mg/L	0.1	0.5	06/21/17 0:19	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:19	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:19	aeh
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:19	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:19	aeh
Iron, dissolved	M200.7 ICP	1	0.08			mg/L	0.02	0.05	06/21/17 0:19	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	06/19/17 12:34	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:19	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:19	aeh
Manganese, dissolved	M200.7 ICP	1	0.018	B		mg/L	0.005	0.03	06/21/17 0:19	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/13/17 16:58	sck
Mercury, total	M1631, Atomic Fluorescence	1	10.3			ng/L	0.2	0.5	06/19/17 13:36	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/21/17 0:19	aeh
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:19	aeh
Potassium, dissolved	M200.7 ICP	1	2.0			mg/L	0.2	1	06/21/17 0:19	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:19	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	06/19/17 12:34	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/21/17 0:19	aeh
Sodium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	06/21/17 0:19	aeh
Strontium, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.005	0.03	06/21/17 0:19	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0001	0.0005	06/19/17 12:34	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/21/17 0:19	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/21/17 0:19	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	06/19/17 12:34	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/21/17 0:19	aeh
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	06/21/17 0:19	aeh

** Please refer to Qualifier Reports for details.*

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L37686-02***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	06/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			06/30/17 0:00	calc
Sum of Anions			0.225	B		meq/L			06/30/17 0:00	calc
Sum of Cations				U		meq/L			06/30/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	06/20/17 11:08	spl
Conductivity @25C	SM2510B	1	83.4		*	umhos/cm	1	10	06/15/17 1:45	abd
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/19/17 14:14	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.3	B		mg/L	0.2	5	06/30/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	06/17/17 16:50	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.09	B	*	mg/L	0.05	0.2	06/28/17 17:02	bsu
pH (lab)	SM4500H+ B									
pH		1	3.8	H	*	units	0.1	0.1	06/15/17 0:00	abd
pH measured at		1	23.0			C	0.1	0.1	06/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	06/17/17 1:11	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	16	B	*	mg/L	10	20	06/13/17 15:09	che
Sulfate	D516-02/-07 - Turbidimetric	1	10.7			mg/L	1	5	06/22/17 16:24	bce
TDS (calculated)	Calculation		13.6			mg/L			06/30/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.18						06/30/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L37686-03***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/12/17 16:32	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	12.2			mg/L	0.03	0.2	06/21/17 0:28	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0026			mg/L	0.0004	0.002	06/19/17 12:37	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.269			mg/L	0.0002	0.001	06/19/17 12:37	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	06/21/17 0:28	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00257			mg/L	0.00005	0.0003	06/19/17 12:37	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/21/17 0:28	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:28	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0005	06/19/17 12:37	mfm
Calcium, dissolved	M200.7 ICP	1	39.6			mg/L	0.1	0.5	06/21/17 0:28	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:28	aeh
Cobalt, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	06/21/17 0:28	aeh
Copper, dissolved	M200.7 ICP	1	0.13			mg/L	0.01	0.05	06/21/17 0:28	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:28	aeh
Iron, dissolved	M200.7 ICP	1	137			mg/L	0.02	0.05	06/21/17 0:28	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	06/19/17 12:37	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:28	aeh
Magnesium, dissolved	M200.7 ICP	1	1.0			mg/L	0.2	1	06/21/17 0:28	aeh
Manganese, dissolved	M200.7 ICP	1	0.105			mg/L	0.005	0.03	06/21/17 0:28	aeh
Mercury, dissolved	M245.1 CVAA	1	0.0003	B		mg/L	0.0002	0.001	06/13/17 16:59	sck
Mercury, total	M1631, Atomic Fluorescence	50	620			ng/L	10	30	06/21/17 10:48	mfm
Molybdenum, dissolved	M200.7 ICP	1	0.15			mg/L	0.02	0.1	06/21/17 0:28	aeh
Nickel, dissolved	M200.7 ICP	1	0.046			mg/L	0.008	0.04	06/21/17 0:28	aeh
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:28	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:28	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0003	06/19/17 12:37	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/21/17 0:28	aeh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:28	aeh
Strontium, dissolved	M200.7 ICP	1	0.029	B		mg/L	0.005	0.03	06/21/17 0:28	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	06/19/17 12:37	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/21/17 0:28	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/21/17 0:28	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0042			mg/L	0.0001	0.0005	06/19/17 12:37	mfm
Vanadium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	06/21/17 0:28	aeh
Zinc, dissolved	M200.7 ICP	1	0.29			mg/L	0.01	0.05	06/21/17 0:28	aeh

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L37686-03***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	06/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-8.3			%			06/30/17 0:00	calc
Sum of Anions			13			meq/L			06/30/17 0:00	calc
Sum of Cations			11			meq/L			06/30/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	06/20/17 11:09	spl
Conductivity @25C	SM2510B	1	2260		*	umhos/cm	1	10	06/15/17 16:17	abd
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/19/17 14:21	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		103			mg/L	0.2	5	06/30/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	06/17/17 16:52	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/28/17 17:09	bsu
pH (lab)	SM4500H+ B									
pH		1	2.3	H	*	units	0.1	0.1	06/15/17 0:00	abd
pH measured at		1	20.8			C	0.1	0.1	06/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.18		*	mg/L	0.02	0.05	06/17/17 1:12	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	852		*	mg/L	10	20	06/13/17 15:11	che
Sulfate	D516-02/-07 - Turbidimetric	50	633			mg/L	50	250	06/22/17 16:25	bce
TDS (calculated)	Calculation		823			mg/L			06/30/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.04						06/30/17 0:00	calc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L37686-04***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/12/17 16:38	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.23			mg/L	0.03	0.2	06/21/17 0:31	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0015	B		mg/L	0.0004	0.002	06/19/17 12:40	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0036			mg/L	0.0002	0.001	06/19/17 12:40	mfm
Barium, dissolved	M200.7 ICP	1	0.004	B		mg/L	0.003	0.02	06/21/17 0:31	aeh
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/19/17 12:40	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/21/17 0:31	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:31	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/19/17 12:40	mfm
Calcium, dissolved	M200.7 ICP	1	0.1	B		mg/L	0.1	0.5	06/21/17 0:31	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:31	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:31	aeh
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:31	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:31	aeh
Iron, dissolved	M200.7 ICP	1	2.37			mg/L	0.02	0.05	06/21/17 0:31	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	06/19/17 12:40	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:31	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:31	aeh
Manganese, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	06/21/17 0:31	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/13/17 17:00	sck
Mercury, total	M1631, Atomic Fluorescence	1	4.6		*	ng/L	0.2	0.5	06/19/17 14:06	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/21/17 0:31	aeh
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:31	aeh
Potassium, dissolved	M200.7 ICP	1	0.5	B		mg/L	0.2	1	06/21/17 0:31	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:31	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	06/19/17 12:40	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/21/17 0:31	aeh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:31	aeh
Strontium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.005	0.03	06/21/17 0:31	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	06/19/17 12:40	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/21/17 0:31	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/21/17 0:31	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	06/19/17 12:40	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/21/17 0:31	aeh
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	06/21/17 0:31	aeh

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L37686-04***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	06/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-52.9			%			06/30/17 0:00	calc
Sum of Anions			0.649			meq/L			06/30/17 0:00	calc
Sum of Cations			0.2	B		meq/L			06/30/17 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	06/20/17 11:09	spl
Conductivity @25C	SM2510B	1	334		*	umhos/cm	1	10	06/15/17 16:21	abd
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/19/17 14:31	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.3	B		mg/L	0.2	5	06/30/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	06/17/17 16:57	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/28/17 17:05	bsu
pH (lab)	SM4500H+ B									
pH		1	3.1	H	*	units	0.1	0.1	06/15/17 0:00	abd
pH measured at		1	20.5			C	0.1	0.1	06/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	06/17/17 1:13	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	50		*	mg/L	10	20	06/13/17 15:14	che
Sulfate	D516-02/-07 - Turbidimetric	5	30.9			mg/L	5	25	06/22/17 16:21	bce
TDS (calculated)	Calculation		34.1			mg/L			06/30/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.47						06/30/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L37686-05***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/12/17 16:44	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.09	B		mg/L	0.03	0.2	06/21/17 0:35	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0004	0.002	06/19/17 12:43	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0002	0.001	06/19/17 12:43	mfm
Barium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.003	0.02	06/21/17 0:35	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00022	B		mg/L	0.00005	0.0003	06/19/17 12:43	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/21/17 0:35	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:35	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/19/17 12:43	mfm
Calcium, dissolved	M200.7 ICP	1	1.1			mg/L	0.1	0.5	06/21/17 0:35	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:35	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:35	aeh
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:35	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:35	aeh
Iron, dissolved	M200.7 ICP	1	0.10			mg/L	0.02	0.05	06/21/17 0:35	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0001	0.0005	06/19/17 12:43	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:35	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:35	aeh
Manganese, dissolved	M200.7 ICP	1	0.035			mg/L	0.005	0.03	06/21/17 0:35	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/14/17 16:09	sck
Mercury, total	M1631, Atomic Fluorescence	1	6.1		*	ng/L	0.2	0.5	06/19/17 14:11	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/21/17 0:35	aeh
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:35	aeh
Potassium, dissolved	M200.7 ICP	1	0.6	B		mg/L	0.2	1	06/21/17 0:35	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:35	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0003	06/19/17 12:43	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/21/17 0:35	aeh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:35	aeh
Strontium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	06/21/17 0:35	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	06/19/17 12:43	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/21/17 0:35	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/21/17 0:35	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	06/19/17 12:43	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/21/17 0:35	aeh
Zinc, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	06/21/17 0:35	aeh

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L37686-05***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	06/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			06/30/17 0:00	calc
Sum of Anions			0.519			meq/L			06/30/17 0:00	calc
Sum of Cations				U		meq/L			06/30/17 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	06/20/17 11:09	spl
Conductivity @25C	SM2510B	1	156		*	umhos/cm	1	10	06/15/17 16:25	abd
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/19/17 15:00	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.8	B		mg/L	0.2	5	06/30/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	06/17/17 16:59	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/28/17 17:06	bsu
pH (lab)	SM4500H+ B									
pH		1	3.5	H	*	units	0.1	0.1	06/15/17 0:00	abd
pH measured at		1	20.4			C	0.1	0.1	06/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	06/17/17 1:15	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	20		*	mg/L	10	20	06/13/17 15:16	che
Sulfate	D516-02/-07 - Turbidimetric	1	24.7			mg/L	1	5	06/22/17 16:15	bce
TDS (calculated)	Calculation		26.6			mg/L			06/30/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.75						06/30/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L37686-06***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/12/17 16:50	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.27			mg/L	0.03	0.2	06/21/17 0:38	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/19/17 12:52	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0059			mg/L	0.0002	0.001	06/19/17 12:52	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	06/21/17 0:38	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.00005	0.0003	06/19/17 12:52	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/21/17 0:38	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:38	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	06/19/17 12:52	mfm
Calcium, dissolved	M200.7 ICP	1	5.1			mg/L	0.1	0.5	06/21/17 0:38	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:38	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:38	aeh
Copper, dissolved	M200.7 ICP	1	0.37			mg/L	0.01	0.05	06/21/17 0:38	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:38	aeh
Iron, dissolved	M200.7 ICP	1	0.56			mg/L	0.02	0.05	06/21/17 0:38	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	06/19/17 12:52	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:38	aeh
Magnesium, dissolved	M200.7 ICP	1	0.8	B		mg/L	0.2	1	06/21/17 0:38	aeh
Manganese, dissolved	M200.7 ICP	1	0.030			mg/L	0.005	0.03	06/21/17 0:38	aeh
Mercury, dissolved	M245.1 CVAA	1	0.0005	B		mg/L	0.0002	0.001	06/14/17 16:10	sck
Mercury, total	M1631, Atomic Fluorescence	50	910			ng/L	10	30	06/21/17 10:53	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/21/17 0:38	aeh
Nickel, dissolved	M200.7 ICP	1	0.069			mg/L	0.008	0.04	06/21/17 0:38	aeh
Potassium, dissolved	M200.7 ICP	1	2.7			mg/L	0.2	1	06/21/17 0:38	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:38	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0001	0.0003	06/19/17 12:52	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/21/17 0:38	aeh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:38	aeh
Strontium, dissolved	M200.7 ICP	1	0.070			mg/L	0.005	0.03	06/21/17 0:38	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	06/19/17 12:52	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/21/17 0:38	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/21/17 0:38	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0054			mg/L	0.0001	0.0005	06/19/17 12:52	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/21/17 0:38	aeh
Zinc, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.01	0.05	06/21/17 0:38	aeh

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L37686-06***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	06/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-22.7			%			06/30/17 0:00	calc
Sum of Anions			0.741			meq/L			06/30/17 0:00	calc
Sum of Cations			0.467	B		meq/L			06/30/17 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B		mg/L	0.5	2	06/20/17 11:22	spl
Conductivity @25C	SM2510B	1	140		*	umhos/cm	1	10	06/15/17 16:30	abd
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/19/17 15:07	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		16.0			mg/L	0.2	5	06/30/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	06/17/17 17:00	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/28/17 17:08	bsu
pH (lab)	SM4500H+ B									
pH		1	3.7	H	*	units	0.1	0.1	06/15/17 0:00	abd
pH measured at		1	20.2			C	0.1	0.1	06/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	06/17/17 1:16	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	36		*	mg/L	10	20	06/13/17 15:19	che
Sulfate	D516-02/-07 - Turbidimetric	1	34.6			mg/L	1	5	06/22/17 16:15	bce
TDS (calculated)	Calculation		45			mg/L			06/30/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.80						06/30/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L37686-07***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/12/17 16:56	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	12.9			mg/L	0.03	0.2	06/21/17 0:47	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0022			mg/L	0.0004	0.002	06/19/17 13:01	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	1.16			mg/L	0.0002	0.001	06/19/17 13:01	mfm
Barium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.003	0.02	06/21/17 0:47	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00117			mg/L	0.00005	0.0003	06/19/17 13:01	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/21/17 0:47	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:47	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0007			mg/L	0.0001	0.0005	06/19/17 13:01	mfm
Calcium, dissolved	M200.7 ICP	1	0.4	B		mg/L	0.1	0.5	06/21/17 0:47	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:47	aeh
Cobalt, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	06/21/17 0:47	aeh
Copper, dissolved	M200.7 ICP	1	0.13			mg/L	0.01	0.05	06/21/17 0:47	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:47	aeh
Iron, dissolved	M200.7 ICP	1	97.9			mg/L	0.02	0.05	06/21/17 0:47	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0017			mg/L	0.0001	0.0005	06/19/17 13:01	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:47	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:47	aeh
Manganese, dissolved	M200.7 ICP	1	0.045			mg/L	0.005	0.03	06/21/17 0:47	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/14/17 16:11	sck
Mercury, total	M1631, Atomic Fluorescence	1	2.9		*	ng/L	0.2	0.5	06/19/17 15:37	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/21/17 0:47	aeh
Nickel, dissolved	M200.7 ICP	1	0.021	B		mg/L	0.008	0.04	06/21/17 0:47	aeh
Potassium, dissolved	M200.7 ICP	1	2.3			mg/L	0.2	1	06/21/17 0:47	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:47	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0003	06/19/17 13:01	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/21/17 0:47	aeh
Sodium, dissolved	M200.7 ICP	1	1.0			mg/L	0.2	1	06/21/17 0:47	aeh
Strontium, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.005	0.03	06/21/17 0:47	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0005	06/19/17 13:01	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/21/17 0:47	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/21/17 0:47	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0038			mg/L	0.0001	0.0005	06/19/17 13:01	mfm
Vanadium, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.005	0.03	06/21/17 0:47	aeh
Zinc, dissolved	M200.7 ICP	1	0.31			mg/L	0.01	0.05	06/21/17 0:47	aeh

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L37686-07***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	06/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-1.4			%			06/30/17 0:00	calc
Sum of Anions			7.0			meq/L			06/30/17 0:00	calc
Sum of Cations			6.8			meq/L			06/30/17 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	06/20/17 11:22	spl
Conductivity @25C	SM2510B	1	1480		*	umhos/cm	1	10	06/15/17 16:34	abd
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/19/17 15:15	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.999	B		mg/L	0.2	5	06/30/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B	*	mg/L	0.02	0.1	06/17/17 17:01	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/28/17 17:38	bsu
pH (lab)	SM4500H+ B									
pH		1	2.5	H	*	units	0.1	0.1	06/15/17 0:00	abd
pH measured at		1	20.2			C	0.1	0.1	06/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.34		*	mg/L	0.02	0.05	06/17/17 1:19	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	510		*	mg/L	10	20	06/13/17 15:22	che
Sulfate	D516-02/-07 - Turbidimetric	10	335			mg/L	10	50	06/22/17 16:38	bce
TDS (calculated)	Calculation		450			mg/L			06/30/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.13						06/30/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L37686-08***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/12/17 17:01	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	06/21/17 0:51	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0004	0.002	06/19/17 13:04	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0046			mg/L	0.0002	0.001	06/19/17 13:04	mfm
Barium, dissolved	M200.7 ICP	1		U		mg/L	0.003	0.02	06/21/17 0:51	aeh
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/19/17 13:04	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/21/17 0:51	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:51	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/19/17 13:04	mfm
Calcium, dissolved	M200.7 ICP	1	0.7			mg/L	0.1	0.5	06/21/17 0:51	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:51	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:51	aeh
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:51	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:51	aeh
Iron, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.02	0.05	06/21/17 0:51	aeh
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/19/17 13:04	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:51	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:51	aeh
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/21/17 0:51	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/14/17 16:12	sck
Mercury, total	M1631, Atomic Fluorescence	1	25.0		*	ng/L	0.2	0.5	06/19/17 15:42	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/21/17 0:51	aeh
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:51	aeh
Potassium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:51	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:51	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0003	06/19/17 13:04	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/21/17 0:51	aeh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:51	aeh
Strontium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/21/17 0:51	aeh
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/19/17 13:04	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/21/17 0:51	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/21/17 0:51	aeh
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/19/17 13:04	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/21/17 0:51	aeh
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:51	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L37686-08***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	06/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			06/30/17 0:00	calc
Sum of Anions				U		meq/L			06/30/17 0:00	calc
Sum of Cations				U		meq/L			06/30/17 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B		mg/L	0.5	2	06/20/17 11:22	spl
Conductivity @25C	SM2510B	1	7.5	B	*	umhos/cm	1	10	06/15/17 16:41	abd
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/19/17 15:22	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.8	B		mg/L	0.2	5	06/30/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	06/17/17 17:02	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/28/17 17:22	bsu
pH (lab)	SM4500H+ B									
pH		1	5.2	H	*	units	0.1	0.1	06/15/17 0:00	abd
pH measured at		1	20.1			C	0.1	0.1	06/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	06/17/17 1:20	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	14	B	*	mg/L	10	20	06/13/17 15:24	che
Sulfate	D516-02/-07 - Turbidimetric	1		U		mg/L	1	5	06/22/17 16:17	bce
TDS (calculated)	Calculation		1.33			mg/L			06/30/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		10.53						06/30/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L37686-09***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/12/17 17:07	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	06/21/17 0:54	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/19/17 13:07	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.0028			mg/L	0.0002	0.001	06/19/17 13:07	mfm
Barium, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.003	0.02	06/21/17 0:54	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00013	B		mg/L	0.00005	0.0003	06/19/17 13:07	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/21/17 0:54	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:54	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/19/17 13:07	mfm
Calcium, dissolved	M200.7 ICP	1	0.6			mg/L	0.1	0.5	06/21/17 0:54	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:54	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:54	aeh
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:54	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:54	aeh
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	06/21/17 0:54	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	06/19/17 13:07	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:54	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:54	aeh
Manganese, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	06/21/17 0:54	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/14/17 16:13	sck
Mercury, total	M1631, Atomic Fluorescence	10	131			ng/L	2	5	06/21/17 10:58	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/21/17 0:54	aeh
Nickel, dissolved	M200.7 ICP	1	0.112			mg/L	0.008	0.04	06/21/17 0:54	aeh
Potassium, dissolved	M200.7 ICP	1	0.3	B		mg/L	0.2	1	06/21/17 0:54	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:54	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0003	06/19/17 13:07	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/21/17 0:54	aeh
Sodium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:54	aeh
Strontium, dissolved	M200.7 ICP	1	0.007	B		mg/L	0.005	0.03	06/21/17 0:54	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	06/19/17 13:07	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/21/17 0:54	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/21/17 0:54	aeh
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/19/17 13:07	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/21/17 0:54	aeh
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:54	aeh

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L37686-09***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	06/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			06/30/17 0:00	calc
Sum of Anions				U		meq/L			06/30/17 0:00	calc
Sum of Cations				U		meq/L			06/30/17 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B		mg/L	0.5	2	06/20/17 11:22	spl
Conductivity @25C	SM2510B	1	20.2		*	umhos/cm	1	10	06/15/17 16:46	abd
Fluoride	SM4500F-C	80		U	*	mg/L	4	20	06/20/17 15:35	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	06/30/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	06/17/17 17:04	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/28/17 17:25	bsu
pH (lab)	SM4500H+ B									
pH		1	4.9	H	*	units	0.1	0.1	06/15/17 0:00	abd
pH measured at		1	20.2			C	0.1	0.1	06/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	06/17/17 1:21	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	10	B	*	mg/L	10	20	06/13/17 15:27	che
Sulfate	D516-02/-07 - Turbidimetric	1	3.4	B		mg/L	1	5	06/22/17 16:17	bce
TDS (calculated)	Calculation		4.81			mg/L			06/30/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.08						06/30/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L37686-10***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								06/16/17 13:15	jdk
Cyanide, WAD	SM4500-CN I- distillation				*				06/14/17 12:52	wtc
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								06/12/17 17:19	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.65			mg/L	0.03	0.2	06/21/17 0:57	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	06/19/17 13:10	mfm
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	06/19/17 13:10	mfm
Barium, dissolved	M200.7 ICP	1	0.049			mg/L	0.003	0.02	06/21/17 0:57	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00016	B		mg/L	0.00005	0.0003	06/19/17 13:10	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	06/21/17 0:57	aeh
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:57	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	06/19/17 13:10	mfm
Calcium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.1	0.5	06/21/17 0:57	aeh
Chromium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:57	aeh
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/21/17 0:57	aeh
Copper, dissolved	M200.7 ICP	1	0.08			mg/L	0.01	0.05	06/21/17 0:57	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:57	aeh
Iron, dissolved	M200.7 ICP	1	0.06			mg/L	0.02	0.05	06/21/17 0:57	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	06/19/17 13:10	mfm
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:57	aeh
Magnesium, dissolved	M200.7 ICP	1		U		mg/L	0.2	1	06/21/17 0:57	aeh
Manganese, dissolved	M200.7 ICP	1	0.027	B		mg/L	0.005	0.03	06/21/17 0:57	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/14/17 16:14	sck
Mercury, total	M1631, Atomic Fluorescence	1	4.8		*	ng/L	0.2	0.5	06/19/17 15:52	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/21/17 0:57	aeh
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/21/17 0:57	aeh
Potassium, dissolved	M200.7 ICP	1	1.6			mg/L	0.2	1	06/21/17 0:57	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	06/21/17 0:57	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	06/19/17 13:10	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	06/21/17 0:57	aeh
Sodium, dissolved	M200.7 ICP	1	0.2	B		mg/L	0.2	1	06/21/17 0:57	aeh
Strontium, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.005	0.03	06/21/17 0:57	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0005	06/19/17 13:10	mfm
Tin, dissolved	M200.7 ICP	1		U		mg/L	0.04	0.2	06/21/17 0:57	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	06/21/17 0:57	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	06/19/17 13:10	mfm
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/21/17 0:57	aeh
Zinc, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	06/21/17 0:57	aeh

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L37686-10***
Date Sampled: *06/07/17 00:00*
Date Received: *06/08/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/15/17 0:00	abd
Total Alkalinity		1		U	*	mg/L	2	20	06/15/17 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			06/30/17 0:00	calc
Sum of Anions			0.409	B		meq/L			06/30/17 0:00	calc
Sum of Cations			0.141	B		meq/L			06/30/17 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B		mg/L	0.5	2	06/20/17 11:22	spl
Conductivity @25C	SM2510B	1	140		*	umhos/cm	1	10	06/15/17 16:50	abd
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	06/16/17 22:31	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	06/16/17 20:10	pjb
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	06/19/17 15:29	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.499	B		mg/L	0.2	5	06/30/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.02	B	*	mg/L	0.02	0.1	06/17/17 17:05	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	06/28/17 17:27	bsu
pH (lab)	SM4500H+ B									
pH		1	3.5	H	*	units	0.1	0.1	06/15/17 0:00	abd
pH measured at		1	20.3			C	0.1	0.1	06/15/17 0:00	abd
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.02	B	*	mg/L	0.02	0.05	06/17/17 1:24	pjb
Residue, Filterable (TDS) @180C	SM2540C	2		U	*	mg/L	20	40	06/13/17 15:29	che
Sulfate	D516-02/-07 - Turbidimetric	1	18.8			mg/L	1	5	06/22/17 16:17	bce
TDS (calculated)	Calculation		22.2			mg/L			06/30/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						06/30/17 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for Instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L37686***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424764													
WG424764PBW1	PBW	06/14/17 15:31				3.6	mg/L		-20	20			
WG424764LCSW3	LCSW	06/14/17 15:48	WC170603-1	820.0001		791	mg/L	96	90	110			
WG424764LCSW6	LCSW	06/14/17 18:33	WC170603-1	820.0001		799	mg/L	97	90	110			
WG424764PBW2	PBW	06/14/17 18:41				U	mg/L		-20	20			
WG424764LCSW9	LCSW	06/14/17 20:26	WC170603-1	820.0001		790	mg/L	96	90	110			
WG424764PBW3	PBW	06/14/17 20:33				U	mg/L		-20	20			
WG424764LCSW12	LCSW	06/14/17 23:52	WC170603-1	820.0001		804	mg/L	98	90	110			
WG424764PBW4	PBW	06/15/17 0:00				U	mg/L		-20	20			
L37736-07DUP	DUP	06/15/17 2:50			112	112	mg/L				0	20	
WG424764LCSW15	LCSW	06/15/17 3:08	WC170603-1	820.0001		807	mg/L	98	90	110			
WG424853													
WG424853PBW1	PBW	06/15/17 15:55				U	mg/L		-20	20			
WG424853LCSW3	LCSW	06/15/17 16:13	WC170603-1	820.0001		795	mg/L	97	90	110			
L37692-02DUP	DUP	06/15/17 17:10			U	U	mg/L				0	20	RA
WG424853LCSW6	LCSW	06/15/17 18:53	WC170603-1	820.0001		796	mg/L	97	90	110			
WG424853PBW2	PBW	06/15/17 19:00				U	mg/L		-20	20			
WG424853LCSW9	LCSW	06/16/17 0:16	WC170603-1	820.0001		802	mg/L	98	90	110			
WG424853PBW3	PBW	06/16/17 0:24				U	mg/L		-20	20			
WG424853LCSW12	LCSW	06/16/17 2:53	WC170603-1	820.0001		806	mg/L	98	90	110			
WG424853PBW4	PBW	06/16/17 3:01				U	mg/L		-20	20			
WG424853LCSW15	LCSW	06/16/17 6:12	WC170603-1	820.0001		810	mg/L	99	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		2.016	mg/L	101	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.09	0.09			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.9816666		1.008	mg/L	103	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.9816666	.07	1.095	mg/L	104	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.9816666	.07	1.09	mg/L	104	85	115	0	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	.9816666	.06	1.082	mg/L	104	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.9816666	.06	1.084	mg/L	104	85	115	0	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424973													
WG424973ICV	ICV	06/19/17 11:42	MS170420-2	.02		.01897	mg/L	95	90	110			
WG424973ICB	ICB	06/19/17 11:45				U	mg/L		-0.0012	0.0012			
WG424973LFB	LFB	06/19/17 11:48	MS170524-3	.009980001		.01038	mg/L	104	85	115			
L37685-03AS	AS	06/19/17 12:03	MS170524-3	.049900005	U	.0515	mg/L	103	70	130			
L37685-03ASD	ASD	06/19/17 12:06	MS170524-3	.049900005	U	.0518	mg/L	104	70	130	1	20	
L37686-05AS	AS	06/19/17 12:46	MS170524-3	.009980001	.0005	.0094	mg/L	89	70	130			
L37686-05ASD	ASD	06/19/17 12:49	MS170524-3	.009980001	.0005	.00925	mg/L	88	70	130	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L37686***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424973													
WG424973ICV	ICV	06/19/17 11:42	MS170420-2	.05		.05271	mg/L	105	90	110			
WG424973ICB	ICB	06/19/17 11:45				U	mg/L		-0.0006	0.0006			
WG424973LFB	LFB	06/19/17 11:48	MS170524-3	.0501		.05002	mg/L	100	85	115			
L37685-03AS	AS	06/19/17 12:03	MS170524-3	.2505	.007	.2615	mg/L	102	70	130			
L37685-03ASD	ASD	06/19/17 12:06	MS170524-3	.2505	.007	.2654	mg/L	103	70	130	1	20	
L37686-05AS	AS	06/19/17 12:46	MS170524-3	.0501	.001	.05318	mg/L	104	70	130			
L37686-05ASD	ASD	06/19/17 12:49	MS170524-3	.0501	.001	.04969	mg/L	97	70	130	7	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		1.999	mg/L	100	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.009	0.009			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.5015		.5299	mg/L	106	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.5015	.01	.54	mg/L	106	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.5015	.01	.5414	mg/L	106	85	115	0	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	.5015	U	.5289	mg/L	105	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.5015	U	.5297	mg/L	106	85	115	0	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424973													
WG424973ICV	ICV	06/19/17 11:42	MS170420-2	.05		.04833	mg/L	97	90	110			
WG424973ICB	ICB	06/19/17 11:45				U	mg/L		-0.00015	0.00015			
WG424973LFB	LFB	06/19/17 11:48	MS170524-3	.05035		.04839	mg/L	96	85	115			
L37685-03AS	AS	06/19/17 12:03	MS170524-3	.25175	.0079	.28455	mg/L	110	70	130			
L37685-03ASD	ASD	06/19/17 12:06	MS170524-3	.25175	.0079	.2865	mg/L	111	70	130	1	20	
L37686-05AS	AS	06/19/17 12:46	MS170524-3	.05035	.00022	.05373	mg/L	106	70	130			
L37686-05ASD	ASD	06/19/17 12:49	MS170524-3	.05035	.00022	.0522	mg/L	103	70	130	3	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		1.991	mg/L	100	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.12	0.12			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	1		1.04	mg/L	104	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	1	U	1.066	mg/L	107	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	1	U	1.044	mg/L	104	85	115	2	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	1	U	1.038	mg/L	104	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	1	U	1.031	mg/L	103	85	115	1	20	

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Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		2.007	mg/L	100	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.03	0.03			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.5005		.538	mg/L	107	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.5005	.02	.557	mg/L	107	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.5005	.02	.55	mg/L	106	85	115	1	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	.5005	.01	.544	mg/L	107	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.5005	.01	.537	mg/L	105	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424973													
WG424973ICV	ICV	06/19/17 11:42	MS170420-2	.05		.0505	mg/L	101	90	110			
WG424973ICB	ICB	06/19/17 11:45				U	mg/L		-0.0003	0.0003			
WG424973LFB	LFB	06/19/17 11:48	MS170524-3	.05005		.05058	mg/L	101	85	115			
L37685-03AS	AS	06/19/17 12:03	MS170524-3	.25025	.072	.3181	mg/L	98	70	130			
L37685-03ASD	ASD	06/19/17 12:06	MS170524-3	.25025	.072	.3213	mg/L	100	70	130	1	20	
L37686-05AS	AS	06/19/17 12:46	MS170524-3	.05005	U	.05188	mg/L	104	70	130			
L37686-05ASD	ASD	06/19/17 12:49	MS170524-3	.05005	U	.05073	mg/L	101	70	130	2	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	100		98.83	mg/L	99	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.3	0.3			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	66.65711		66.83	mg/L	100	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	66.65711	.1	67.65	mg/L	101	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	66.65711	.1	67.48	mg/L	101	85	115	0	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	66.65711	111	171.9	mg/L	91	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	66.65711	111	172.2	mg/L	92	85	115	0	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425063													
WG425063ICB	ICB	06/20/17 9:54				U	mg/L		-1.5	1.5			
WG425063ICV	ICV	06/20/17 9:54	WI160701-1	55.055		58.4	mg/L	106	90	110			
WG425063LFB1	LFB	06/20/17 10:32	WI161020-2	30.03		31.53	mg/L	105	90	110			
L37679-04AS	AS	06/20/17 11:08	WI161020-2	30.03	1.1	33.79	mg/L	109	90	110			
L37679-05DUP	DUP	06/20/17 11:08			1	.93	mg/L				7	20	RA
WG425063LFB2	LFB	06/20/17 11:09	WI161020-2	30.03		30.81	mg/L	103	90	110			
L37692-02AS	AS	06/20/17 11:22	WI161020-2	30.03	.8	32.39	mg/L	105	90	110			
L37693-01DUP	DUP	06/20/17 11:22			7.5	7.03	mg/L				6	20	

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Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		1.945	mg/L	97	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.03	0.03			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.5025		.529	mg/L	105	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.5025	U	.529	mg/L	105	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.5025	U	.528	mg/L	105	85	115	0	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	.5025	U	.515	mg/L	102	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.5025	U	.52	mg/L	103	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2.002		1.916	mg/L	96	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.03	0.03			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.5025		.521	mg/L	104	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.5025	U	.526	mg/L	105	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.5025	U	.528	mg/L	105	85	115	0	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	.5025	U	.51	mg/L	101	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.5025	U	.513	mg/L	102	85	115	1	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424764													
WG424764LCSW2	LCSW	06/14/17 15:36	PCN53322	1408		1550	umhos/cm	110	90	110			
WG424764LCSW5	LCSW	06/14/17 18:21	PCN53322	1408		1490	umhos/cm	106	90	110			
WG424764LCSW8	LCSW	06/14/17 20:13	PCN53322	1408		1470	umhos/cm	104	90	110			
WG424764LCSW11	LCSW	06/14/17 23:39	PCN53322	1408		1420	umhos/cm	101	90	110			
L37736-07DUP	DUP	06/15/17 2:50			2390	2380	umhos/cm				0	20	
WG424764LCSW14	LCSW	06/15/17 2:55	PCN53322	1408		1380	umhos/cm	98	90	110			
WG424853													
WG424853LCSW2	LCSW	06/15/17 16:00	PCN53322	1408		1330	umhos/cm	94	90	110			
L37692-02DUP	DUP	06/15/17 17:10			74.9	74	umhos/cm				1	20	
WG424853LCSW5	LCSW	06/15/17 18:40	PCN53322	1408		1260	umhos/cm	89	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		1.985	mg/L	99	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.03	0.03			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.5005		.529	mg/L	106	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.5005	U	.542	mg/L	108	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.5005	U	.545	mg/L	109	85	115	1	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	.5005	U	.532	mg/L	106	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.5005	U	.533	mg/L	106	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L37686***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424940													
WG424940ICV	ICV	06/16/17 19:44	WI170605-5	.3006		.2825	mg/L	94	90	110			
WG424940ICB	ICB	06/16/17 19:45				U	mg/L		-0.003	0.003			
WG424943													
WG424906LRB	LRB	06/16/17 22:21				U	mg/L		-0.003	0.003			
WG424906LFB	LFB	06/16/17 22:22	WI170605-2	.2		.1921	mg/L	96	90	110			
L37685-01DUP	DUP	06/16/17 22:23			U	U	mg/L				0	20	RA
L37685-02LFM	LFM	06/16/17 22:25	WI170605-2	.2	U	.2086	mg/L	104	90	110			

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424940													
WG424940ICV	ICV	06/16/17 19:44	WI170605-5	.3006		.2825	mg/L	94	90	110			
WG424940ICB	ICB	06/16/17 19:45				U	mg/L		-0.003	0.003			
WG424720LRB	LRB	06/16/17 19:46				U	mg/L		-0.003	0.003			
WG424720LFB	LFB	06/16/17 19:46	WI170605-4	.2004		.1927	mg/L	96	90	110			
L37679-09LFM	LFM	06/16/17 20:09	WI170605-4	.2004	U	.1917	mg/L	96	90	110			
L37686-10DUP	DUP	06/16/17 20:11			U	U	mg/L				0	20	RA

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424981													
WG424981ICV	ICV	06/19/17 11:57	WC170602-8	2.006		1.931	mg/L	96	95	105			
WG424981ICB	ICB	06/19/17 12:01				.074	mg/L		-0.15	0.15			
WG424981LFB1	LFB	06/19/17 12:08	WC170320-7	4.995		5.025	mg/L	101	90	110			
L37624-07AS	AS	06/19/17 13:12	WC170320-7	4.995	.31	5.313	mg/L	100	90	110			
L37624-07DUP	DUP	06/19/17 13:20			.31	.325	mg/L				5	20	RA
WG424981LFB2	LFB	06/19/17 14:24	WC170320-7	4.995		5.025	mg/L	101	90	110			
L37686-04AS	AS	06/19/17 14:35	WC170320-7	999	U	996	mg/L	100	90	110			
L37686-04DUP	DUP	06/19/17 14:41			U	U	mg/L				0	20	RA
WG425103													
WG425103ICV	ICV	06/20/17 14:43	WC170602-8	2.006		1.97	mg/L	98	95	105			
WG425103ICB	ICB	06/20/17 14:47				.102	mg/L		-0.15	0.15			
WG425103LFB1	LFB	06/20/17 14:54	WC170320-7	4.995		5.046	mg/L	101	90	110			
L37611-01AS	AS	06/20/17 15:19	WC170320-7	4.995	.29	5.313	mg/L	101	90	110			
L37611-01DUP	DUP	06/20/17 15:27			.29	.306	mg/L				5	20	RA
WG425103LFB2	LFB	06/20/17 17:40	WC170320-7	4.995		5.094	mg/L	102	90	110			

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		1.99	mg/L	100	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.3	0.3			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	1		1.01	mg/L	101	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	1	U	1.04	mg/L	104	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	1	U	1	mg/L	100	85	115	4	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	1	U	.99	mg/L	99	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	1	U	.99	mg/L	99	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L37686***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		1.949	mg/L	97	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.06	0.06			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	1.0017		1.026	mg/L	102	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	1.0017	.08	1.084	mg/L	100	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	1.0017	.08	1.088	mg/L	101	85	115	0	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	1.0017	U	1.001	mg/L	100	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	1.0017	U	.999	mg/L	100	85	115	0	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424973													
WG424973ICV	ICV	06/19/17 11:42	MS170420-2	.05		.0521	mg/L	104	90	110			
WG424973ICB	ICB	06/19/17 11:45				U	mg/L		-0.0003	0.0003			
WG424973LFB	LFB	06/19/17 11:48	MS170524-3	.0501		.05074	mg/L	101	85	115			
L37685-03AS	AS	06/19/17 12:03	MS170524-3	.2505	.0827	.33865	mg/L	102	70	130			
L37685-03ASD	ASD	06/19/17 12:06	MS170524-3	.2505	.0827	.33745	mg/L	102	70	130	0	20	
L37686-05AS	AS	06/19/17 12:46	MS170524-3	.0501	.0012	.05177	mg/L	101	70	130			
L37686-05ASD	ASD	06/19/17 12:49	MS170524-3	.0501	.0012	.05083	mg/L	99	70	130	2	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		1.9862	mg/L	99	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.024	0.024			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	1.001		.976	mg/L	98	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	1.001	U	.9873	mg/L	99	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	1.001	U	.9748	mg/L	97	85	115	1	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	1.001	.083	1.067	mg/L	98	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	1.001	.083	1.054	mg/L	97	85	115	1	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	100		99.17	mg/L	99	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.6	0.6			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	49.01625		44.84	mg/L	91	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	49.01625	U	45.42	mg/L	93	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	49.01625	U	45.23	mg/L	92	85	115	0	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	49.01625	15.3	58.69	mg/L	89	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	49.01625	15.3	58.98	mg/L	89	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L37686***

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		1.911	mg/L	96	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.015	0.015			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.5		.5279	mg/L	106	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.5	.018	.5456	mg/L	106	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.5	.018	.5472	mg/L	106	85	115	0	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	.5	.039	.5596	mg/L	104	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.5	.039	.5604	mg/L	104	85	115	0	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424669													
WG424669ICV	ICV	06/13/17 15:56	HG170524-1	.005005		.00514	mg/L	103	95	105			
WG424669ICB	ICB	06/13/17 15:57				U	mg/L		-0.0002	0.0002			
WG424670													
WG424670LRB	LRB	06/13/17 16:32				U	mg/L		-0.00044	0.00044			
WG424670LFB	LFB	06/13/17 16:33	HG170531-3	.002002		.0018	mg/L	90	85	115			
L37637-01LFM	LFM	06/13/17 16:55	HG170531-3	.002002	U	.00173	mg/L	86	85	115			
L37637-01LFMD	LFMD	06/13/17 16:56	HG170531-3	.002002	U	.00186	mg/L	93	85	115	7	20	
WG424727													
WG424727ICV	ICV	06/14/17 15:31	HG170524-1	.005005		.00483	mg/L	97	95	105			
WG424727ICB	ICB	06/14/17 15:32				U	mg/L		-0.0002	0.0002			
WG424729													
WG424729LRB	LRB	06/14/17 16:07				U	mg/L		-0.00044	0.00044			
WG424729LFB	LFB	06/14/17 16:08	HG170531-3	.002002		.00184	mg/L	92	85	115			
L37699-01LFM	LFM	06/14/17 16:18	HG170531-3	.002002	U	.00186	mg/L	93	85	115			
L37699-01LFMD	LFMD	06/14/17 16:19	HG170531-3	.002002	U	.00188	mg/L	94	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L37686***

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424713													
WG424713ICV	ICV	06/14/17 11:28	HG170614-7	10		9.78	ng/L	98	79	121			
WG424713ICB	ICB	06/14/17 11:33				U	ng/L		-0.5	0.5			
WG424967													
WG424967CCV1	CCV	06/19/17 12:13	HG170614-7	10		10.4	ng/L	104	76.5	123.4			
WG424967CCB1	CCB	06/19/17 12:18				U	ng/L		-0.5	0.5			
WG424967PQV	PQV	06/19/17 12:22	HG170614-9	.5		.58	ng/L	116	70	130			
WG424967LFB	LFB	06/19/17 12:27	HG170614-8	2		2.08	ng/L	104	71	125			
L37680-04MS	MS	06/19/17 12:52	HG170614-8	2	2.6	4.68	ng/L	104	71	125			
L37680-04MSD	MSD	06/19/17 12:57	HG170614-8	2	2.6	4.73	ng/L	107	71	125	1	24	
WG424967CCV2	CCV	06/19/17 13:11	HG170614-7	10		10.5	ng/L	105	76.5	123.4			
WG424967CCB2	CCB	06/19/17 13:16				U	ng/L		-0.5	0.5			
L37686-06MS	MS	06/19/17 14:40	HG170614-8	4	998	976	ng/L	-1100	71	125			M3
L37686-06MSD	MSD	06/19/17 15:02	HG170614-8	4	998	1010	ng/L	600	71	125	3	24	M3
WG424967CCV3	CCV	06/19/17 15:27	HG170614-7	10		10.8	ng/L	108	76.5	123.4			
WG424967CCB3	CCB	06/19/17 15:32				U	ng/L		-0.5	0.5			
WG424967CCV4	CCV	06/19/17 16:07	HG170614-7	10		10.5	ng/L	105	76.5	123.4			
WG424967CCB4	CCB	06/19/17 16:12				U	ng/L		-0.5	0.5			
WG425151													
WG425151CCV1	CCV	06/21/17 10:24	HG170614-7	10		9.71	ng/L	97	76.5	123.4			
WG425151CCB1	CCB	06/21/17 10:29				U	ng/L		-0.5	0.5			
WG425151PQV	PQV	06/21/17 10:34	HG170614-9	.5		.51	ng/L	102	70	130			
WG425151LFB	LFB	06/21/17 10:39	HG170614-8	2		1.97	ng/L	99	71	125			
L37725-01MS	MS	06/21/17 11:08	HG170614-8	2	2.9	4.89	ng/L	100	71	125			
L37725-01MSD	MSD	06/21/17 11:13	HG170614-8	2	2.9	4.93	ng/L	102	71	125	1	24	
WG425151CCV2	CCV	06/21/17 11:23	HG170614-7	10		9.91	ng/L	99	76.5	123.4			
WG425151CCB2	CCB	06/21/17 11:27				U	ng/L		-0.5	0.5			
WG425151CCV8	CCV	06/21/17 13:52	HG170614-7	10		10.3	ng/L	103	76.5	123.4			
WG425151CCB5	CCB	06/21/17 14:01				U	ng/L		-0.5	0.5			
WG425151CCV9	CCV	06/21/17 14:50	HG170614-7	10		10	ng/L	100	76.5	123.4			
WG425151CCB6	CCB	06/21/17 14:55				U	ng/L		-0.5	0.5			
WG425151CCV10	CCV	06/21/17 15:24	HG170614-7	10		9.94	ng/L	99	76.5	123.4			
WG425151CCB7	CCB	06/21/17 15:29				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		2.043	mg/L	102	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.06	0.06			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.4887255		.498	mg/L	102	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.4887255	U	.502	mg/L	103	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.4887255	U	.498	mg/L	102	85	115	1	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	.4887255	U	.492	mg/L	101	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.4887255	U	.492	mg/L	101	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L37686***

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2.002		2.0602	mg/L	103	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.024	0.024			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.498		.538	mg/L	108	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.498	U	.5423	mg/L	109	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.498	U	.5441	mg/L	109	85	115	0	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	.498	U	.5307	mg/L	107	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.498	U	.5321	mg/L	107	85	115	0	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424955													
WG424955ICV	ICV	06/17/17 16:22	WI170613-1	2.416		2.347	mg/L	97	90	110			
WG424955ICB	ICB	06/17/17 16:23				U	mg/L		-0.02	0.02			
WG424955LFB1	LFB	06/17/17 16:27	WI170104-22	2		2.063	mg/L	103	90	110			
L37686-01AS	AS	06/17/17 16:48	WI170104-22	2	.03	2.13	mg/L	105	90	110			
L37686-02DUP	DUP	06/17/17 16:51			U	.022	mg/L				200	20	RA
WG424955LFB2	LFB	06/17/17 17:06	WI170104-22	2		2.029	mg/L	101	90	110			

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425726													
WG425726ICV	ICV	06/28/17 16:36	WI170605-8	11.988		11.178	mg/L	93	90	110			
WG425726ICB	ICB	06/28/17 16:37				U	mg/L		-0.05	0.05			
WG425726LFB	LFB	06/28/17 17:17	WI170420-10	10		9.152	mg/L	92	90	110			
L37686-08DUP	DUP	06/28/17 17:24			U	U	mg/L				0	20	RA
L37686-07AS	AS	06/28/17 17:39	WI170420-10	10	U	8.923	mg/L	89	90	110			M2

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424764													
WG424764LCSW1	LCSW	06/14/17 15:34	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG424764LCSW4	LCSW	06/14/17 18:19	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG424764LCSW7	LCSW	06/14/17 20:12	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG424764LCSW10	LCSW	06/14/17 23:37	PCN51287	6.01		6.1	units	101	5.9	6.1			
L37736-07DUP	DUP	06/15/17 2:50			8	8	units				0	20	
WG424764LCSW13	LCSW	06/15/17 2:53	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG424853													
WG424853LCSW1	LCSW	06/15/17 15:58	PCN51287	6.01		6.1	units	101	5.9	6.1			
L37692-02DUP	DUP	06/15/17 17:10			5.1	5	units				2	20	
WG424853LCSW4	LCSW	06/15/17 18:38	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG424853LCSW7	LCSW	06/16/17 0:01	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG424853LCSW10	LCSW	06/16/17 2:38	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG424853LCSW13	LCSW	06/16/17 5:57	PCN51287	6.01		6.1	units	101	5.9	6.1			

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ACZ Project ID: ***L37686***

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424944													
WG424944ICV	ICV	06/17/17 0:48	WI170505-5	.65228		.621	mg/L	95	90	110			
WG424944ICB	ICB	06/17/17 0:51				U	mg/L		-0.02	0.02			
WG424598LRB	LRB	06/17/17 0:52				U	mg/L		-0.02	0.02			
WG424598LFB	LFB	06/17/17 0:53	WI170607-3	.5		.475	mg/L	95	90	110			
L37686-09LFM	LFM	06/17/17 1:22	WI170607-3	.5	U	.485	mg/L	97	90	110			
L37686-10DUP	DUP	06/17/17 1:25			.02	.022	mg/L				10	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	20		19.78	mg/L	99	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.6	0.6			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	98.03812		95.88	mg/L	98	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	98.03812	2	98.92	mg/L	99	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	98.03812	2	98.47	mg/L	98	85	115	0	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	98.03812	18.3	114.7	mg/L	98	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	98.03812	18.3	114.3	mg/L	98	85	115	0	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424635													
WG424635PBW	PBW	06/13/17 14:35				U	mg/L		-20	20			
WG424635LCSW	LCSW	06/13/17 14:37	PCN53193	260		242	mg/L	93	80	120			
L37672-06DUP	DUP	06/13/17 14:42			124	134	mg/L				8	10	
L37718-01DUP	DUP	06/13/17 15:35			116	116	mg/L				0	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		1.98	mg/L	99	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.3	0.3			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.9868		.99	mg/L	100	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.9868	U	1.01	mg/L	102	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.9868	U	1	mg/L	101	85	115	1	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	.9868	U	1	mg/L	101	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.9868	U	.99	mg/L	100	85	115	1	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424973													
WG424973ICV	ICV	06/19/17 11:42	MS170420-2	.05		.05289	mg/L	106	90	110			
WG424973ICB	ICB	06/19/17 11:45				U	mg/L		-0.0003	0.0003			
WG424973LFB	LFB	06/19/17 11:48	MS170524-3	.05005		.05099	mg/L	102	85	115			
L37685-03AS	AS	06/19/17 12:03	MS170524-3	.25025	.0014	.26965	mg/L	107	70	130			
L37685-03ASD	ASD	06/19/17 12:06	MS170524-3	.25025	.0014	.2721	mg/L	108	70	130	1	20	
L37686-05AS	AS	06/19/17 12:46	MS170524-3	.05005	.0001	.05302	mg/L	106	70	130			
L37686-05ASD	ASD	06/19/17 12:49	MS170524-3	.05005	.0001	.05207	mg/L	104	70	130	2	20	

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ACZ Project ID: ***L37686***

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	1.002		1.024	mg/L	102	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.03	0.03			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.5		.5	mg/L	100	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.5	U	.348	mg/L	70	85	115			M2 ZA
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.5	U	.351	mg/L	70	85	115	1	20	M2 ZA
L37693-02AS	AS	06/21/17 1:07	II170616-2	.5	U	.323	mg/L	65	85	115			M2 ZA
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.5	U	.342	mg/L	68	85	115	6	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	100		100.28	mg/L	100	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.6	0.6			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	98.05919		97.07	mg/L	99	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	98.05919	.5	98.74	mg/L	100	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	98.05919	.5	98.22	mg/L	100	85	115	1	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	98.05919	27.3	123.8	mg/L	98	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	98.05919	27.3	123.8	mg/L	98	85	115	0	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		1.9752	mg/L	99	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.015	0.015			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.4916667		.4832	mg/L	98	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.4916667	.011	.496	mg/L	99	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.4916667	.011	.4933	mg/L	98	85	115	1	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	.4916667	.586	1.042	mg/L	93	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.4916667	.586	1.039	mg/L	92	85	115	0	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425335													
WG425335ICB	ICB	06/22/17 9:51				U	mg/L		-3	3			
WG425335ICV	ICV	06/22/17 9:51	WI170614-2	20		19.3	mg/L	97	90	110			
WG425335LFB	LFB	06/22/17 16:15	WI170131-8	9.99		10.9	mg/L	109	90	110			
L37686-01DUP	DUP	06/22/17 16:15			35	36.3	mg/L				4	20	
L37686-02AS	AS	06/22/17 16:24	WI170131-8	9.99	10.7	21.7	mg/L	110	90	110			

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ACZ Project ID: ***L37686***

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424973													
WG424973ICV	ICV	06/19/17 11:42	MS170420-2	.05		.05346	mg/L	107	90	110			
WG424973ICB	ICB	06/19/17 11:45				U	mg/L		-0.0003	0.0003			
WG424973LFB	LFB	06/19/17 11:48	MS170524-3	.0501		.052	mg/L	104	85	115			
L37685-03AS	AS	06/19/17 12:03	MS170524-3	.2505	U	.26105	mg/L	104	70	130			
L37685-03ASD	ASD	06/19/17 12:06	MS170524-3	.2505	U	.26025	mg/L	104	70	130	0	20	
L37686-05AS	AS	06/19/17 12:46	MS170524-3	.0501	.0001	.05183	mg/L	103	70	130			
L37686-05ASD	ASD	06/19/17 12:49	MS170524-3	.0501	.0001	.05045	mg/L	100	70	130	3	20	

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		2.045	mg/L	102	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.12	0.12			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.989		.999	mg/L	101	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.989	U	1.026	mg/L	104	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.989	U	1.016	mg/L	103	85	115	1	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	.989	U	.993	mg/L	100	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.989	U	1.001	mg/L	101	85	115	1	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		1.9952	mg/L	100	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.015	0.015			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	1.003		.992	mg/L	99	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	1.003	U	1.008	mg/L	100	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	1.003	U	.9999	mg/L	100	85	115	1	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	1.003	U	.9924	mg/L	99	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	1.003	U	.9927	mg/L	99	85	115	0	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG424973													
WG424973ICV	ICV	06/19/17 11:42	MS170420-2	.05		.0507	mg/L	101	90	110			
WG424973ICB	ICB	06/19/17 11:45				U	mg/L		-0.0003	0.0003			
WG424973LFB	LFB	06/19/17 11:48	MS170524-3	.05		.05189	mg/L	104	85	115			
L37685-03AS	AS	06/19/17 12:03	MS170524-3	.25	.0137	.27765	mg/L	106	70	130			
L37685-03ASD	ASD	06/19/17 12:06	MS170524-3	.25	.0137	.2785	mg/L	106	70	130	0	20	
L37686-05AS	AS	06/19/17 12:46	MS170524-3	.05	.0008	.05172	mg/L	102	70	130			
L37686-05ASD	ASD	06/19/17 12:49	MS170524-3	.05	.0008	.05043	mg/L	99	70	130	3	20	

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ACZ Project ID: ***L37686***

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		1.9995	mg/L	100	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.015	0.015			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.4887255		.491	mg/L	100	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.4887255	U	.4962	mg/L	102	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.4887255	U	.4933	mg/L	101	85	115	1	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	.4887255	U	.4867	mg/L	100	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.4887255	U	.4863	mg/L	100	85	115	0	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG425114													
WG425114ICV	ICV	06/20/17 23:50	II170614-1	2		1.995	mg/L	100	95	105			
WG425114ICB	ICB	06/20/17 23:56				U	mg/L		-0.03	0.03			
WG425114LFB	LFB	06/21/17 0:09	II170616-2	.4845098		.513	mg/L	106	85	115			
L37686-02AS	AS	06/21/17 0:22	II170616-2	.4845098	.02	.536	mg/L	106	85	115			
L37686-02ASD	ASD	06/21/17 0:25	II170616-2	.4845098	.02	.538	mg/L	107	85	115	0	20	
L37693-02AS	AS	06/21/17 1:07	II170616-2	.4845098	U	.516	mg/L	106	85	115			
L37693-02ASD	ASD	06/21/17 1:10	II170616-2	.4845098	U	.517	mg/L	107	85	115	0	20	

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ACZ Project ID: ***L37686***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37686-01	WG425063	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424764	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424981	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424955	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG425726	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424764	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424944	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424635	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG425114	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG424764	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
L37686-02	WG425063	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424764	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424981	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424955	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG425726	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424764	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424944	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424635	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG425114	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG424764	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

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ACZ Project ID: ***L37686***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37686-03	WG425063	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424853	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424981	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424955	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG425726	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424853	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424944	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424635	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG425114	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG424853	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

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ACZ Project ID: ***L37686***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37686-04	WG424853	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424981	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424967	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG424955	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG425726	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424853	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424944	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424635	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG425114	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG424853	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L37686***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37686-05	WG424853	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424981	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424967	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG424955	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG425726	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424853	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424944	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424635	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG425114	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG424853	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ Project ID: ***L37686***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37686-06	WG424853	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424981	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424955	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG425726	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424853	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424944	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424635	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG425114	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG424853	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc.

ACZ Project ID: ***L37686***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37686-07	WG424853	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424981	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424967	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG424955	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG425726	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424853	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424944	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424635	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG425114	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG424853	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L37686***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37686-08	WG424853	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424981	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424967	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG424955	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG425726	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424853	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424944	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424635	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG425114	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG424853	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L37686***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37686-09	WG424853	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG425103	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424955	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG425726	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424853	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424944	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424635	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG425114	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG424853	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L37686***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L37686-10	WG424853	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424943	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424940	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424981	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424967	Mercury, total	M1631, Atomic Fluorescence	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG424955	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG425726	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424853	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG424944	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG424635	Residue, Filterable (TDS) @180C	SM2540C	DJ	Sample dilution required due to insufficient sample.
			SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG425114	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG424853	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
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Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L37686
Date Received: 06/08/2017 11:24
Received By:
Date Printed: 6/8/2017

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?		X	
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA26215	2	<=6.0	14	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L37686
Date Received:	06/08/2017 11:24
Received By:	
Date Printed:	6/8/2017

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L37686

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Mike Medina
Company: McClelland Laboratories, Inc.
E-mail: mli@mettest.com
Address: 1016 Greg Street
Sparks NV 89431
Telephone: 775-356-1300

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Mike Medina
Company: McClelland Laboratories, Inc.
E-mail: mli@mettest.com
Address: 1016 Greg Street
Sparks NV 89431
Telephone: 775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500	Mercury by 1631E				
CAL-002 (86-95)	6/7/17	WW	1	X			X				
CAL-004 (860-875)		WW	1	X			X				
CAL-003 (675-685)		WW	1	X			X				
GMC-012 (832-851)		WW	1	X			X				
CAL-004 (295-315)		WW	1	X			X				
CAL-001 (750-762)		WW	1	X			X				
GMC-014 (176-184)		WW	1	X			X				
CAL-001 (380-400)		WW	1	X			X				
CAL-002 (177-187)		WW	1	X			X				
Calico Leach Res. after CN Destruct		WW	1	X	X	X	X				

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 80
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	6/7/17 9AM	DOP	6/8/17 1120

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L37686 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.
[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.
[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

[redacted]

Analyses

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 20, 2017

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 3981
ACZ Project ID: L38237

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 06, 2017. This project has been assigned to ACZ's project number, L38237. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L38237. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 19, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L38237-01***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/14/17 13:26	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.68		*	mg/L	0.03	0.2	07/17/17 18:10	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0079		*	mg/L	0.0004	0.002	07/18/17 21:23	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0409		*	mg/L	0.0002	0.001	07/18/17 21:23	msh
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.003	0.02	07/17/17 18:10	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00015	B	*	mg/L	0.00005	0.0003	07/18/17 21:23	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:10	aeh
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:10	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B	*	mg/L	0.0001	0.0005	07/18/17 21:23	msh
Calcium, dissolved	M200.7 ICP	1	0.2	B	*	mg/L	0.1	0.5	07/17/17 18:10	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:10	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:10	aeh
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:10	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:10	aeh
Iron, dissolved	M200.7 ICP	1	4.29		*	mg/L	0.02	0.05	07/17/17 18:10	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0008		*	mg/L	0.0001	0.0005	07/18/17 21:23	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/17/17 18:10	aeh
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	07/17/17 18:10	aeh
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:10	aeh
Mercury, dissolved	M245.1 CVAA	1	0.0002	B	*	mg/L	0.0002	0.001	07/12/17 15:34	sck
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/17/17 18:10	aeh
Nickel, dissolved	M200.7 ICP	1	0.015	B	*	mg/L	0.008	0.04	07/17/17 18:10	aeh
Potassium, dissolved	M200.7 ICP	1	0.5	B	*	mg/L	0.2	1	07/17/17 18:10	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:10	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0003		*	mg/L	0.0001	0.0003	07/18/17 21:23	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/17/17 18:10	aeh
Sodium, dissolved	M200.7 ICP	1	0.3	B	*	mg/L	0.2	1	07/17/17 18:10	aeh
Strontium, dissolved	M200.7 ICP	1	0.006	B	*	mg/L	0.005	0.03	07/17/17 18:10	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0033		*	mg/L	0.0001	0.0005	07/18/17 21:23	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:10	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:10	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0003	B	*	mg/L	0.0001	0.0005	07/18/17 21:23	msh
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:10	aeh
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:10	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (86-95)

ACZ Sample ID: ***L38237-01***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/11/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-35.2			%			07/20/17 0:00	calc
Sum of Anions			0.708			meq/L			07/20/17 0:00	calc
Sum of Cations			0.339	B		meq/L			07/20/17 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B		mg/L	0.5	2	07/19/17 9:27	jmm
Conductivity @25C	SM2510B	1	225		*	umhos/cm	1	10	07/11/17 20:57	emk
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	07/14/17 14:43	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.499	B		mg/L	0.2	5	07/20/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/15/17 0:40	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/13/17 11:51	bce
pH (lab)	SM4500H+ B									
pH		1	3.3	H	*	units	0.1	0.1	07/11/17 0:00	emk
pH measured at		1	22.0			C	0.1	0.1	07/11/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/14/17 20:52	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	48		*	mg/L	10	20	07/10/17 14:34	che
Sulfate	D516-02/-07 - Turbidimetric	1	32.9			mg/L	1	5	07/17/17 15:05	jmm
TDS (calculated)	Calculation		39.5			mg/L			07/20/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.22						07/20/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L38237-02***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/14/17 13:42	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.09	B	*	mg/L	0.03	0.2	07/17/17 18:14	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/18/17 21:25	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0002	0.001	07/18/17 21:25	msh
Barium, dissolved	M200.7 ICP	1	0.006	B	*	mg/L	0.003	0.02	07/17/17 18:14	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.00005	0.0003	07/18/17 21:25	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:14	aeh
Boron, dissolved	M200.7 ICP	1	0.02	B	*	mg/L	0.01	0.05	07/17/17 18:14	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	07/18/17 21:25	msh
Calcium, dissolved	M200.7 ICP	1	0.1	B	*	mg/L	0.1	0.5	07/17/17 18:14	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:14	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:14	aeh
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:14	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:14	aeh
Iron, dissolved	M200.7 ICP	1	0.08		*	mg/L	0.02	0.05	07/17/17 18:14	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	07/18/17 21:25	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/17/17 18:14	aeh
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	07/17/17 18:14	aeh
Manganese, dissolved	M200.7 ICP	1	0.016	B	*	mg/L	0.005	0.03	07/17/17 18:14	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/12/17 15:35	sck
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/17/17 18:14	aeh
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/17/17 18:14	aeh
Potassium, dissolved	M200.7 ICP	1	2.0		*	mg/L	0.2	1	07/17/17 18:14	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:14	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0004			mg/L	0.0001	0.0003	07/18/17 21:25	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/17/17 18:14	aeh
Sodium, dissolved	M200.7 ICP	1	0.6	B	*	mg/L	0.2	1	07/17/17 18:14	aeh
Strontium, dissolved	M200.7 ICP	1	0.009	B	*	mg/L	0.005	0.03	07/17/17 18:14	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0001	0.0005	07/18/17 21:25	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:14	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:14	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	07/18/17 21:25	msh
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:14	aeh
Zinc, dissolved	M200.7 ICP	1	0.02	B	*	mg/L	0.01	0.05	07/17/17 18:14	aeh

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (860-875)

ACZ Sample ID: ***L38237-02***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/11/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			07/20/17 0:00	calc
Sum of Anions			0.312	B		meq/L			07/20/17 0:00	calc
Sum of Cations				U		meq/L			07/20/17 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B		mg/L	0.5	2	07/19/17 9:33	jmm
Conductivity @25C	SM2510B	1	86.4		*	umhos/cm	1	10	07/11/17 21:01	emk
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	07/14/17 14:48	abd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.3	B		mg/L	0.2	5	07/20/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/15/17 0:42	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/13/17 11:53	bce
pH (lab)	SM4500H+ B									
pH		1	3.8	H	*	units	0.1	0.1	07/11/17 0:00	emk
pH measured at		1	21.7			C	0.1	0.1	07/11/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/14/17 20:55	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	28		*	mg/L	10	20	07/10/17 14:35	che
Sulfate	D516-02/-07 - Turbidimetric	1	14.2			mg/L	1	5	07/17/17 15:05	jmm
TDS (calculated)	Calculation		17.6			mg/L			07/20/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.59						07/20/17 0:00	calc

Arizona license number: AZ0102

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L38237-03***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/14/17 13:58	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	12.8		*	mg/L	0.03	0.2	07/17/17 18:17	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0027			mg/L	0.0004	0.002	07/18/17 21:27	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.236			mg/L	0.0002	0.001	07/18/17 21:27	msh
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.003	0.02	07/17/17 18:17	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00233			mg/L	0.00005	0.0003	07/18/17 21:27	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:17	aeh
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:17	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0005	07/18/17 21:27	msh
Calcium, dissolved	M200.7 ICP	1	37.1		*	mg/L	0.1	0.5	07/17/17 18:17	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:17	aeh
Cobalt, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.01	0.05	07/17/17 18:17	aeh
Copper, dissolved	M200.7 ICP	1	0.11		*	mg/L	0.01	0.05	07/17/17 18:17	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:17	aeh
Iron, dissolved	M200.7 ICP	1	127		*	mg/L	0.02	0.05	07/17/17 18:17	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0005	07/18/17 21:27	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/17/17 18:17	aeh
Magnesium, dissolved	M200.7 ICP	1	0.8	B	*	mg/L	0.2	1	07/17/17 18:17	aeh
Manganese, dissolved	M200.7 ICP	1	0.094		*	mg/L	0.005	0.03	07/17/17 18:17	aeh
Mercury, dissolved	M245.1 CVAA	1	0.0007	B	*	mg/L	0.0002	0.001	07/12/17 15:36	sck
Molybdenum, dissolved	M200.7 ICP	1	0.14		*	mg/L	0.02	0.1	07/17/17 18:17	aeh
Nickel, dissolved	M200.7 ICP	1	0.040		*	mg/L	0.008	0.04	07/17/17 18:17	aeh
Potassium, dissolved	M200.7 ICP	1	0.2	B	*	mg/L	0.2	1	07/17/17 18:17	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:17	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0015			mg/L	0.0001	0.0003	07/18/17 21:27	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/17/17 18:17	aeh
Sodium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	07/17/17 18:17	aeh
Strontium, dissolved	M200.7 ICP	1	0.021	B	*	mg/L	0.005	0.03	07/17/17 18:17	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	07/18/17 21:27	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:17	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:17	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0044			mg/L	0.0001	0.0005	07/18/17 21:27	msh
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:17	aeh
Zinc, dissolved	M200.7 ICP	1	0.29		*	mg/L	0.01	0.05	07/17/17 18:17	aeh

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-003 (675-685)

ACZ Sample ID: ***L38237-03***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/11/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-13.0			%			07/20/17 0:00	calc
Sum of Anions			13			meq/L			07/20/17 0:00	calc
Sum of Cations			10			meq/L			07/20/17 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	07/19/17 9:27	jmm
Conductivity @25C	SM2510B	1	2210		*	umhos/cm	1	10	07/11/17 21:05	emk
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	07/13/17 11:57	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		96			mg/L	0.2	5	07/20/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	07/15/17 0:45	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/13/17 11:56	bce
pH (lab)	SM4500H+ B									
pH		1	2.3	H	*	units	0.1	0.1	07/11/17 0:00	emk
pH measured at		1	21.5			C	0.1	0.1	07/11/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.14		*	mg/L	0.02	0.05	07/14/17 20:57	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	844		*	mg/L	10	20	07/10/17 14:37	che
Sulfate	D516-02/-07 - Turbidimetric	20	599			mg/L	20	100	07/17/17 15:12	jmm
TDS (calculated)	Calculation		777			mg/L			07/20/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.09						07/20/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L38237-04***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/14/17 14:06	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.13	B	*	mg/L	0.03	0.2	07/17/17 18:20	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0004	0.002	07/18/17 21:29	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0012			mg/L	0.0002	0.001	07/18/17 21:29	msh
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.003	0.02	07/17/17 18:20	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00005	B		mg/L	0.00005	0.0003	07/18/17 21:29	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:20	aeh
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:20	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/18/17 21:29	msh
Calcium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:20	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:20	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:20	aeh
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:20	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:20	aeh
Iron, dissolved	M200.7 ICP	1	0.98		*	mg/L	0.02	0.05	07/17/17 18:20	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	07/18/17 21:29	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/17/17 18:20	aeh
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	07/17/17 18:20	aeh
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:20	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/12/17 15:37	sck
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/17/17 18:20	aeh
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/17/17 18:20	aeh
Potassium, dissolved	M200.7 ICP	1	0.4	B	*	mg/L	0.2	1	07/17/17 18:20	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:20	aeh
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	07/18/17 21:29	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/17/17 18:20	aeh
Sodium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	07/17/17 18:20	aeh
Strontium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:20	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	07/18/17 21:29	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:20	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:20	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0005	07/18/17 21:29	msh
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:20	aeh
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:20	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-012 (832-851)

ACZ Sample ID: ***L38237-04***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/11/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			07/20/17 0:00	calc
Sum of Anions			1.9			meq/L			07/20/17 0:00	calc
Sum of Cations				U		meq/L			07/20/17 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B		mg/L	0.5	2	07/19/17 9:27	jmm
Conductivity @25C	SM2510B	1	242		*	umhos/cm	1	10	07/11/17 21:10	emk
Fluoride	SM4500F-C	200	20	B	*	mg/L	10	50	07/13/17 12:08	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation			U		mg/L	0.2	5	07/20/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/15/17 0:46	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/13/17 11:58	bce
pH (lab)	SM4500H+ B									
pH		1	3.3	H	*	units	0.1	0.1	07/11/17 0:00	emk
pH measured at		1	21.4			C	0.1	0.1	07/11/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/14/17 20:58	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	66		*	mg/L	10	20	07/10/17 14:38	che
Sulfate	D516-02/-07 - Turbidimetric	1	37.6			mg/L	1	5	07/17/17 15:06	jmm
TDS (calculated)	Calculation		59.6			mg/L			07/20/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.11						07/20/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L38237-05***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/14/17 14:14	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.13	B	*	mg/L	0.03	0.2	07/17/17 18:23	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0004	0.002	07/18/17 21:31	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0021			mg/L	0.0002	0.001	07/18/17 21:31	msh
Barium, dissolved	M200.7 ICP	1	0.035		*	mg/L	0.003	0.02	07/17/17 18:23	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00028	B		mg/L	0.00005	0.0003	07/18/17 21:31	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:23	aeh
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:23	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	07/18/17 21:31	msh
Calcium, dissolved	M200.7 ICP	1	1.5		*	mg/L	0.1	0.5	07/17/17 18:23	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:23	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:23	aeh
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:23	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:23	aeh
Iron, dissolved	M200.7 ICP	1	0.13		*	mg/L	0.02	0.05	07/17/17 18:23	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	07/18/17 21:31	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/17/17 18:23	aeh
Magnesium, dissolved	M200.7 ICP	1	0.2	B	*	mg/L	0.2	1	07/17/17 18:23	aeh
Manganese, dissolved	M200.7 ICP	1	0.044		*	mg/L	0.005	0.03	07/17/17 18:23	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/12/17 15:39	sck
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/17/17 18:23	aeh
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/17/17 18:23	aeh
Potassium, dissolved	M200.7 ICP	1	1.0		*	mg/L	0.2	1	07/17/17 18:23	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:23	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	07/18/17 21:31	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/17/17 18:23	aeh
Sodium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	07/17/17 18:23	aeh
Strontium, dissolved	M200.7 ICP	1	0.006	B	*	mg/L	0.005	0.03	07/17/17 18:23	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	07/18/17 21:31	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:23	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:23	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	07/18/17 21:31	msh
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:23	aeh
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:23	aeh

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-004 (295-315)

ACZ Sample ID: ***L38237-05***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/11/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			07/20/17 0:00	calc
Sum of Anions			1.3			meq/L			07/20/17 0:00	calc
Sum of Cations			0.142	B		meq/L			07/20/17 0:00	calc
Chloride	SM4500Cl-E	1		U		mg/L	0.5	2	07/19/17 9:27	jmm
Conductivity @25C	SM2510B	1	225		*	umhos/cm	1	10	07/11/17 21:14	emk
Fluoride	SM4500F-C	200	10	B	*	mg/L	10	50	07/13/17 12:12	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4.6	B		mg/L	0.2	5	07/20/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/15/17 0:47	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/13/17 11:59	bce
pH (lab)	SM4500H+ B									
pH		1	3.3	H	*	units	0.1	0.1	07/11/17 0:00	emk
pH measured at		1	21.3			C	0.1	0.1	07/11/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/14/17 20:59	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	68		*	mg/L	10	20	07/10/17 14:39	che
Sulfate	D516-02/-07 - Turbidimetric	1	34.6			mg/L	1	5	07/17/17 15:06	jmm
TDS (calculated)	Calculation		47.6			mg/L			07/20/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.43						07/20/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L38237-06***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/14/17 14:22	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.31		*	mg/L	0.03	0.2	07/17/17 18:26	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/18/17 21:33	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0053			mg/L	0.0002	0.001	07/18/17 21:33	msh
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.003	0.02	07/17/17 18:26	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00022	B		mg/L	0.00005	0.0003	07/18/17 21:33	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:26	aeh
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:26	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	07/18/17 21:33	msh
Calcium, dissolved	M200.7 ICP	1	4.5		*	mg/L	0.1	0.5	07/17/17 18:26	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:26	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:26	aeh
Copper, dissolved	M200.7 ICP	1	0.32		*	mg/L	0.01	0.05	07/17/17 18:26	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:26	aeh
Iron, dissolved	M200.7 ICP	1	0.53		*	mg/L	0.02	0.05	07/17/17 18:26	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	07/18/17 21:33	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/17/17 18:26	aeh
Magnesium, dissolved	M200.7 ICP	1	0.6	B	*	mg/L	0.2	1	07/17/17 18:26	aeh
Manganese, dissolved	M200.7 ICP	1	0.021	B	*	mg/L	0.005	0.03	07/17/17 18:26	aeh
Mercury, dissolved	M245.1 CVAA	1	0.0002	B	*	mg/L	0.0002	0.001	07/12/17 15:42	sck
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/17/17 18:26	aeh
Nickel, dissolved	M200.7 ICP	1	0.057		*	mg/L	0.008	0.04	07/17/17 18:26	aeh
Potassium, dissolved	M200.7 ICP	1	2.3		*	mg/L	0.2	1	07/17/17 18:26	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:26	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0016			mg/L	0.0001	0.0003	07/18/17 21:33	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/17/17 18:26	aeh
Sodium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	07/17/17 18:26	aeh
Strontium, dissolved	M200.7 ICP	1	0.062		*	mg/L	0.005	0.03	07/17/17 18:26	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	07/18/17 21:33	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:26	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:26	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0052			mg/L	0.0001	0.0005	07/18/17 21:33	msh
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:26	aeh
Zinc, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.01	0.05	07/17/17 18:26	aeh

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (750-762)

ACZ Sample ID: ***L38237-06***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/11/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-27.0			%			07/20/17 0:00	calc
Sum of Anions			0.696			meq/L			07/20/17 0:00	calc
Sum of Cations			0.4	B		meq/L			07/20/17 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	07/19/17 9:27	jmm
Conductivity @25C	SM2510B	1	134		*	umhos/cm	1	10	07/11/17 21:18	emk
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	07/13/17 12:15	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		14			mg/L	0.2	5	07/20/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/15/17 0:48	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/13/17 12:00	bce
pH (lab)	SM4500H+ B									
pH		1	3.7	H	*	units	0.1	0.1	07/11/17 0:00	emk
pH measured at		1	21.3			C	0.1	0.1	07/11/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/14/17 21:00	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	54		*	mg/L	10	20	07/10/17 14:41	che
Sulfate	D516-02/-07 - Turbidimetric	1	32.5			mg/L	1	5	07/17/17 15:06	jmm
TDS (calculated)	Calculation		41.7			mg/L			07/20/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.29						07/20/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L38237-07***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/14/17 14:30	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	9.63		*	mg/L	0.03	0.2	07/17/17 18:30	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0019	B		mg/L	0.0004	0.002	07/18/17 21:35	msh
Arsenic, dissolved	M200.8 ICP-MS	1	1.03			mg/L	0.0002	0.001	07/18/17 21:35	msh
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.003	0.02	07/17/17 18:30	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00073			mg/L	0.00005	0.0003	07/18/17 21:35	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:30	aeh
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:30	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	07/18/17 21:35	msh
Calcium, dissolved	M200.7 ICP	1	0.3	B	*	mg/L	0.1	0.5	07/17/17 18:30	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:30	aeh
Cobalt, dissolved	M200.7 ICP	1	0.01	B	*	mg/L	0.01	0.05	07/17/17 18:30	aeh
Copper, dissolved	M200.7 ICP	1	0.09		*	mg/L	0.01	0.05	07/17/17 18:30	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:30	aeh
Iron, dissolved	M200.7 ICP	1	74.3		*	mg/L	0.02	0.05	07/17/17 18:30	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0014			mg/L	0.0001	0.0005	07/18/17 21:35	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/17/17 18:30	aeh
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	07/17/17 18:30	aeh
Manganese, dissolved	M200.7 ICP	1	0.030		*	mg/L	0.005	0.03	07/17/17 18:30	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/12/17 15:43	sck
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/17/17 18:30	aeh
Nickel, dissolved	M200.7 ICP	1	0.013	B	*	mg/L	0.008	0.04	07/17/17 18:30	aeh
Potassium, dissolved	M200.7 ICP	1	1.6		*	mg/L	0.2	1	07/17/17 18:30	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:30	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	07/18/17 21:35	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/17/17 18:30	aeh
Sodium, dissolved	M200.7 ICP	1	0.7	B	*	mg/L	0.2	1	07/17/17 18:30	aeh
Strontium, dissolved	M200.7 ICP	1	0.009	B	*	mg/L	0.005	0.03	07/17/17 18:30	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0013			mg/L	0.0001	0.0005	07/18/17 21:35	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:30	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:30	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0029			mg/L	0.0001	0.0005	07/18/17 21:35	msh
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:30	aeh
Zinc, dissolved	M200.7 ICP	1	0.21		*	mg/L	0.01	0.05	07/17/17 18:30	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: GMC-014 (176-184)

ACZ Sample ID: ***L38237-07***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/11/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-11.3			%			07/20/17 0:00	calc
Sum of Anions			6.4			meq/L			07/20/17 0:00	calc
Sum of Cations			5.1			meq/L			07/20/17 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	07/19/17 9:27	jmm
Conductivity @25C	SM2510B	1	1260		*	umhos/cm	1	10	07/11/17 21:22	emk
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	07/13/17 12:19	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.749	B		mg/L	0.2	5	07/20/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.03	B	*	mg/L	0.02	0.1	07/15/17 0:50	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/13/17 12:02	bce
pH (lab)	SM4500H+ B									
pH		1	2.6	H	*	units	0.1	0.1	07/11/17 0:00	emk
pH measured at		1	21.4			C	0.1	0.1	07/11/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.18		*	mg/L	0.02	0.05	07/14/17 21:04	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	480		*	mg/L	10	20	07/10/17 14:42	che
Sulfate	D516-02/-07 - Turbidimetric	20	303			mg/L	20	100	07/17/17 15:12	jmm
TDS (calculated)	Calculation		390			mg/L			07/20/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.23						07/20/17 0:00	calc

Arizona license number: AZ0102

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L38237-08***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/14/17 14:38	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.2	07/17/17 18:33	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/18/17 21:45	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0038			mg/L	0.0002	0.001	07/18/17 21:45	msh
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.003	0.02	07/17/17 18:33	aeh
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/18/17 21:45	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:33	aeh
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:33	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/18/17 21:45	msh
Calcium, dissolved	M200.7 ICP	1	0.6		*	mg/L	0.1	0.5	07/17/17 18:33	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:33	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:33	aeh
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:33	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:33	aeh
Iron, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.02	0.05	07/17/17 18:33	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0005	07/18/17 21:45	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/17/17 18:33	aeh
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	07/17/17 18:33	aeh
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:33	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/12/17 15:44	sck
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/17/17 18:33	aeh
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/17/17 18:33	aeh
Potassium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	07/17/17 18:33	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:33	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.0001	0.0003	07/18/17 21:45	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/17/17 18:33	aeh
Sodium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	07/17/17 18:33	aeh
Strontium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:33	aeh
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/18/17 21:45	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:33	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:33	aeh
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/18/17 21:45	msh
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:33	aeh
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:33	aeh

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-001 (380-400)

ACZ Sample ID: ***L38237-08***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/11/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			07/20/17 0:00	calc
Sum of Anions				U		meq/L			07/20/17 0:00	calc
Sum of Cations				U		meq/L			07/20/17 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	07/19/17 9:33	jmm
Conductivity @25C	SM2510B	1	5.8	B	*	umhos/cm	1	10	07/11/17 21:29	emk
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	07/13/17 12:30	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	07/20/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/15/17 0:55	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/13/17 12:06	bce
pH (lab)	SM4500H+ B									
pH		1	5.3	H	*	units	0.1	0.1	07/11/17 0:00	emk
pH measured at		1	21.7			C	0.1	0.1	07/11/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/14/17 21:05	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	07/10/17 14:43	che
Sulfate	D516-02/-07 - Turbidimetric	1		U		mg/L	1	5	07/17/17 15:07	jmm
TDS (calculated)	Calculation		1.23			mg/L			07/20/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						07/20/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L38237-09***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/14/17 14:46	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.2	07/17/17 18:36	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/18/17 21:47	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0031			mg/L	0.0002	0.001	07/18/17 21:47	msh
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.003	0.02	07/17/17 18:36	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00013	B		mg/L	0.00005	0.0003	07/18/17 21:47	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:36	aeh
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:36	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/18/17 21:47	msh
Calcium, dissolved	M200.7 ICP	1	0.6		*	mg/L	0.1	0.5	07/17/17 18:36	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:36	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:36	aeh
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:36	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:36	aeh
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.05	07/17/17 18:36	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	07/18/17 21:47	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/17/17 18:36	aeh
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	07/17/17 18:36	aeh
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:36	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/12/17 15:45	sck
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/17/17 18:36	aeh
Nickel, dissolved	M200.7 ICP	1	0.114		*	mg/L	0.008	0.04	07/17/17 18:36	aeh
Potassium, dissolved	M200.7 ICP	1	0.2	B	*	mg/L	0.2	1	07/17/17 18:36	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:36	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0009			mg/L	0.0001	0.0003	07/18/17 21:47	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/17/17 18:36	aeh
Sodium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	07/17/17 18:36	aeh
Strontium, dissolved	M200.7 ICP	1	0.006	B	*	mg/L	0.005	0.03	07/17/17 18:36	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0008			mg/L	0.0001	0.0005	07/18/17 21:47	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:36	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:36	aeh
Uranium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/18/17 21:47	msh
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:36	aeh
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:36	aeh

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CAL-002 (177-187)

ACZ Sample ID: ***L38237-09***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/11/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			07/20/17 0:00	calc
Sum of Anions				U		meq/L			07/20/17 0:00	calc
Sum of Cations				U		meq/L			07/20/17 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	07/19/17 9:33	jmm
Conductivity @25C	SM2510B	1	20.7		*	umhos/cm	1	10	07/11/17 21:34	emk
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	07/13/17 12:34	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1.5	B		mg/L	0.2	5	07/20/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/15/17 0:56	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/13/17 12:08	bce
pH (lab)	SM4500H+ B									
pH		1	4.9	H	*	units	0.1	0.1	07/11/17 0:00	emk
pH measured at		1	22.1			C	0.1	0.1	07/11/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/14/17 21:06	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	07/10/17 14:47	che
Sulfate	D516-02/-07 - Turbidimetric	1	3.6	B		mg/L	1	5	07/17/17 15:07	jmm
TDS (calculated)	Calculation		5.01			mg/L			07/20/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						07/20/17 0:00	calc

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L38237-10***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								07/11/17 16:50	wtc
Cyanide, WAD	SM4500-CN I- distillation				*				07/12/17 9:07	jdk
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/14/17 14:54	jdk

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.72		*	mg/L	0.03	0.2	07/17/17 18:52	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/18/17 21:49	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0006	B		mg/L	0.0002	0.001	07/18/17 21:49	msh
Barium, dissolved	M200.7 ICP	1	0.065		*	mg/L	0.003	0.02	07/17/17 18:52	aeh
Beryllium, dissolved	M200.8 ICP-MS	1	0.00017	B		mg/L	0.00005	0.0003	07/18/17 21:49	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:52	aeh
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:52	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	07/18/17 21:49	msh
Calcium, dissolved	M200.7 ICP	1	0.3	B	*	mg/L	0.1	0.5	07/17/17 18:52	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:52	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/17/17 18:52	aeh
Copper, dissolved	M200.7 ICP	1	0.08		*	mg/L	0.01	0.05	07/17/17 18:52	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:52	aeh
Iron, dissolved	M200.7 ICP	1	0.05		*	mg/L	0.02	0.05	07/17/17 18:52	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	07/18/17 21:49	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/17/17 18:52	aeh
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	07/17/17 18:52	aeh
Manganese, dissolved	M200.7 ICP	1	0.029	B	*	mg/L	0.005	0.03	07/17/17 18:52	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/12/17 15:46	sck
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/17/17 18:52	aeh
Nickel, dissolved	M200.7 ICP	1	0.008	B	*	mg/L	0.008	0.04	07/17/17 18:52	aeh
Potassium, dissolved	M200.7 ICP	1	1.8		*	mg/L	0.2	1	07/17/17 18:52	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/17/17 18:52	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	07/18/17 21:49	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/17/17 18:52	aeh
Sodium, dissolved	M200.7 ICP	1	0.4	B	*	mg/L	0.2	1	07/17/17 18:52	aeh
Strontium, dissolved	M200.7 ICP	1	0.018	B	*	mg/L	0.005	0.03	07/17/17 18:52	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0011			mg/L	0.0001	0.0005	07/18/17 21:49	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/17/17 18:52	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:52	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	07/18/17 21:49	msh
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/17/17 18:52	aeh
Zinc, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.01	0.05	07/17/17 18:52	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 3981
Sample ID: CALICO LEACH RES. AFTER CN DESTRUCT

ACZ Sample ID: ***L38237-10***
Date Sampled: *07/05/17 00:00*
Date Received: *07/06/17*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Carbonate as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	07/11/17 0:00	emk
Total Alkalinity		1		U	*	mg/L	2	20	07/11/17 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			07/20/17 0:00	calc
Sum of Anions			0.434	B		meq/L			07/20/17 0:00	calc
Sum of Cations			0.168	B		meq/L			07/20/17 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	07/19/17 9:33	jmm
Conductivity @25C	SM2510B	1	128		*	umhos/cm	1	10	07/11/17 22:08	emk
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/11/17 20:52	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/12/17 22:12	pjb
Fluoride	SM4500F-C	200		U	*	mg/L	10	50	07/13/17 12:38	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		0.749	B		mg/L	0.2	5	07/20/17 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/15/17 0:57	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/13/17 12:09	bce
pH (lab)	SM4500H+ B									
pH		1	3.6	H	*	units	0.1	0.1	07/11/17 0:00	emk
pH measured at		1	21.9			C	0.1	0.1	07/11/17 0:00	emk
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	07/14/17 21:07	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	44		*	mg/L	10	20	07/10/17 14:48	che
Sulfate	D516-02/-07 - Turbidimetric	1	20.0			mg/L	1	5	07/17/17 15:07	jmm
TDS (calculated)	Calculation		23.9			mg/L			07/20/17 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.84						07/20/17 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc.

ACZ Project ID: ***L38237***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426575													
WG426575PBW1	PBW	07/11/17 16:15				U	mg/L		-20	20			
WG426575LCSW3	LCSW	07/11/17 16:32	WC170630-1	820.0001		780	mg/L	95	90	110			
WG426575LCSW6	LCSW	07/11/17 19:37	WC170630-1	820.0001		796	mg/L	97	90	110			
WG426575PBW2	PBW	07/11/17 19:44				U	mg/L		-20	20			
L38237-09DUP	DUP	07/11/17 21:39			U	U	mg/L				0	20	RA
WG426575LCSW9	LCSW	07/11/17 21:56	WC170630-1	820.0001		797	mg/L	97	90	110			
WG426575PBW3	PBW	07/11/17 22:04				U	mg/L		-20	20			
L38243-03DUP	DUP	07/11/17 23:58			32.2	32.1	mg/L				0	20	
WG426575LCSW12	LCSW	07/12/17 1:41	WC170630-1	820.0001		798	mg/L	97	90	110			
WG426575PBW4	PBW	07/12/17 1:49				U	mg/L		-20	20			
WG426575LCSW15	LCSW	07/12/17 4:39	WC170630-1	820.0001		799	mg/L	97	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		2.05	mg/L	103	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.09	0.09			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.9816666		1.015	mg/L	103	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.9816666	U	1.058	mg/L	108	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.9816666	U	1.03	mg/L	105	85	115	3	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	.9816666	U	1.029	mg/L	105	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.9816666	U	1.029	mg/L	105	85	115	0	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426993													
WG426993ICV	ICV	07/18/17 20:57	MS170420-2	.02		.02068	mg/L	103	90	110			
WG426993ICB	ICB	07/18/17 20:59				U	mg/L		-0.0012	0.0012			
WG426993LFB	LFB	07/18/17 21:01	MS170524-3	.009980001		.00994	mg/L	100	85	115			
L38235-03AS	AS	07/18/17 21:09	MS170524-3	.009980001	U	.00927	mg/L	93	70	130			
L38235-03ASD	ASD	07/18/17 21:11	MS170524-3	.009980001	U	.00941	mg/L	94	70	130	1	20	
L38237-07AS	AS	07/18/17 21:37	MS170524-3	.009980001	.0019	.01086	mg/L	90	70	130			
L38237-07ASD	ASD	07/18/17 21:39	MS170524-3	.009980001	.0019	.01116	mg/L	93	70	130	3	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426993													
WG426993ICV	ICV	07/18/17 20:57	MS170420-2	.05		.05217	mg/L	104	90	110			
WG426993ICB	ICB	07/18/17 20:59				U	mg/L		-0.0006	0.0006			
WG426993LFB	LFB	07/18/17 21:01	MS170524-3	.0501		.05177	mg/L	103	85	115			
L38235-03AS	AS	07/18/17 21:09	MS170524-3	.0501	.0003	.0522	mg/L	104	70	130			
L38235-03ASD	ASD	07/18/17 21:11	MS170524-3	.0501	.0003	.05276	mg/L	105	70	130	1	20	
L38237-07AS	AS	07/18/17 21:37	MS170524-3	.0501	1.03	1.06897	mg/L	78	70	130			
L38237-07ASD	ASD	07/18/17 21:39	MS170524-3	.0501	1.03	1.08679	mg/L	113	70	130	2	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L38237***

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		2.0388	mg/L	102	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.009	0.009			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.5015		.4928	mg/L	98	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.5015	.02	.5244	mg/L	101	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.5015	.02	.5125	mg/L	98	85	115	2	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	.5015	U	.4991	mg/L	100	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.5015	U	.4995	mg/L	100	85	115	0	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426993													
WG426993ICV	ICV	07/18/17 20:57	MS170420-2	.05		.049511	mg/L	99	90	110			
WG426993ICB	ICB	07/18/17 20:59				.000084	mg/L		-0.00015	0.00015			
WG426993LFB	LFB	07/18/17 21:01	MS170524-3	.05035		.049627	mg/L	99	85	115			
L38235-03AS	AS	07/18/17 21:09	MS170524-3	.05035	.01728	.062787	mg/L	90	70	130			
L38235-03ASD	ASD	07/18/17 21:11	MS170524-3	.05035	.01728	.063155	mg/L	91	70	130	1	20	
L38237-07AS	AS	07/18/17 21:37	MS170524-3	.05035	.00073	.046767	mg/L	91	70	130			
L38237-07ASD	ASD	07/18/17 21:39	MS170524-3	.05035	.00073	.047404	mg/L	93	70	130	1	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		2.021	mg/L	101	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.12	0.12			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	1		1.036	mg/L	104	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	1	U	1.061	mg/L	106	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	1	U	1.041	mg/L	104	85	115	2	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	1	U	1.037	mg/L	104	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	1	U	1.039	mg/L	104	85	115	0	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		2.036	mg/L	102	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.03	0.03			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.5005		.511	mg/L	102	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.5005	1.13	1.618	mg/L	98	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.5005	1.13	1.583	mg/L	91	85	115	2	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	.5005	U	.512	mg/L	102	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.5005	U	.506	mg/L	101	85	115	1	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L38237***

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426993													
WG426993ICV	ICV	07/18/17 20:57	MS170420-2	.05		.05261	mg/L	105	90	110			
WG426993ICB	ICB	07/18/17 20:59				U	mg/L		-0.0003	0.0003			
WG426993LFB	LFB	07/18/17 21:01	MS170524-3	.05005		.05075	mg/L	101	85	115			
L38235-03AS	AS	07/18/17 21:09	MS170524-3	.05005	.0195	.06925	mg/L	99	70	130			
L38235-03ASD	ASD	07/18/17 21:11	MS170524-3	.05005	.0195	.07004	mg/L	101	70	130	1	20	
L38237-07AS	AS	07/18/17 21:37	MS170524-3	.05005	.0005	.04993	mg/L	99	70	130			
L38237-07ASD	ASD	07/18/17 21:39	MS170524-3	.05005	.0005	.05081	mg/L	101	70	130	2	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	100		100.38	mg/L	100	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.3	0.3			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	66.65711		67.99	mg/L	102	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	66.65711	32.7	100.3	mg/L	101	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	66.65711	32.7	98.65	mg/L	99	85	115	2	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	66.65711	.6	68.65	mg/L	102	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	66.65711	.6	68.87	mg/L	102	85	115	0	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG427090													
WG427090ICB	ICB	07/19/17 8:32				U	mg/L		-1.5	1.5			
WG427090ICV	ICV	07/19/17 8:32	WI170703-2	55.165		60.49	mg/L	110	90	110			
WG427090LFB1	LFB	07/19/17 9:24	WI170630-1	30.03		31.38	mg/L	104	90	110			
L38235-03AS	AS	07/19/17 9:26	WI170630-1	30.03	14.2	46.69	mg/L	108	90	110			
L38235-04DUP	DUP	07/19/17 9:26			18.4	18.2	mg/L				1	20	
WG427090LFB2	LFB	07/19/17 9:27	WI170630-1	30.03		30.55	mg/L	102	90	110			
L38243-03AS	AS	07/19/17 9:34	WI170630-1	30.03	.7	33.01	mg/L	108	90	110			
L38243-04DUP	DUP	07/19/17 9:46			.8	.67	mg/L				18	20	RA

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		1.984	mg/L	99	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.03	0.03			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.5025		.498	mg/L	99	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.5025	U	.504	mg/L	100	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.5025	U	.494	mg/L	98	85	115	2	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	.5025	U	.499	mg/L	99	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.5025	U	.499	mg/L	99	85	115	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L38237***

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2.002		1.921	mg/L	96	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.03	0.03			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.5025		.489	mg/L	97	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.5025	U	.502	mg/L	100	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.5025	U	.496	mg/L	99	85	115	1	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	.5025	U	.495	mg/L	99	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.5025	U	.49	mg/L	98	85	115	1	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426575													
WG426575LCSW2	LCSW	07/11/17 16:20	PCN53322	1408		1430	umhos/cm	102	90	110			
WG426575LCSW5	LCSW	07/11/17 19:24	PCN53322	1408		1360	umhos/cm	97	90	110			
L38237-09DUP	DUP	07/11/17 21:39			20.7	19.5	umhos/cm				6	20	
WG426575LCSW8	LCSW	07/11/17 21:43	PCN53322	1408		1360	umhos/cm	97	90	110			
L38243-03DUP	DUP	07/11/17 23:58			74.5	74	umhos/cm				1	20	
WG426575LCSW11	LCSW	07/12/17 1:29	PCN53322	1408		1320	umhos/cm	94	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		2.027	mg/L	101	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.03	0.03			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.499		.491	mg/L	98	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.499	U	.502	mg/L	101	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.499	U	.496	mg/L	99	85	115	1	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	.499	U	.491	mg/L	98	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.499	U	.491	mg/L	98	85	115	0	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426592													
WG426592ICV	ICV	07/11/17 19:49	WI170629-6	.3006		.294	mg/L	98	90	110			
WG426592ICB	ICB	07/11/17 19:50				U	mg/L		-0.003	0.003			
WG426594													
WG426568LRB	LRB	07/11/17 20:37				U	mg/L		-0.003	0.003			
WG426568LFB	LFB	07/11/17 20:38	WI170629-2	.2		.181	mg/L	91	90	110			
L38251-03LFM	LFM	07/11/17 21:01	WI170629-2	.2	U	.1918	mg/L	96	90	110			
L38251-04DUP	DUP	07/11/17 21:03			U	U	mg/L				0	20	RA

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ACZ Project ID: ***L38237***

Cyanide, WAD — SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426696													
WG426696ICV	ICV	07/12/17 22:08	WI170629-6	.3006		.3081	mg/L	102	90	110			
WG426696ICB	ICB	07/12/17 22:09				U	mg/L		-0.003	0.003			
WG426601LRB	LRB	07/12/17 22:10				U	mg/L		-0.003	0.003			
WG426601LFB	LFB	07/12/17 22:11	WI170629-4	.2004		.1977	mg/L	99	90	110			
L38243-04DUP	DUP	07/12/17 22:14			U	U	mg/L				0	20	RA
L38244-01LFM	LFM	07/12/17 22:15	WI170629-4	.2004	U	.1957	mg/L	98	90	110			

Fluoride — SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426714													
WG426714ICV	ICV	07/13/17 10:21	WC170710-8	2.006		2.09	mg/L	104	95	105			
WG426714ICB	ICB	07/13/17 10:26				.073	mg/L		-0.15	0.15			
WG426714LFB1	LFB	07/13/17 10:32	WC170320-7	4.995		5.073	mg/L	102	90	110			
L38237-03AS	AS	07/13/17 12:01	WC170320-7	999	U	858	mg/L	86	90	110			M2
L38237-03DUP	DUP	07/13/17 12:05			U	27	mg/L				200	20	RA
WG426714LFB2	LFB	07/13/17 12:51	WC170320-7	4.995		5.049	mg/L	101	90	110			
WG426818													
WG426818ICV	ICV	07/14/17 13:30	WC170710-8	2.006		2.095	mg/L	104	95	105			
WG426818ICB	ICB	07/14/17 13:34				.079	mg/L		-0.15	0.15			
WG426818LFB1	LFB	07/14/17 13:41	WC170320-7	4.995		5.173	mg/L	104	90	110			
L38235-01AS	AS	07/14/17 13:55	WC170320-7	399.6	6	396.5	mg/L	98	90	110			
L38235-01DUP	DUP	07/14/17 13:59			6	10.8	mg/L				57	20	RA
WG426818LFB2	LFB	07/14/17 16:05	WC170320-7	4.995		5.274	mg/L	106	90	110			

Gallium, dissolved — M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		2.01	mg/L	101	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.3	0.3			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	1		1	mg/L	100	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	1	U	1.05	mg/L	105	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	1	U	.99	mg/L	99	85	115	6	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	1	U	1.01	mg/L	101	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	1	U	1.04	mg/L	104	85	115	3	20	

Iron, dissolved — M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		1.974	mg/L	99	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.06	0.06			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	1.0017		.975	mg/L	97	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	1.0017	U	1.013	mg/L	101	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	1.0017	U	.989	mg/L	99	85	115	2	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	1.0017	U	1.005	mg/L	100	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	1.0017	U	.996	mg/L	99	85	115	1	20	

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ACZ Project ID: ***L38237***

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426993													
WG426993ICV	ICV	07/18/17 20:57	MS170420-2	.05		.05342	mg/L	107	90	110			
WG426993ICB	ICB	07/18/17 20:59				.00012	mg/L		-0.0003	0.0003			
WG426993LFB	LFB	07/18/17 21:01	MS170524-3	.0501		.05041	mg/L	101	85	115			
L38235-03AS	AS	07/18/17 21:09	MS170524-3	.0501	.0004	.05092	mg/L	101	70	130			
L38235-03ASD	ASD	07/18/17 21:11	MS170524-3	.0501	.0004	.05143	mg/L	102	70	130	1	20	
L38237-07AS	AS	07/18/17 21:37	MS170524-3	.0501	.0014	.05123	mg/L	99	70	130			
L38237-07ASD	ASD	07/18/17 21:39	MS170524-3	.0501	.0014	.05174	mg/L	100	70	130	1	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		2.0115	mg/L	101	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.024	0.024			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	1.001		.9795	mg/L	98	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	1.001	.09	1.1	mg/L	101	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	1.001	.09	1.07	mg/L	98	85	115	3	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	1.001	U	.9836	mg/L	98	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	1.001	U	.9805	mg/L	98	85	115	0	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	100		100.44	mg/L	100	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.6	0.6			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	49.01625		45.49	mg/L	93	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	49.01625	4.7	50.85	mg/L	94	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	49.01625	4.7	50.09	mg/L	93	85	115	2	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	49.01625	U	45.77	mg/L	93	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	49.01625	U	45.81	mg/L	93	85	115	0	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		1.9382	mg/L	97	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.015	0.015			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.5		.4851	mg/L	97	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.5	U	.4947	mg/L	99	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.5	U	.4839	mg/L	97	85	115	2	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	.5	U	.4961	mg/L	99	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.5	U	.4958	mg/L	99	85	115	0	20	

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ACZ Project ID: ***L38237***

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426606													
WG426606ICV	ICV	07/12/17 14:13	HG170622-1	.005005		.00498	mg/L	100	95	105			
WG426606ICB	ICB	07/12/17 14:14				U	mg/L		-0.0002	0.0002			
WG426610													
WG426610LRB	LRB	07/12/17 15:29				U	mg/L		-0.00044	0.00044			
WG426610LFB	LFB	07/12/17 15:30	HG170710-3	.002002		.00183	mg/L	91	85	115			
L38237-05LFM	LFM	07/12/17 15:40	HG170710-3	.002002	U	.00183	mg/L	91	85	115			
L38237-05LFMD	LFMD	07/12/17 15:41	HG170710-3	.002002	U	.00189	mg/L	94	85	115	3	20	
L38275-01LFM	LFM	07/12/17 15:54	HG170710-3	.002002	U	.00186	mg/L	93	85	115			
L38275-01LFMD	LFMD	07/12/17 15:55	HG170710-3	.002002	U	.00183	mg/L	91	85	115	2	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		2.082	mg/L	104	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.06	0.06			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.4887255		.506	mg/L	104	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.4887255	.03	.55	mg/L	106	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.4887255	.03	.536	mg/L	104	85	115	3	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	.4887255	U	.507	mg/L	104	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.4887255	U	.507	mg/L	104	85	115	0	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2.002		2.0557	mg/L	103	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.024	0.024			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.498		.4934	mg/L	99	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.498	.009	.5134	mg/L	101	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.498	.009	.4987	mg/L	98	85	115	3	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	.498	.114	.6043	mg/L	98	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.498	.114	.5988	mg/L	97	85	115	1	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426872													
WG426872ICV	ICV	07/14/17 21:00	WI170613-1	2.416		2.347	mg/L	97	90	110			
WG426872ICB	ICB	07/14/17 21:01				U	mg/L		-0.02	0.02			
WG426878													
WG426878LFB	LFB	07/15/17 0:38	WI170705-5	2		1.978	mg/L	99	90	110			
L38237-01AS	AS	07/15/17 0:41	WI170705-5	2	U	2.002	mg/L	100	90	110			
L38237-02DUP	DUP	07/15/17 0:43			U	U	mg/L				0	20	RA

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ACZ Project ID: ***L38237***

Nitrogen, ammonia — M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426720													
WG426720ICV	ICV	07/13/17 11:46	WI170706-6	11.988		11.827	mg/L	99	90	110			
WG426720ICB	ICB	07/13/17 11:48				U	mg/L		-0.05	0.05			
WG426720LFB1	LFB	07/13/17 11:49	WI170420-10	10		10.068	mg/L	101	90	110			
L38237-01AS	AS	07/13/17 11:52	WI170420-10	10	U	10.278	mg/L	103	90	110			
L38237-02DUP	DUP	07/13/17 11:55			U	U	mg/L				0	20	RA
WG426720LFB2	LFB	07/13/17 12:33	WI170420-10	10		10.64	mg/L	106	90	110			

pH (lab) — SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426575													
WG426575LCSW1	LCSW	07/11/17 16:18	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG426575LCSW4	LCSW	07/11/17 19:22	PCN51287	6.01		6.1	units	101	5.9	6.1			
L38237-09DUP	DUP	07/11/17 21:39			4.9	4.8	units				2	20	
WG426575LCSW7	LCSW	07/11/17 21:42	PCN51287	6.01		6.1	units	101	5.9	6.1			
L38243-03DUP	DUP	07/11/17 23:58			7.7	7.7	units				0	20	
WG426575LCSW10	LCSW	07/12/17 1:27	PCN51287	6.01		6.1	units	101	5.9	6.1			
WG426575LCSW13	LCSW	07/12/17 4:25	PCN51287	6.01		6.1	units	101	5.9	6.1			

Phosphorus, total — M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426871													
WG426871ICV	ICV	07/14/17 19:38	WI170620-1	.6523		.615	mg/L	94	90	110			
WG426871ICB	ICB	07/14/17 19:41				U	mg/L		-0.02	0.02			
WG426873													
WG426846LRB	LRB	07/14/17 20:50				U	mg/L		-0.02	0.02			
WG426846LFB	LFB	07/14/17 20:51	WI170710-2	.5		.45	mg/L	90	90	110			
L38237-01LFM	LFM	07/14/17 20:54	WI170710-2	.5	U	.471	mg/L	94	90	110			
L38237-02DUP	DUP	07/14/17 20:56			U	U	mg/L				0	20	RA

Potassium, dissolved — M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	20		20.17	mg/L	101	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.6	0.6			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	98.03812		98.03	mg/L	100	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	98.03812	3.9	104.1	mg/L	102	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	98.03812	3.9	102.1	mg/L	100	85	115	2	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	98.03812	.2	98.93	mg/L	101	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	98.03812	.2	99.06	mg/L	101	85	115	0	20	

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ACZ Project ID: ***L38237***

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426449													
WG426449PBW	PBW	07/10/17 14:15				U	mg/L		-20	20			
WG426449LCSW	LCSW	07/10/17 14:16	PCN53699	260		240	mg/L	92	80	120			
L38237-08DUP	DUP	07/10/17 14:44			U	U	mg/L				0	10	QF RA
WG426452													
WG426452PBW	PBW	07/10/17 14:45				U	mg/L		-20	20			
WG426452LCSW	LCSW	07/10/17 14:46	PCN53699	260		254	mg/L	98	80	120			
L38257-01DUP	DUP	07/10/17 15:00			3450	3490	mg/L				1	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		2.02	mg/L	101	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.3	0.3			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.9868		1	mg/L	101	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.9868	U	1.02	mg/L	103	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.9868	U	1	mg/L	101	85	115	2	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	.9868	U	1.01	mg/L	102	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.9868	U	1.01	mg/L	102	85	115	0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426993													
WG426993ICV	ICV	07/18/17 20:57	MS170420-2	.05		.05117	mg/L	102	90	110			
WG426993ICB	ICB	07/18/17 20:59				U	mg/L		-0.0003	0.0003			
WG426993LFB	LFB	07/18/17 21:01	MS170524-3	.05005		.04838	mg/L	97	85	115			
L38235-03AS	AS	07/18/17 21:09	MS170524-3	.05005	.0016	.05132	mg/L	99	70	130			
L38235-03ASD	ASD	07/18/17 21:11	MS170524-3	.05005	.0016	.05174	mg/L	100	70	130	1	20	
L38237-07AS	AS	07/18/17 21:37	MS170524-3	.05005	.0003	.04759	mg/L	94	70	130			
L38237-07ASD	ASD	07/18/17 21:39	MS170524-3	.05005	.0003	.04793	mg/L	95	70	130	1	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	1.002		1.046	mg/L	104	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.03	0.03			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.5		.439	mg/L	88	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.5	U	.324	mg/L	65	85	115			M2 ZA
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.5	U	.324	mg/L	65	85	115	0	20	M2 ZA
L38237-09AS	AS	07/17/17 18:45	II170629-3	.5	U	.321	mg/L	64	85	115			M2 ZA
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.5	U	.301	mg/L	60	85	115	6	20	M2 ZA

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ACZ Project ID: ***L38237***

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	100		101.78	mg/L	102	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.6	0.6			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	98.05919		98.27	mg/L	100	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	98.05919	274	362.7	mg/L	90	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	98.05919	274	358.6	mg/L	86	85	115	1	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	98.05919	U	99.09	mg/L	101	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	98.05919	U	98.97	mg/L	101	85	115	0	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		2.0195	mg/L	101	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.015	0.015			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.4916667		.4935	mg/L	100	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.4916667	1.12	1.597	mg/L	97	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.4916667	1.12	1.565	mg/L	91	85	115	2	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	.4916667	.006	.5017	mg/L	101	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.4916667	.006	.502	mg/L	101	85	115	0	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426950													
WG426950ICB	ICB	07/17/17 14:10				U	mg/L		-3	3			
WG426950ICV	ICV	07/17/17 14:10	WI170706-7	20		20.3	mg/L	102	90	110			
L38237-01DUP	DUP	07/17/17 15:05			32.9	32.7	mg/L				1	20	
L38237-02AS	AS	07/17/17 15:06	WI170131-8	9.99	14.2	23.9	mg/L	97	90	110			
WG426950LFB	LFB	07/17/17 15:16	WI170131-8	9.99		10.4	mg/L	104	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426993													
WG426993ICV	ICV	07/18/17 20:57	MS170420-2	.05		.05275	mg/L	106	90	110			
WG426993ICB	ICB	07/18/17 20:59				U	mg/L		-0.0003	0.0003			
WG426993LFB	LFB	07/18/17 21:01	MS170524-3	.0501		.0496	mg/L	99	85	115			
L38235-03AS	AS	07/18/17 21:09	MS170524-3	.0501	U	.05036	mg/L	101	70	130			
L38235-03ASD	ASD	07/18/17 21:11	MS170524-3	.0501	U	.05088	mg/L	102	70	130	1	20	
L38237-07AS	AS	07/18/17 21:37	MS170524-3	.0501	.0013	.05096	mg/L	99	70	130			
L38237-07ASD	ASD	07/18/17 21:39	MS170524-3	.0501	.0013	.05164	mg/L	100	70	130	1	20	

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ACZ Project ID: ***L38237***

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		2.055	mg/L	103	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.12	0.12			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.989		.99	mg/L	100	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.989	U	1.027	mg/L	104	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.989	U	.996	mg/L	101	85	115	3	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	.989	U	1.004	mg/L	102	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.989	U	.998	mg/L	101	85	115	1	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		2.039	mg/L	102	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.015	0.015			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	1.003		.9978	mg/L	99	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	1.003	U	1.028	mg/L	102	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	1.003	U	1	mg/L	100	85	115	3	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	1.003	U	1.004	mg/L	100	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	1.003	U	1.004	mg/L	100	85	115	0	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426993													
WG426993ICV	ICV	07/18/17 20:57	MS170420-2	.05		.05036	mg/L	101	90	110			
WG426993ICB	ICB	07/18/17 20:59				U	mg/L		-0.0003	0.0003			
WG426993LFB	LFB	07/18/17 21:01	MS170524-3	.05		.04913	mg/L	98	85	115			
L38235-03AS	AS	07/18/17 21:09	MS170524-3	.05	.0203	.06976	mg/L	99	70	130			
L38235-03ASD	ASD	07/18/17 21:11	MS170524-3	.05	.0203	.07058	mg/L	101	70	130	1	20	
L38237-07AS	AS	07/18/17 21:37	MS170524-3	.05	.0029	.05227	mg/L	99	70	130			
L38237-07ASD	ASD	07/18/17 21:39	MS170524-3	.05	.0029	.0526	mg/L	99	70	130	1	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		2.0282	mg/L	101	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.015	0.015			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.4887255		.4994	mg/L	102	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.4887255	U	.5097	mg/L	104	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.4887255	U	.4988	mg/L	102	85	115	2	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	.4887255	U	.4994	mg/L	102	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.4887255	U	.4979	mg/L	102	85	115	0	20	

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ACZ Project ID: ***L38237***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG426951													
WG426951ICV	ICV	07/17/17 17:10	II170712-2	2		1.969	mg/L	98	95	105			
WG426951ICB	ICB	07/17/17 17:16				U	mg/L		-0.03	0.03			
WG426951LFB	LFB	07/17/17 17:29	II170629-3	.4845098		.513	mg/L	106	85	115			
L38228-01AS	AS	07/17/17 17:58	II170629-3	.4845098	U	.529	mg/L	109	85	115			
L38228-01ASD	ASD	07/17/17 18:07	II170629-3	.4845098	U	.521	mg/L	108	85	115	2	20	
L38237-09AS	AS	07/17/17 18:45	II170629-3	.4845098	U	.519	mg/L	107	85	115			
L38237-09ASD	ASD	07/17/17 18:49	II170629-3	.4845098	U	.519	mg/L	107	85	115	0	20	

McClelland Laboratories, Inc.

ACZ Project ID: ***L38237***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38237-01	WG426951	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426993	Antimony, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Arsenic, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426993	Beryllium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426993	Cadmium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Chromium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426951	Copper, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426818	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426993	Lead, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Manganese, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426610	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Molybdenum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426878	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426720	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426575	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426846	Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426873		M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L38237***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
	WG426449	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426993	Selenium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426993	Thallium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426993	Uranium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Vanadium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38237-02	WG426951	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Chromium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426951	Copper, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426818	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Manganese, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426610	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Molybdenum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426878	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426720	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426575	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426846	Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426873		M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426449	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	Q5	Sample received with inadequate chemical preservation.

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ACZ Project ID: ***L38237***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					Additional preservation performed by the laboratory.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Vanadium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

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ACZ Project ID: ***L38237***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38237-03	WG426951	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Chromium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426951	Copper, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426714	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Manganese, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426610	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Molybdenum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426878	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426720	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426575	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426846	Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426873		M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426449	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Vanadium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38237-04	WG426951	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Chromium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426951	Copper, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426714	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Manganese, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426610	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Molybdenum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426878	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426720	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426575	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426846	Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426873		M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426449	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Vanadium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38237-05	WG426951	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Chromium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426951	Copper, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426714	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Manganese, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426610	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Molybdenum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426878	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426720	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426575	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426846	Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426873		M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426449	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Vanadium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38237-06	WG426951	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG427090	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Chromium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426951	Copper, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426714	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Manganese, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426610	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Molybdenum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426878	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426720	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426575	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426846	Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426873		M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426449	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
	WG426951	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Vanadium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38237-07	WG426951	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG427090	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Chromium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426951	Copper, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426714	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Manganese, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426610	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Molybdenum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426878	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426720	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426575	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426846	Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426873		M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426449	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
	WG426951	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Vanadium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

McClelland Laboratories, Inc.

ACZ Project ID: ***L38237***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38237-08	WG426951	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG427090	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Chromium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426951	Copper, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426714	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Manganese, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426610	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Molybdenum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426878	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426720	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426575	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426846	Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426873		M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426449	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc.

ACZ Project ID: ***L38237***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
	WG426951	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Vanadium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

McClelland Laboratories, Inc.

ACZ Project ID: ***L38237***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38237-09	WG426951	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG427090	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Chromium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426951	Copper, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426714	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Manganese, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426610	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Molybdenum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426878	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426720	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426575	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426846	Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426873		M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426452	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG426951	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Vanadium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

McClelland Laboratories, Inc.

ACZ Project ID: ***L38237***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L38237-10	WG426951	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG427090	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Chromium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426951	Copper, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426594	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426696	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426714	Fluoride	SM4500F-C	D1	Sample required dilution due to matrix.
			SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Manganese, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426610	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426951	Molybdenum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426878	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426720	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426575	pH	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426846	Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426873		M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG426951	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

McClelland Laboratories, Inc.

ACZ Project ID: ***L38237***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
	WG426452	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG426951	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
		Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG426575	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG426951	Vanadium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID: L38237
Date Received: 07/06/2017 10:18
Received By:
Date Printed: 7/6/2017

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA26383	4.6	<=6.0	14	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
3981

ACZ Project ID:	L38237
Date Received:	07/06/2017 10:18
Received By:	
Date Printed:	7/6/2017

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L38237

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	mli@mettest.com	Telephone:	775-356-1300

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [YES] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: 3981
Reporting state for compliance testing:
Sampler's Name: Robert
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Table 1/Attached	Total CN, EPA 335.4	WAD CN, SM 4500					
CAL-002 (86-95)	7/5/17	WW	1	x							
CAL-004 (860-875)		WW	1	x							
CAL-003 (675-685)		WW	1	x							
GMC-012 (832-851)		WW	1	x							
CAL-004 (295-315)		WW	1	x							
CAL-001 (750-762)		WW	1	x							
GMC-014 (176-184)		WW	1	x							
CAL-001 (380-400)		WW	1	x							
CAL-002 (177-187)		WW	1	x							
Calico Leach Res. after CN Destruct		WW	1	x	x	x					

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

3981 HC 1-10 WK: 84
See Attachment to C.O.C.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	7/5/17 9AM	[signature]	7/6/17 1020

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L38237 Chain of Custody

3981

Table 1: List of Analytes for Leach Tests

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction[2]
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury[3]	EPA 200.8	0.0001 mg/L	0.0001 mg/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate+Nitrite as N	EPA 353.2	0.02 mg/L	0.1 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

[1] WAD cyanide and total cyanide will be analyzed for the tailings sample only.

[2] As part of the MWMP ASTM method, the column extract is filtered with a 0.45 µm filter. Extract analyses are therefore considered dissolved and separate total metals analyses are not needed.

[3] HCT samples with mercury at concentrations below detection will be submitted every 8 weeks for low level mercury using Method 1631E (low level) to obtain a detection limit of 0.2 ng/L and 0.5 ng/L. MWMP extracts will be submitted for Method 1631E.

[redacted]

Analyses

Appendix E

Humidity Cell Test Termination Results

Appendix E1
McClelland Laboratories Report

Table . - Multi Element ICP Analytical Results,
Grassy Mountain Samples, Humidity Cell Residues

	Sample				
Analysis, mg/kg	CAL-002 (86-95)	CAL-004 (860-875)	CAL-003 (675-685)	GMC-012 (832-851)	CAL-004 (295-315)
Ag	0.15	3.82	4.72	1.79	1.05
Al	28,600	44,900	81,500	78,000	25,400
As	159.0	113.0	207	103.0	240
Ba	980	1,090	170	980	310
Be	2.44	0.73	2.70	1.09	1.42
Bi	0.12	0.15	0.40	0.26	0.13
Ca	200	400	700	200	400
Cd	0.08	0.05	0.02	<0.02	0.03
Ce	18.80	24.5	77.0	59.8	17.60
Co	1.3	4.3	0.7	0.6	1.0
Cr	181	83	14	57	144
Cs	5.01	4.57	23.3	14.10	11.45
Cu	6.5	14.2	2.6	4.1	8.3
Fe	8,500	6,800	12,900	15,800	12,200
Ga	5.95	8.88	42.0	28.8	23.3
Ge	0.06	0.08	0.11	0.10	<0.05
Hf	1.0	1.3	8.8	2.6	2.0
Hg	6.76	2.76	5.06	1.315	3.42
In	0.014	0.013	0.092	0.039	0.025
K	33,400	44,400	30,800	50,800	10,000
La	9.8	13.2	36.5	33.7	8.4
Li	148.5	96.7	70.4	55.8	129.0
Mg	100	500	7,300	1,100	2,100
Mn	26	49	211	60	53
Mo	4.90	16.75	47.0	25.4	11.90
Na	1,000	4,300	100	700	300
Nb	8.8	15.6	21.7	24.1	5.6
Ni	5.1	3.7	2.1	2.6	3.9
P	70	90	250	550	120
Pb	12.0	12.8	23.9	23.2	6.6
Rb	143.0	176.5	260	219	71.2
Re	<0.002	<0.002	0.003	<0.002	<0.002
S (Total)	1,600	1,100	8,800	6,500	300
Sb	95.3	32.5	80.6	27.8	75.7
Sc	1.4	2.2	10.3	4.8	3.7
Se	2	2	5	2	3
Sn	0.8	1.3	3.8	2.1	1.0
Sr	106.5	156.5	77.0	133.5	65.3
Ta	0.68	0.92	1.37	1.44	0.36
Te	<0.05	<0.05	<0.05	0.06	<0.05
Th	4.18	5.00	13.80	10.60	3.89
Ti	720	1,390	3,600	2,520	1,250
Tl	1.56	1.47	2.42	1.23	0.53
U	1.0	1.8	4.8	3.6	1.5
V	5	16	60	43	32
W	8.2	11.3	9.4	6.9	5.8
Y	4.0	5.7	34.0	8.9	8.0
Zn	22	15	24	9	19
Zr	29.5	39.6	285	85.2	63.4

ALS Minerals Report No. RE17159810

Mr. Michael McGinnis / **Calico Resources**
MLI Job No. 3981

Table . - Multi Element ICP Analytical Results,
Grassy Mountain Samples, Humidity Cell Residues

	Sample				
Analysis, mg/kg	CAL-001 (750-762)	GMC-014 (176-184)	CAL-001 (380-400)	CAL-002 (177-187)	Calico Leached Res after CN destruct
Ag	2.41	0.11	2.35	1.37	8.91
Al	53,200	83,800	6,500	13,300	38,500
As	66.2	395	32.1	46.6	173.5
Ba	740	660	180	300	710
Be	0.61	2.33	1.01	2.35	0.76
Bi	0.33	0.29	0.04	0.06	0.28
Ca	200	200	600	500	400
Cd	<0.02	<0.02	0.03	0.03	0.03
Ce	41.6	85.0	5.28	9.15	23.9
Co	0.9	0.9	0.7	1.2	0.9
Cr	67	29	284	168	49
Cs	11.80	26.4	5.32	8.36	3.98
Cu	22.4	6.5	6.6	5.8	17.2
Fe	12,000	15,000	3,400	4,800	13,600
Ga	9.02	29.7	8.53	16.35	7.28
Ge	0.10	0.13	<0.05	0.05	0.09
Hf	2.5	5.6	0.4	0.4	1.4
Hg	2.35	1.880	0.604	1.325	1.850
In	0.046	0.063	<0.005	0.007	0.018
K	50,600	31,800	3,900	10,300	41,100
La	24.8	41.1	2.9	4.7	11.9
Li	83.9	38.0	183.5	187.0	133.0
Mg	1,200	3,500	100	100	300
Mn	45	85	21	27	47
Mo	54.6	6.34	8.44	2.68	15.35
Na	600	400	300	1,600	2,500
Nb	17.0	20.6	2.5	3.4	9.5
Ni	3.3	2.1	15.8	9.4	5.2
P	80	370	10	30	140
Pb	20.9	23.7	2.2	4.0	12.8
Rb	208	179.0	21.5	47.2	168.5
Re	<0.002	<0.002	<0.002	<0.002	<0.002
S (Total)	4,900	7,500	400	600	2,000
Sb	14.30	71.3	41.2	84.5	28.1
Sc	3.1	9.9	0.4	0.8	2.3
Se	2	2	2	2	4
Sn	2.2	3.0	0.4	0.5	1.8
Sr	209	98.5	76.3	110.0	140.0
Ta	1.04	1.36	0.16	0.23	0.56
Te	<0.05	<0.05	<0.05	<0.05	<0.05
Th	9.31	13.85	0.84	1.74	4.16
Ti	1,720	3,630	380	340	950
Tl	1.20	1.82	0.32	1.33	1.05
U	3.4	4.5	0.2	0.4	1.7
V	23	51	7	6	16
W	7.8	10.2	12.6	10.7	5.6
Y	7.4	26.5	1.2	1.9	6.6
Zn	4	14	4	7	10
Zr	77.2	178.5	13.8	11.1	53.7

ALS Minerals Report No. RE17159810

Table . - Modified Acid/Base Accounting (Mod ABA) Static ARD Potential Test Results,
Grassy Mountain Samples, Humidity Cell Residues

Sample	Paste	Sulfur, weight percent (as S)									NAG	NAG pH, kg H_2SO_4/T		Sulfur, weight percent (as S) - HCl Wash		
I.D.	pH	Total	SO_4	Pyritic $S^{=}$	Non-Ext S	Non Sulfate S	AGP[1)]	ANP	NNP	Ratio	pH	@ 4.5	@ 7	SO_4	Pyritic $S^{=}$	Non Sulfate S
CAL-002 (86-95)	5.6	0.15	0.10	0.05	<0.01	0.05	1.6	1.5	-0.1	0.94	2.35	3.1	22.9	0.06	0.09	0.09
CAL-004 (860-875)	5.4	0.09	0.07	0.02	<0.01	0.02	0.6	2.0	1.4	3.33	3.99	0.6	34.5	0.07	0.02	0.02
CAL-003 (675-685)	2.7	0.87	0.42	0.43	0.03	0.46	13.4	<0.3	-13.4	<0.02	2.41	18.0	7.1	0.66	0.18	0.22
GMC-012 (832-851)	4.0	0.67	0.19	0.48	<0.01	0.48	15.0	<0.3	-15.0	<0.02	2.32	4.5	28.0	0.58	0.09	0.09
CAL-004 (295-315)	3.8	0.02	0.02	<0.01	<0.01	<0.01	<0.3	<0.3	0.0	N/A	3.22	1.2	35.5	0.02	<0.01	<0.01
CAL-001 (750-762)	5.0	0.48	0.17	0.31	<0.01	0.31	9.7	<0.3	-9.7	<0.03	2.32	5.1	10.8	0.33	0.15	0.15
GMC-014 (176-184)	3.2	0.76	0.11	0.65	<0.01	0.65	20.3	<0.3	-20.3	<0.01	2.43	16.7	8.6	0.32	0.44	0.44
CAL-001 (380-400)	6.4	0.03	0.03	<0.01	<0.01	<0.01	<0.3	3.0	3.0	>10	4.17	0.4	33.3	0.02	0.01	0.01
CAL-002 (177-187)	5.8	0.05	0.03	0.02	<0.01	0.02	0.6	2.5	1.9	4.17	3.56	1.2	34.7	0.02	0.03	0.03
Calico Leached Res after CN destruct	4.1	0.19	0.16	0.03	<0.01	0.03	0.9	1.0	0.1	1.11	3.00	2.0	31.4	0.16	0.03	0.03

1) AGP based on Pyritic $S^{=}$ content (%$S^{=}$ x 31.25). AGP, ANP and NNP in units of tons $CaCO_3$ equivalents per 1000 tons of solids.

Analytical Report No. X7H0118

Appendix E2
ALS Minerals Report

ALS USA Inc.
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To: MCCLELLAND LABS
1016 GREG ST
SPARKS NV 89431

Finalized Date: 12- AUG- 2017
Account: EIM

CERTIFICATE RE17159810

Project: 3981

This report is for 10 Pulp samples submitted to our lab in Reno, NV, USA on 1- AUG- 2017.

The following have access to data associated with this certificate:

MICHELLE BIBLE ACCOUNTS PAYABLE	METTEST DATA	LAURE JOHNSON

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 24	Pulp Login - Rcd w/o Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	
ME- MS61	48 element four acid ICP- MS	
Hg- MS42	Trace Hg by ICPMS	ICP- MS

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim 'or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project. Statement required by Nevada State Law NRS 519

To: MCCLELLAND LABS
ATTN: LAURE JOHNSON
1016 GREG ST
SPARKS NV 89431

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Comments: Sample Description Shorten due to Character Limitations. Full ID for sample sequence 10 is: 3981 Calico Leach Res after CN destruct (HC- 10) ICP

Signature:
Colin Ramshaw, Vancouver Laboratory Manager

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To: MCCLELLAND LABS
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SPARKS NV 89431

Finalized Date: 12- AUG- 2017
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE17159810

Sample Description	Method / Analyte / Units / LOR	WEI-21 Recvd Wt. kg 0.02	ME-MS61 Ag ppm 0.01	ME-MS61 Al % 0.01	ME-MS61 As ppm 0.2	ME-MS61 Ba ppm 10	ME-MS61 Be ppm 0.05	ME-MS61 Bi ppm 0.01	ME-MS61 Ca % 0.01	ME-MS61 Cd ppm 0.02	ME-MS61 Ce ppm 0.01	ME-MS61 Co ppm 0.1	ME-MS61 Cr ppm 1	ME-MS61 Cs ppm 0.05	ME-MS61 Cu ppm 0.2	ME-MS61 Fe % 0.01
3981 CAL-002 (86-95) HC-1 ICP		0.10	0.15	2.86	159.0	980	2.44	0.12	0.02	0.08	18.80	1.3	181	5.01	6.5	0.85
3981 CAL-004 (860-875) HC-2 ICP		0.10	3.82	4.49	113.0	1090	0.73	0.15	0.04	0.05	24.5	4.3	83	4.57	14.2	0.68
3981 CAL-003 (675-685) HC-3 ICP		0.10	4.72	8.15	207	170	2.70	0.40	0.07	0.02	77.0	0.7	14	23.3	2.6	1.29
3981 GMC-012 (832-851) HC-4 ICP		0.10	1.79	7.80	103.0	980	1.09	0.26	0.02	<0.02	59.8	0.6	57	14.10	4.1	1.58
3981 CAL-004 (295-315) HC-5 ICP		0.10	1.05	2.54	240	310	1.42	0.13	0.04	0.03	17.60	1.0	144	11.45	8.3	1.22
3981 CAL-001 (750-762) HC-6 ICP		0.10	2.41	5.32	66.2	740	0.61	0.33	0.02	<0.02	41.6	0.9	67	11.80	22.4	1.20
3981 GMC-014 (176-184) HC-7 ICP		0.10	0.11	8.38	395	660	2.33	0.29	0.02	<0.02	85.0	0.9	29	26.4	6.5	1.50
3981 CAL-001 (380-400) HC-8 ICP		0.10	2.35	0.65	32.1	180	1.01	0.04	0.06	0.03	5.28	0.7	284	5.32	6.6	0.34
3981 CAL-002 (177-187) HC-9 ICP		0.10	1.37	1.33	46.6	300	2.35	0.06	0.05	0.03	9.15	1.2	168	8.36	5.8	0.48
3981 Calico Leached Res after CN (HC-10)		0.10	8.91	3.85	173.5	710	0.76	0.28	0.04	0.03	23.9	0.9	49	3.98	17.2	1.36

Comments: Sample Description Shorten due to Character Limitations. Full ID for sample sequence 10 is: 3981 Calico Leach Res after CN destruct (HC-10) ICP

***** See Appendix Page for comments regarding this certificate *****

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SPARKS NV 89431

Finalized Date: 12- AUG- 2017
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE17159810

Sample Description	Method / Analyte / Units / LOR	ME- MS61 Ga ppm 0.05	ME- MS61 Ge ppm 0.05	ME- MS61 Hf ppm 0.1	Hg- MS42 Hg ppm 0.005	ME- MS61 In ppm 0.005	ME- MS61 K % 0.01	ME- MS61 La ppm 0.5	ME- MS61 Li ppm 0.2	ME- MS61 Mg % 0.01	ME- MS61 Mn ppm 5	ME- MS61 Mo ppm 0.05	ME- MS61 Na % 0.01	ME- MS61 Nb ppm 0.1	ME- MS61 Ni ppm 0.2	ME- MS61 P ppm 10
3981 CAL- 002 (86- 95) HC- 1 ICP		5.95	0.06	1.0	6.76	0.014	3.34	9.8	148.5	0.01	26	4.90	0.10	8.8	5.1	70
3981 CAL- 004 (860- 875) HC- 2 ICP		8.88	0.08	1.3	2.76	0.013	4.44	13.2	96.7	0.05	49	16.75	0.43	15.6	3.7	90
3981 CAL- 003 (675- 685) HC- 3 ICP		42.0	0.11	8.8	5.06	0.092	3.08	36.5	70.4	0.73	211	47.0	0.01	21.7	2.1	250
3981 GMC- 012 (832- 851) HC- 4 ICP		28.8	0.10	2.6	1.315	0.039	5.08	33.7	55.8	0.11	60	25.4	0.07	24.1	2.6	550
3981 CAL- 004 (295- 315) HC- 5 ICP		23.3	<0.05	2.0	3.42	0.025	1.00	8.4	129.0	0.21	53	11.90	0.03	5.6	3.9	120
3981 CAL- 001 (750- 762) HC- 6 ICP		9.02	0.10	2.5	2.35	0.046	5.06	24.8	83.9	0.12	45	54.6	0.06	17.0	3.3	80
3981 GMC- 014 (176- 184) HC- 7 ICP		29.7	0.13	5.6	1.880	0.063	3.18	41.1	38.0	0.35	85	6.34	0.04	20.6	2.1	370
3981 CAL- 001 (380- 400) HC- 8 ICP		8.53	<0.05	0.4	0.604	<0.005	0.39	2.9	183.5	0.01	21	8.44	0.03	2.5	15.8	10
3981 CAL- 002 (177- 187) HC- 9 ICP		16.35	0.05	0.4	1.325	0.007	1.03	4.7	187.0	0.01	27	2.68	0.16	3.4	9.4	30
3981 Calico Leached Res after CN (HC- 10)		7.28	0.09	1.4	1.850	0.018	4.11	11.9	133.0	0.03	47	15.35	0.25	9.5	5.2	140

Comments: Sample Description Shorten due to Character Limitations. Full ID for sample sequence 10 is: 3981 Calico Leach Res after CN destruct (HC- 10) ICP

***** See Appendix Page for comments regarding this certificate *****

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SPARKS NV 89431

Finalized Date: 12- AUG- 2017
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE17159810

Sample Description	Method / Analyte / Units / LOR	ME- MS61 Pb ppm 0.5	ME- MS61 Rb ppm 0.1	ME- MS61 Re ppm 0.002	ME- MS61 S % 0.01	ME- MS61 Sb ppm 0.05	ME- MS61 Sc ppm 0.1	ME- MS61 Se ppm 1	ME- MS61 Sn ppm 0.2	ME- MS61 Sr ppm 0.2	ME- MS61 Ta ppm 0.05	ME- MS61 Te ppm 0.05	ME- MS61 Th ppm 0.01	ME- MS61 Ti % 0.005	ME- MS61 Tl ppm 0.02	ME- MS61 U ppm 0.1
3981 CAL- 002 (86- 95) HC- 1 ICP		12.0	143.0	<0.002	0.16	95.3	1.4	2	0.8	106.5	0.68	<0.05	4.18	0.072	1.56	1.0
3981 CAL- 004 (860- 875) HC- 2 ICP		12.8	176.5	<0.002	0.11	32.5	2.2	2	1.3	156.5	0.92	<0.05	5.00	0.139	1.47	1.8
3981 CAL- 003 (675- 685) HC- 3 ICP		23.9	260	0.003	0.88	80.6	10.3	5	3.8	77.0	1.37	<0.05	13.80	0.360	2.42	4.8
3981 GMC- 012 (832- 851) HC- 4 ICP		23.2	219	<0.002	0.65	27.8	4.8	2	2.1	133.5	1.44	0.06	10.60	0.252	1.23	3.6
3981 CAL- 004 (295- 315) HC- 5 ICP		6.6	71.2	<0.002	0.03	75.7	3.7	3	1.0	65.3	0.36	<0.05	3.89	0.125	0.53	1.5
3981 CAL- 001 (750- 762) HC- 6 ICP		20.9	208	<0.002	0.49	14.30	3.1	2	2.2	209	1.04	<0.05	9.31	0.172	1.20	3.4
3981 GMC- 014 (176- 184) HC- 7 ICP		23.7	179.0	<0.002	0.75	71.3	9.9	2	3.0	98.5	1.36	<0.05	13.85	0.363	1.82	4.5
3981 CAL- 001 (380- 400) HC- 8 ICP		2.2	21.5	<0.002	0.04	41.2	0.4	2	0.4	76.3	0.16	<0.05	0.84	0.038	0.32	0.2
3981 CAL- 002 (177- 187) HC- 9 ICP		4.0	47.2	<0.002	0.06	84.5	0.8	2	0.5	110.0	0.23	<0.05	1.74	0.034	1.33	0.4
3981 Calico Leached Res after CN (HC- 10)		12.8	168.5	<0.002	0.20	28.1	2.3	4	1.8	140.0	0.56	<0.05	4.16	0.095	1.05	1.7

Comments: Sample Description Shorten due to Character Limitations. Full ID for sample sequence 10 is: 3981 Calico Leach Res after CN destruct (HC- 10) ICP

***** See Appendix Page for comments regarding this certificate *****

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Finalized Date: 12- AUG- 2017
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE17159810

Sample Description	Method / Analyte / Units / LOR	ME- MS61 V ppm 1	ME- MS61 W ppm 0.1	ME- MS61 Y ppm 0.1	ME- MS61 Zn ppm 2	ME- MS61 Zr ppm 0.5
3981 CAL- 002 (86- 95) HC- 1 ICP		5	8.2	4.0	22	29.5
3981 CAL- 004 (860- 875) HC- 2 ICP		16	11.3	5.7	15	39.6
3981 CAL- 003 (675- 685) HC- 3 ICP		60	9.4	34.0	24	285
3981 GMC- 012 (832- 851) HC- 4 ICP		43	6.9	8.9	9	85.2
3981 CAL- 004 (295- 315) HC- 5 ICP		32	5.8	8.0	19	63.4
3981 CAL- 001 (750- 762) HC- 6 ICP		23	7.8	7.4	4	77.2
3981 GMC- 014 (176- 184) HC- 7 ICP		51	10.2	26.5	14	178.5
3981 CAL- 001 (380- 400) HC- 8 ICP		7	12.6	1.2	4	13.8
3981 CAL- 002 (177- 187) HC- 9 ICP		6	10.7	1.9	7	11.1
3981 Calico Leached Res after CN (HC- 10)		16	5.6	6.6	10	53.7

Comments: Sample Description Shorten due to Character Limitations. Full ID for sample sequence 10 is: 3981 Calico Leach Res after CN destruct (HC- 10) ICP

***** See Appendix Page for comments regarding this certificate *****

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To: MCCLELLAND LABS
1016 GREG ST
SPARKS NV 89431

Finalized Date: 12- AUG- 2017
Account: EIM

Project: 3981

CERTIFICATE OF ANALYSIS RE17159810

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: REE's may not be totally soluble in this method.
ME- MS61

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Reno located at 4977 Energy Way, Reno, NV, USA.
LOG- 24 WEI- 21

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.
Hg- MS42 ME- MS61

Appendix E3
SVL Laboratories Report

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McClelland Laboratories Inc	**Project Name: MLI Routine / 3981**
1016 Greg Street	Work Order: **X7H0118**
Sparks, NV 89431	Reported: 16-Aug-17 14:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
3981 CAL-002 (86-95) HC-1 ABA	X7H0118-01	Soil	01-Aug-17 10:00	03-Aug-2017	
3981 CAL-004 (860-875) HC-2 ABA	X7H0118-02	Soil	01-Aug-17 10:00	03-Aug-2017	
3981 CAL-003 (675-685) HC-3 ABA	X7H0118-03	Soil	01-Aug-17 10:00	03-Aug-2017	
3981 GMC-012 (832-851) HC-4 ABA	X7H0118-04	Soil	01-Aug-17 10:00	03-Aug-2017	
3981 CAL-004 (295-315) HC-5 ABA	X7H0118-05	Soil	01-Aug-17 10:00	03-Aug-2017	
3981 CAL-001 (750-762) HC-6 ABA	X7H0118-06	Soil	01-Aug-17 10:00	03-Aug-2017	
3981 GMC-014 (176-184) HC-7 ABA	X7H0118-07	Soil	01-Aug-17 10:00	03-Aug-2017	
3981 CAL-001 (380-400) HC-8 ABA	X7H0118-08	Soil	01-Aug-17 10:00	03-Aug-2017	
3981 CAL-002 (177-187) HC-9 ABA	X7H0118-09	Soil	01-Aug-17 10:00	03-Aug-2017	
3981 CALICO LEACHED RES AFTER CN DESTRUCT (HC-10) ABA	X7H0118-10	Soil	01-Aug-17 10:00	03-Aug-2017	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

Case Narrative: X7H0118

Nevada does not accredit for NAG titration.

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McClelland Laboratories Inc	**Project Name: MLI Routine / 3981**
1016 Greg Street	Work Order: **X7H0118**
Sparks, NV 89431	Reported: 16-Aug-17 14:29

Client Sample ID: **3981 CAL-002 (86-95) HC-1 ABA**
SVL Sample ID: **X7H0118-01 (Soil)**

Sampled: 01-Aug-17 10:00
Received: 03-Aug-17
Sampled By:

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	ABA	< 0.3	TCaCO3/kT	0.3			N/A		08/11/17 14:52	
Modified Sobek	**AGP**	1.6	TCaCO3/kT	0.3			N/A		08/11/17 14:52	
Modified Sobek	**ANP**	1.5	TCaCO3/kT	0.3			X732099	PRM	08/11/17 09:30	A5
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 13:59	
Modified Sobek	**Non-Sulfate Sulfur**	0.05	%	0.01	0.006		X732099	AGF	08/11/17 14:52	
Modified Sobek	**Pyritic Sulfur**	0.05	%	0.01			N/A		08/11/17 14:52	
Modified Sobek	**Sulfate Sulfur**	0.10	%	0.01			N/A		08/11/17 14:52	
Modified Sobek	**Total Sulfur**	0.15	%	0.01	0.006		X732099	AGF	08/09/17 11:57	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-1.3	TCaCO3/kT	0.3			N/A		08/12/17 11:37	
Modified Sobek	**AGP-HCl**	2.8	TCaCO3/kT	0.3			N/A		08/12/17 11:37	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 13:59	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.09	%	0.01	0.006		X732099	AGF	08/12/17 11:37	
Modified Sobek	**Pyritic Sulfur-HCl**	0.09	%	0.01			N/A		08/12/17 11:37	
Modified Sobek	**Sulfate Sulfur-HCl**	0.06	%	0.01			N/A		08/12/17 11:37	
Modified Sobek	**Total Sulfur**	0.15	%	0.01	0.006		X732099	AGF	08/09/17 11:57	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @23.3°C**	2.35	pH Units				X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 4.5**	3.1	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 7**	22.9	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
EPA 600/2-78-054 mod	**Paste pH @23.0°C**	5.6	pH Units				X732173	AGF	08/11/17 13:30	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

SVL holds the following certifications:
AZ:0538, **CA**:2080, **ID**:ID00019 & ID00965 (Microbiology), **NV**:ID000192007A, **UT**(**TNI**):ID000192015-1, **WA**:C573

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McClelland Laboratories Inc	**Project Name: MLI Routine / 3981**
1016 Greg Street	Work Order: **X7H0118**
Sparks, NV 89431	Reported: 16-Aug-17 14:29

Client Sample ID: **3981 CAL-004 (860-875) HC-2 ABA**
SVL Sample ID: **X7H0118-02 (Soil)**

Sampled: 01-Aug-17 10:00
Received: 03-Aug-17
Sampled By:

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	1.5	TCaCO3/kT	0.3			N/A		08/11/17 14:56	
Modified Sobek	**AGP**	0.5	TCaCO3/kT	0.3			N/A		08/11/17 14:56	
Modified Sobek	**ANP**	2.0	TCaCO3/kT	0.3			X732099	PRM	08/11/17 09:30	A5
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:02	
Modified Sobek	**Non-Sulfate Sulfur**	0.02	%	0.01	0.006		X732099	AGF	08/11/17 14:56	
Modified Sobek	**Pyritic Sulfur**	0.02	%	0.01			N/A		08/11/17 14:56	
Modified Sobek	**Sulfate Sulfur**	0.07	%	0.01			N/A		08/11/17 14:56	
Modified Sobek	**Total Sulfur**	0.09	%	0.01	0.006		X732099	AGF	08/09/17 12:15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	1.4	TCaCO3/kT	0.3			N/A		08/12/17 11:40	
Modified Sobek	**AGP-HCl**	0.6	TCaCO3/kT	0.3			N/A		08/12/17 11:40	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:02	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.02	%	0.01	0.006		X732099	AGF	08/12/17 11:40	
Modified Sobek	**Pyritic Sulfur-HCl**	0.02	%	0.01			N/A		08/12/17 11:40	
Modified Sobek	**Sulfate Sulfur-HCl**	0.07	%	0.01			N/A		08/12/17 11:40	
Modified Sobek	**Total Sulfur**	0.09	%	0.01	0.006		X732099	AGF	08/09/17 12:15	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @23.3°C**	3.99	pH Units				X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 4.5**	0.6	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 7**	34.5	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
EPA 600/2-78-054 mod	**Paste pH @22.7°C**	5.4	pH Units				X732173	AGF	08/11/17 13:30	

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McClelland Laboratories Inc	**Project Name: MLI Routine / 3981**
1016 Greg Street	Work Order: **X7H0118**
Sparks, NV 89431	Reported: 16-Aug-17 14:29

Client Sample ID: **3981 CAL-003 (675-685) HC-3 ABA**
SVL Sample ID: **X7H0118-03 (Soil)**

Sampled: 01-Aug-17 10:00
Received: 03-Aug-17
Sampled By:

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-13.3	TCaCO3/kT	0.3			N/A		08/11/17 15:02	
Modified Sobek	**AGP**	13.3	TCaCO3/kT	0.3			N/A		08/11/17 15:02	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3			X732099	PRM	08/11/17 09:30	A5,A6
Modified Sobek	**Non-extractable Sulfur**	0.03	%	0.01	0.006		X732099	AGF	08/11/17 14:06	
Modified Sobek	**Non-Sulfate Sulfur**	0.46	%	0.01	0.006		X732099	AGF	08/11/17 15:02	
Modified Sobek	**Pyritic Sulfur**	0.43	%	0.01			N/A		08/11/17 15:02	
Modified Sobek	**Sulfate Sulfur**	0.42	%	0.01			N/A		08/11/17 15:02	
Modified Sobek	**Total Sulfur**	0.87	%	0.01	0.006		X732099	AGF	08/09/17 12:19	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-5.8	TCaCO3/kT	0.3			N/A		08/12/17 11:43	
Modified Sobek	**AGP-HCl**	5.8	TCaCO3/kT	0.3			N/A		08/12/17 11:43	
Modified Sobek	**Non-extractable Sulfur**	0.03	%	0.01	0.006		X732099	AGF	08/11/17 14:06	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.22	%	0.01	0.006		X732099	AGF	08/12/17 11:43	
Modified Sobek	**Pyritic Sulfur-HCl**	0.18	%	0.01			N/A		08/12/17 11:43	
Modified Sobek	**Sulfate Sulfur-HCl**	0.66	%	0.01			N/A		08/12/17 11:43	
Modified Sobek	**Total Sulfur**	0.87	%	0.01	0.006		X732099	AGF	08/09/17 12:19	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @23.3°C**	2.41	pH Units				X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 4.5**	18.0	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 7**	7.1	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
EPA 600/2-78-054 mod	**Paste pH @22.7°C**	2.7	pH Units				X732173	AGF	08/11/17 13:30	

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McClelland Laboratories Inc	**Project Name: MLI Routine / 3981**
1016 Greg Street	Work Order: **X7H0118**
Sparks, NV 89431	Reported: 16-Aug-17 14:29

Client Sample ID: **3981 GMC-012 (832-851) HC-4 ABA**
SVL Sample ID: **X7H0118-04 (Soil)**

Sampled: 01-Aug-17 10:00
Received: 03-Aug-17
Sampled By:

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-14.8	TCaCO3/kT	0.3			N/A		08/11/17 15:12	
Modified Sobek	**AGP**	14.8	TCaCO3/kT	0.3			N/A		08/11/17 15:12	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3			X732099	PRM	08/11/17 09:30	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:10	
Modified Sobek	**Non-Sulfate Sulfur**	0.48	%	0.01	0.006		X732099	AGF	08/11/17 15:12	
Modified Sobek	**Pyritic Sulfur**	0.48	%	0.01			N/A		08/11/17 15:12	
Modified Sobek	**Sulfate Sulfur**	0.19	%	0.01			N/A		08/11/17 15:12	
Modified Sobek	**Total Sulfur**	0.67	%	0.01	0.006		X732099	AGF	08/09/17 12:22	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-2.9	TCaCO3/kT	0.3			N/A		08/12/17 11:47	
Modified Sobek	**AGP-HCl**	2.9	TCaCO3/kT	0.3			N/A		08/12/17 11:47	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:10	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.09	%	0.01	0.006		X732099	AGF	08/12/17 11:47	
Modified Sobek	**Pyritic Sulfur-HCl**	0.09	%	0.01			N/A		08/12/17 11:47	
Modified Sobek	**Sulfate Sulfur-HCl**	0.58	%	0.01			N/A		08/12/17 11:47	
Modified Sobek	**Total Sulfur**	0.67	%	0.01	0.006		X732099	AGF	08/09/17 12:22	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @23.5°C**	2.32	pH Units				X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 4.5**	4.5	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 7**	28.0	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
EPA 600/2-78-054 mod	**Paste pH @22.6°C**	4.0	pH Units				X732173	AGF	08/11/17 13:30	

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McClelland Laboratories Inc	**Project Name: MLI Routine / 3981**
1016 Greg Street	Work Order: **X7H0118**
Sparks, NV 89431	Reported: 16-Aug-17 14:29

Client Sample ID: **3981 CAL-004 (295-315) HC-5 ABA**
SVL Sample ID: **X7H0118-05 (Soil)**

Sampled: 01-Aug-17 10:00
Received: 03-Aug-17
Sampled By:

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	ABA	< 0.3	TCaCO3/kT	0.3			N/A		08/11/17 15:15	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		08/11/17 15:15	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3			X732099	PRM	08/11/17 09:30	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:13	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 15:15	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		08/11/17 15:15	
Modified Sobek	**Sulfate Sulfur**	0.02	%	0.01			N/A		08/11/17 15:15	
Modified Sobek	**Total Sulfur**	0.02	%	0.01	0.006		X732099	AGF	08/09/17 12:25	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	ABA-HCl	< 0.3	TCaCO3/kT	0.3			N/A		08/12/17 11:57	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		08/12/17 11:57	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:13	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.006		X732099	AGF	08/12/17 11:57	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		08/12/17 11:57	
Modified Sobek	**Sulfate Sulfur-HCl**	0.02	%	0.01			N/A		08/12/17 11:57	
Modified Sobek	**Total Sulfur**	0.02	%	0.01	0.006		X732099	AGF	08/09/17 12:25	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @23.4°C**	3.22	pH Units				X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 4.5**	1.2	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 7**	35.5	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
EPA 600/2-78-054 mod	**Paste pH @23.2°C**	3.8	pH Units				X732173	AGF	08/11/17 13:30	

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McClelland Laboratories Inc	**Project Name: MLI Routine / 3981**
1016 Greg Street	Work Order: **X7H0118**
Sparks, NV 89431	Reported: 16-Aug-17 14:29

Client Sample ID: **3981 CAL-001 (750-762) HC-6 ABA**
SVL Sample ID: **X7H0118-06 (Soil)**

Sampled: 01-Aug-17 10:00
Received: 03-Aug-17
Sampled By:

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-9.7	TCaCO3/kT	0.3			N/A		08/11/17 15:29	
Modified Sobek	**AGP**	9.7	TCaCO3/kT	0.3			N/A		08/11/17 15:29	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3			X732099	PRM	08/11/17 09:30	A5
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:17	
Modified Sobek	**Non-Sulfate Sulfur**	0.31	%	0.01	0.006		X732099	AGF	08/11/17 15:29	
Modified Sobek	**Pyritic Sulfur**	0.31	%	0.01			N/A		08/11/17 15:29	
Modified Sobek	**Sulfate Sulfur**	0.17	%	0.01			N/A		08/11/17 15:29	
Modified Sobek	**Total Sulfur**	0.48	%	0.01	0.006		X732099	AGF	08/09/17 12:28	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-4.7	TCaCO3/kT	0.3			N/A		08/12/17 12:01	
Modified Sobek	**AGP-HCl**	4.7	TCaCO3/kT	0.3			N/A		08/12/17 12:01	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:17	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.15	%	0.01	0.006		X732099	AGF	08/12/17 12:01	
Modified Sobek	**Pyritic Sulfur-HCl**	0.15	%	0.01			N/A		08/12/17 12:01	
Modified Sobek	**Sulfate Sulfur-HCl**	0.33	%	0.01			N/A		08/12/17 12:01	
Modified Sobek	**Total Sulfur**	0.48	%	0.01	0.006		X732099	AGF	08/09/17 12:28	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @23.3°C**	2.32	pH Units				X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 4.5**	5.1	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 7**	10.8	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
EPA 600/2-78-054 mod	**Paste pH @22.7°C**	5.0	pH Units				X732173	AGF	08/11/17 13:30	

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McClelland Laboratories Inc	**Project Name: MLI Routine / 3981**
1016 Greg Street	Work Order: **X7H0118**
Sparks, NV 89431	Reported: 16-Aug-17 14:29

Client Sample ID: **3981 GMC-014 (176-184) HC-7 ABA**
SVL Sample ID: **X7H0118-07 (Soil)**

Sampled: 01-Aug-17 10:00
Received: 03-Aug-17
Sampled By:

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	-20.3	TCaCO3/kT	0.3			N/A		08/11/17 15:36	
Modified Sobek	**AGP**	20.3	TCaCO3/kT	0.3			N/A		08/11/17 15:36	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3			X732099	PRM	08/11/17 09:30	A5,A6
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:24	
Modified Sobek	**Non-Sulfate Sulfur**	0.65	%	0.01	0.006		X732099	AGF	08/11/17 15:36	
Modified Sobek	**Pyritic Sulfur**	0.65	%	0.01			N/A		08/11/17 15:36	
Modified Sobek	**Sulfate Sulfur**	0.11	%	0.01			N/A		08/11/17 15:36	
Modified Sobek	**Total Sulfur**	0.76	%	0.01	0.006		X732099	AGF	08/09/17 12:31	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	-13.8	TCaCO3/kT	0.3			N/A		08/12/17 12:04	
Modified Sobek	**AGP-HCl**	13.8	TCaCO3/kT	0.3			N/A		08/12/17 12:04	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:24	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.44	%	0.01	0.006		X732099	AGF	08/12/17 12:04	
Modified Sobek	**Pyritic Sulfur-HCl**	0.44	%	0.01			N/A		08/12/17 12:04	
Modified Sobek	**Sulfate Sulfur-HCl**	0.32	%	0.01			N/A		08/12/17 12:04	
Modified Sobek	**Total Sulfur**	0.76	%	0.01	0.006		X732099	AGF	08/09/17 12:31	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @23.3°C**	2.43	pH Units				X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 4.5**	16.7	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 7**	8.6	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
EPA 600/2-78-054 mod	**Paste pH @22.7°C**	3.2	pH Units				X732173	AGF	08/11/17 13:30	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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McClelland Laboratories Inc	**Project Name: MLI Routine / 3981**
1016 Greg Street	Work Order: **X7H0118**
Sparks, NV 89431	Reported: 16-Aug-17 14:29

Client Sample ID: **3981 CAL-001 (380-400) HC-8 ABA**
SVL Sample ID: **X7H0118-08 (Soil)**

Sampled: 01-Aug-17 10:00
Received: 03-Aug-17
Sampled By:

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	3.0	TCaCO3/kT	0.3			N/A		08/11/17 15:40	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		08/11/17 15:40	
Modified Sobek	**ANP**	3.0	TCaCO3/kT	0.3			X732099	PRM	08/11/17 09:30	A5
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:35	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 15:40	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		08/11/17 15:40	
Modified Sobek	**Sulfate Sulfur**	0.03	%	0.01			N/A		08/11/17 15:40	
Modified Sobek	**Total Sulfur**	0.03	%	0.01	0.006		X732099	AGF	08/09/17 12:34	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	2.6	TCaCO3/kT	0.3			N/A		08/12/17 12:08	
Modified Sobek	**AGP-HCl**	0.4	TCaCO3/kT	0.3			N/A		08/12/17 12:08	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:35	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.01	%	0.01	0.006		X732099	AGF	08/12/17 12:08	
Modified Sobek	**Pyritic Sulfur-HCl**	0.01	%	0.01			N/A		08/12/17 12:08	
Modified Sobek	**Sulfate Sulfur-HCl**	0.02	%	0.01			N/A		08/12/17 12:08	
Modified Sobek	**Total Sulfur**	0.03	%	0.01	0.006		X732099	AGF	08/09/17 12:34	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @23.6°C**	4.17	pH Units				X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 4.5**	0.4	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 7**	33.3	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
EPA 600/2-78-054 mod	**Paste pH @23.3°C**	6.4	pH Units				X732173	AGF	08/11/17 13:30	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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McClelland Laboratories Inc	**Project Name: MLI Routine / 3981**
1016 Greg Street	Work Order: **X7H0118**
Sparks, NV 89431	Reported: 16-Aug-17 14:29

Client Sample ID: **3981 CAL-002 (177-187) HC-9 ABA**
SVL Sample ID: **X7H0118-09 (Soil)**

Sampled: 01-Aug-17 10:00
Received: 03-Aug-17
Sampled By:

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	1.8	TCaCO3/kT	0.3			N/A		08/11/17 15:43	
Modified Sobek	**AGP**	0.6	TCaCO3/kT	0.3			N/A		08/11/17 15:43	
Modified Sobek	**ANP**	2.5	TCaCO3/kT	0.3			X732099	PRM	08/11/17 09:30	A5
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:38	
Modified Sobek	**Non-Sulfate Sulfur**	0.02	%	0.01	0.006		X732099	AGF	08/11/17 15:43	
Modified Sobek	**Pyritic Sulfur**	0.02	%	0.01			N/A		08/11/17 15:43	
Modified Sobek	**Sulfate Sulfur**	0.03	%	0.01			N/A		08/11/17 15:43	
Modified Sobek	**Total Sulfur**	0.05	%	0.01	0.006		X732099	AGF	08/09/17 12:37	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	1.7	TCaCO3/kT	0.3			N/A		08/12/17 12:12	
Modified Sobek	**AGP-HCl**	0.8	TCaCO3/kT	0.3			N/A		08/12/17 12:12	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:38	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.03	%	0.01	0.006		X732099	AGF	08/12/17 12:12	
Modified Sobek	**Pyritic Sulfur-HCl**	0.03	%	0.01			N/A		08/12/17 12:12	
Modified Sobek	**Sulfate Sulfur-HCl**	0.02	%	0.01			N/A		08/12/17 12:12	
Modified Sobek	**Total Sulfur**	0.05	%	0.01	0.006		X732099	AGF	08/09/17 12:37	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @24.2°C**	3.56	pH Units				X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 4.5**	1.2	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 7**	34.7	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
EPA 600/2-78-054 mod	**Paste pH @22.9°C**	5.8	pH Units				X732173	AGF	08/11/17 13:30	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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McClelland Laboratories Inc	**Project Name: MLI Routine / 3981**
1016 Greg Street	Work Order: **X7H0118**
Sparks, NV 89431	Reported: 16-Aug-17 14:29

Client Sample ID: **3981 CALICO LEACHED RES AFTER CN DESTRUC**
SVL Sample ID: **X7H0118-10 (Soil)**

Sampled: 01-Aug-17 10:00
Received: 03-Aug-17
Sampled By:

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	ABA	< 0.3	TCaCO3/kT	0.3			N/A		08/11/17 15:47	
Modified Sobek	**AGP**	1.0	TCaCO3/kT	0.3			N/A		08/11/17 15:47	
Modified Sobek	**ANP**	1.0	TCaCO3/kT	0.3			X732099	PRM	08/11/17 09:30	A5
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:42	
Modified Sobek	**Non-Sulfate Sulfur**	0.03	%	0.01	0.006		X732099	AGF	08/11/17 15:47	
Modified Sobek	**Pyritic Sulfur**	0.03	%	0.01			N/A		08/11/17 15:47	
Modified Sobek	**Sulfate Sulfur**	0.16	%	0.01			N/A		08/11/17 15:47	
Modified Sobek	**Total Sulfur**	0.19	%	0.01	0.006		X732099	AGF	08/09/17 12:40	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	ABA-HCl	< 0.3	TCaCO3/kT	0.3			N/A		08/12/17 12:15	
Modified Sobek	**AGP-HCl**	0.8	TCaCO3/kT	0.3			N/A		08/12/17 12:15	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.006		X732099	AGF	08/11/17 14:42	
Modified Sobek	**Non-Sulfate Sulfur-HCl**	0.03	%	0.01	0.006		X732099	AGF	08/12/17 12:15	
Modified Sobek	**Pyritic Sulfur-HCl**	0.03	%	0.01			N/A		08/12/17 12:15	
Modified Sobek	**Sulfate Sulfur-HCl**	0.16	%	0.01			N/A		08/12/17 12:15	
Modified Sobek	**Total Sulfur**	0.19	%	0.01	0.006		X732099	AGF	08/09/17 12:40	
Classical Chemistry Parameters										
AMIRA P387A	**NAG pH @24.3°C**	3.00	pH Units				X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 4.5**	2.0	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
AMIRA P387A	**NAG@pH 7**	31.4	kg H2SO4/T	0.1			X732170	AGF	08/10/17 14:29	
EPA 600/2-78-054 mod	**Paste pH @22.5°C**	4.1	pH Units				X732173	AGF	08/11/17 13:30	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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McClelland Laboratories Inc	**Project Name: MLI Routine / 3981**
1016 Greg Street	Work Order: **X7H0118**
Sparks, NV 89431	Reported: 16-Aug-17 14:29

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms								
Modified Sobek	ANP	TCaCO3/kT	<0.3		0.3	X732099	11-Aug-17	
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.006	0.01	X732099	11-Aug-17	
Modified Sobek	Non-Sulfate Sulfur	%	<0.01	0.006	0.01	X732099	11-Aug-17	
Modified Sobek	Total Sulfur	%	<0.01	0.006	0.01	X732099	09-Aug-17	
Acid/Base Accounting & Sulfur Forms (HCl Wash)								
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.006	0.01	X732099	11-Aug-17	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.01	0.006	0.01	X732099	12-Aug-17	
Modified Sobek	Total Sulfur	%	<0.01	0.006	0.01	X732099	09-Aug-17	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	212	212	100	80 - 120	X732099	11-Aug-17	
Modified Sobek	Total Sulfur	%	1.18	1.00	118	80 - 120	X732099	09-Aug-17	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Total Sulfur	%	1.18	1.00	118	80 - 120	X732099	09-Aug-17	
Classical Chemistry Parameters									
AMIRA P387A	NAG pH @23.9°C	pH Units	6.93	7.93	87.4	80 - 120	X732170	10-Aug-17	
AMIRA P387A	NAG@pH 4.5	kg H2SO4/T	N/A			0 - 200	X732170	10-Aug-17	
AMIRA P387A	NAG@pH 7	kg H2SO4/T	N/A			0 - 200	X732170	10-Aug-17	
EPA 600/2-78-054 mod	Paste pH @22.7°C	pH Units	6.8	6.80	100	93.7 - 106.3	X732173	11-Aug-17	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	1.5	1.5	0.0	20	X732099	11-Aug-17	
Modified Sobek	Non-extractable Sulfur	%	<0.01	<0.01	UDL	20	X732099	11-Aug-17	
Modified Sobek	Non-Sulfate Sulfur	%	0.06	0.05	7.9	20	X732099	11-Aug-17	
Modified Sobek	Total Sulfur	%	0.15	0.15	0.0	20	X732099	09-Aug-17	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Non-extractable Sulfur	%	<0.01	<0.01	UDL	20	X732099	11-Aug-17	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	0.08	0.09	6.6	20	X732099	12-Aug-17	
Modified Sobek	Total Sulfur	%	0.15	0.15	0.0	20	X732099	09-Aug-17	
Classical Chemistry Parameters									
AMIRA P387A	NAG pH @23.4°C	pH Units	2.43	2.35	3.4	20	X732170	10-Aug-17	
AMIRA P387A	NAG@pH 4.5	kg H2SO4/T	2.7	3.1	14.3	20	X732170	10-Aug-17	
AMIRA P387A	NAG@pH 7	kg H2SO4/T	23.7	22.9	3.5	20	X732170	10-Aug-17	

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McClelland Laboratories Inc	**Project Name: MLI Routine / 3981**
1016 Greg Street	Work Order: **X7H0118**
Sparks, NV 89431	Reported: 16-Aug-17 14:29

Quality Control - DUPLICATE Data (Continued)

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Classical Chemistry Parameters (Continued)									
EPA 600/2-78-054 mod	Paste pH @22.9°C	pH Units	5.7	5.6	1.9	20	X732173	11-Aug-17	

Notes and Definitions

A5	5 g of sample used in ANP analysis
A6	Titration of the sample required a greater amount of titrant than did the preparation blank.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

Appendix F

Borrow Material and Access Road Static Test Laboratory Reports

Appendix F

Tailings Laboratory Reports

Appendix F1

ACZ Laboratory Reports

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 16, 2019

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

cc: ReportsCC-Always Use

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 4303
ACZ Project ID: L52869

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 28, 2019. This project has been assigned to ACZ's project number, L52869. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L52869. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 15, 2019. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B1 0-30 1446340

ACZ Sample ID: ***L52869-01***
Date Sampled: *06/27/19 12:00*
Date Received: *06/28/19*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-						07/02/19 10:09	rbt
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/02/19 11:19	rbt
Nitrogen, total Kjeldahl	M351.2 - Block Digestor								07/09/19 12:55	mss2
Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid Digestion								07/09/19 12:48	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.05	0.3	07/15/19 18:48	dcm
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/10/19 17:36	bsu
Arsenic, dissolved	M200.8 ICP-MS	1	0.0091		*	mg/L	0.0002	0.001	07/10/19 17:36	bsu
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.007	0.04	07/12/19 18:30	dcm
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/10/19 17:36	bsu
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/12/19 18:30	dcm
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/12/19 18:30	dcm
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/10/19 17:36	bsu
Calcium, dissolved	M200.7 ICP	1	9.8		*	mg/L	0.1	0.5	07/15/19 18:48	dcm
Chromium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0005	0.002	07/10/19 17:36	bsu
Cobalt, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/10/19 17:36	bsu
Copper, dissolved	M200.8 ICP-MS	1	0.0026		*	mg/L	0.0008	0.002	07/10/19 17:36	bsu
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/12/19 18:30	dcm
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/12/19 18:30	dcm
Lead, dissolved	M200.8 ICP-MS	1	0.0009		*	mg/L	0.0001	0.0005	07/10/19 17:36	bsu
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/12/19 18:30	dcm
Magnesium, dissolved	M200.7 ICP	1	1.8		*	mg/L	0.2	1	07/12/19 18:30	dcm
Manganese, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/10/19 17:36	bsu
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/05/19 12:57	slm
Molybdenum, dissolved	M200.8 ICP-MS	1	0.001		*	mg/L	0.0002	0.0005	07/10/19 17:36	bsu
Nickel, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.001	07/10/19 17:36	bsu
Potassium, dissolved	M200.7 ICP	1	0.4	B	*	mg/L	0.2	1	07/12/19 18:30	dcm
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/12/19 18:30	dcm
Selenium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0003	07/10/19 17:36	bsu
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:36	bsu
Sodium, dissolved	M200.7 ICP	1	6.9		*	mg/L	0.2	1	07/12/19 18:30	dcm
Strontium, dissolved	M200.7 ICP	1	0.027	B	*	mg/L	0.009	0.05	07/12/19 18:30	dcm
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:36	bsu
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/12/19 18:30	dcm
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/15/19 18:48	dcm
Uranium, dissolved	M200.8 ICP-MS	1	0.0001	B	*	mg/L	0.0001	0.0005	07/10/19 17:36	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	0.0403		*	mg/L	0.0005	0.002	07/10/19 17:36	bsu
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/15/19 18:48	dcm

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B1 0-30 1446340

ACZ Sample ID: ***L52869-01***
Date Sampled: *06/27/19 12:00*
Date Received: *06/28/19*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	45.8		*	mg/L	2	20	07/06/19 0:00	kja
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/06/19 0:00	kja
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/06/19 0:00	kja
Total Alkalinity		1	45.8		*	mg/L	2	20	07/06/19 0:00	kja
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.0			%			07/16/19 0:00	calc
Sum of Anions			0.991			meq/L			07/16/19 0:00	calc
Sum of Cations			0.952			meq/L			07/16/19 0:00	calc
Chloride	SM4500Cl-E	1	0.8	B	*	mg/L	0.5	2	07/09/19 10:06	rbt
Conductivity @25C	SM2510B	1	92		*	umhos/cm	1	10	07/03/19 22:05	kja
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.006	B	*	mg/L	0.003	0.01	07/03/19 0:46	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5	0.007	B	*	mg/L	0.003	0.01	07/02/19 23:56	pjb
Fluoride	SM4500F-C	1	0.5			mg/L	0.1	0.4	07/09/19 17:14	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		32			mg/L	0.2	5	07/16/19 0:00	calc
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.02	B		mg/L	0.02	0.1	07/16/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.04	B	*	mg/L	0.02	0.1	06/28/19 21:25	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.02	B	*	mg/L	0.01	0.05	06/28/19 21:25	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/08/19 10:53	mss2
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1	0.3	B	*	mg/L	0.1	0.5	07/10/19 0:56	pjb
pH (lab)	SM4500H+ B	1	8.3	H	*	units	0.1	0.1	07/03/19 22:05	kja
Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid (digest)	1	0.09		*	mg/L	0.01	0.05	07/09/19 15:00	mss2
Residue, Filterable (TDS) @180C	SM2540C	1	106		*	mg/L	20	40	07/03/19 14:56	enb
Sulfate	D516-02/-07 - Turbidimetric	1	1.1	B	*	mg/L	1	5	07/11/19 12:06	wtc
TDS (calculated)	Calculation		49.4			mg/L			07/16/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.15						07/16/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1		U	*	mg/L	0.1	0.5	07/10/19 15:32	emk

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B1 56-67 1446342

ACZ Sample ID: ***L52869-02***
Date Sampled: *06/27/19 12:00*
Date Received: *06/28/19*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-						07/02/19 10:16	rbt
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/02/19 11:38	rbt
Nitrogen, total Kjeldahl	M351.2 - Block Digestor								07/09/19 13:07	mss2
Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid Digestion								07/09/19 12:52	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.05	0.3	07/15/19 18:51	dcm
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/10/19 17:38	bsu
Arsenic, dissolved	M200.8 ICP-MS	1	0.0023		*	mg/L	0.0002	0.001	07/10/19 17:38	bsu
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.007	0.04	07/12/19 18:34	dcm
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/10/19 17:38	bsu
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/12/19 18:34	dcm
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/12/19 18:34	dcm
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/10/19 17:38	bsu
Calcium, dissolved	M200.7 ICP	1	6.7		*	mg/L	0.1	0.5	07/15/19 18:51	dcm
Chromium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0005	0.002	07/10/19 17:38	bsu
Cobalt, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/10/19 17:38	bsu
Copper, dissolved	M200.8 ICP-MS	1	0.0012	B	*	mg/L	0.0008	0.002	07/10/19 17:38	bsu
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/12/19 18:34	dcm
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/12/19 18:34	dcm
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B	*	mg/L	0.0001	0.0005	07/10/19 17:38	bsu
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/12/19 18:34	dcm
Magnesium, dissolved	M200.7 ICP	1	1.3		*	mg/L	0.2	1	07/12/19 18:34	dcm
Manganese, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/10/19 17:38	bsu
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/05/19 12:58	slm
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0004	B	*	mg/L	0.0002	0.0005	07/10/19 17:38	bsu
Nickel, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.001	07/10/19 17:38	bsu
Potassium, dissolved	M200.7 ICP	1	0.3	B	*	mg/L	0.2	1	07/12/19 18:34	dcm
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/12/19 18:34	dcm
Selenium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0003	07/10/19 17:38	bsu
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:38	bsu
Sodium, dissolved	M200.7 ICP	1	2.5		*	mg/L	0.2	1	07/12/19 18:34	dcm
Strontium, dissolved	M200.7 ICP	1	0.023	B	*	mg/L	0.009	0.05	07/12/19 18:34	dcm
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:38	bsu
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/12/19 18:34	dcm
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/15/19 18:51	dcm
Uranium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:38	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	0.0123		*	mg/L	0.0005	0.002	07/10/19 17:38	bsu
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/15/19 18:51	dcm

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B1 56-67 1446342

ACZ Sample ID: ***L52869-02***
Date Sampled: *06/27/19 12:00*
Date Received: *06/28/19*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	33.1		*	mg/L	2	20	07/06/19 0:00	kja
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/06/19 0:00	kja
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/06/19 0:00	kja
Total Alkalinity		1	33.1		*	mg/L	2	20	07/06/19 0:00	kja
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-8.7			%			07/16/19 0:00	calc
Sum of Anions			0.715			meq/L			07/16/19 0:00	calc
Sum of Cations			0.6			meq/L			07/16/19 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	07/09/19 11:50	rbt
Conductivity @25C	SM2510B	1	57		*	umhos/cm	1	10	07/03/19 22:13	kja
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.008	B	*	mg/L	0.003	0.01	07/03/19 0:46	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5	0.009	B	*	mg/L	0.003	0.01	07/02/19 23:57	pjb
Fluoride	SM4500F-C	1	0.2	B		mg/L	0.1	0.4	07/09/19 17:22	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		22			mg/L	0.2	5	07/16/19 0:00	calc
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2			U		mg/L	0.02	0.1	07/16/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.02	0.1	06/28/19 21:27	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.01	0.05	06/28/19 21:27	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/08/19 10:56	mss2
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1	0.1	B	*	mg/L	0.1	0.5	07/10/19 0:57	pjb
pH (lab)	SM4500H+ B	1	8.0	H	*	units	0.1	0.1	07/03/19 22:13	kja
Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid (digest)	1	0.09		*	mg/L	0.01	0.05	07/09/19 15:02	mss2
Residue, Filterable (TDS) @180C	SM2540C	1	44		*	mg/L	20	40	07/03/19 14:58	enb
Sulfate	D516-02/-07 - Turbidimetric	1	2.0	B		mg/L	1	5	07/11/19 12:59	wtc
TDS (calculated)	Calculation		33.2			mg/L			07/16/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.33						07/16/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1		U	*	mg/L	0.1	0.5	07/10/19 15:35	emk

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B2 30-50 1446348

ACZ Sample ID: ***L52869-03***
Date Sampled: *06/27/19 12:00*
Date Received: *06/28/19*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-						07/02/19 10:24	rbt
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/02/19 11:57	rbt
Nitrogen, total Kjeldahl	M351.2 - Block Digestor								07/09/19 13:20	mss2
Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid Digestion								07/09/19 12:57	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.05	0.3	07/15/19 18:54	dcm
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/10/19 17:40	bsu
Arsenic, dissolved	M200.8 ICP-MS	1	0.0022		*	mg/L	0.0002	0.001	07/10/19 17:40	bsu
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.007	0.04	07/12/19 18:37	dcm
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/10/19 17:40	bsu
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/12/19 18:37	dcm
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/12/19 18:37	dcm
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/10/19 17:40	bsu
Calcium, dissolved	M200.7 ICP	1	4.5		*	mg/L	0.1	0.5	07/15/19 18:54	dcm
Chromium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0005	0.002	07/10/19 17:40	bsu
Cobalt, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/10/19 17:40	bsu
Copper, dissolved	M200.8 ICP-MS	1	0.0033		*	mg/L	0.0008	0.002	07/10/19 17:40	bsu
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/12/19 18:37	dcm
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/12/19 18:37	dcm
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B	*	mg/L	0.0001	0.0005	07/10/19 17:40	bsu
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/12/19 18:37	dcm
Magnesium, dissolved	M200.7 ICP	1	1.0		*	mg/L	0.2	1	07/12/19 18:37	dcm
Manganese, dissolved	M200.8 ICP-MS	1	0.0008	B	*	mg/L	0.0004	0.002	07/10/19 17:40	bsu
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/05/19 12:59	slm
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0003	B	*	mg/L	0.0002	0.0005	07/10/19 17:40	bsu
Nickel, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.001	07/10/19 17:40	bsu
Potassium, dissolved	M200.7 ICP	1	0.4	B	*	mg/L	0.2	1	07/12/19 18:37	dcm
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/12/19 18:37	dcm
Selenium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0003	07/10/19 17:40	bsu
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:40	bsu
Sodium, dissolved	M200.7 ICP	1	1.2		*	mg/L	0.2	1	07/12/19 18:37	dcm
Strontium, dissolved	M200.7 ICP	1	0.014	B	*	mg/L	0.009	0.05	07/12/19 18:37	dcm
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:40	bsu
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/12/19 18:37	dcm
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/15/19 18:54	dcm
Uranium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:40	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	0.0038		*	mg/L	0.0005	0.002	07/10/19 17:40	bsu
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/15/19 18:54	dcm

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B2 30-50 1446348

ACZ Sample ID: ***L52869-03***
Date Sampled: *06/27/19 12:00*
Date Received: *06/28/19*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	27.3		*	mg/L	2	20	07/06/19 0:00	kja
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/06/19 0:00	kja
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/06/19 0:00	kja
Total Alkalinity		1	27.3		*	mg/L	2	20	07/06/19 0:00	kja
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-19.1			%			07/16/19 0:00	calc
Sum of Anions			0.546			meq/L			07/16/19 0:00	calc
Sum of Cations			0.371	B		meq/L			07/16/19 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	07/09/19 11:50	rbt
Conductivity @25C	SM2510B	1	39		*	umhos/cm	1	10	07/03/19 22:21	kja
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.007	B	*	mg/L	0.003	0.01	07/03/19 0:49	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5	0.007	B	*	mg/L	0.003	0.01	07/02/19 23:59	pjb
Fluoride	SM4500F-C	4		U	*	mg/L	0.4	1	07/09/19 17:27	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		15			mg/L	0.2	5	07/16/19 0:00	calc
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2			U		mg/L	0.02	0.1	07/16/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.02	0.1	06/28/19 21:30	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.01	0.05	06/28/19 21:30	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/08/19 10:59	mss2
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1		U	*	mg/L	0.1	0.5	07/10/19 0:58	pjb
pH (lab)	SM4500H+ B	1	7.8	H	*	units	0.1	0.1	07/03/19 22:21	kja
Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid (digest)	1	0.07		*	mg/L	0.01	0.05	07/09/19 15:03	mss2
Residue, Filterable (TDS) @180C	SM2540C	1	22	B	*	mg/L	20	40	07/03/19 15:01	enb
Sulfate	D516-02/-07 - Turbidimetric	1		U		mg/L	1	5	07/11/19 12:59	wtc
TDS (calculated)	Calculation		23.8			mg/L			07/16/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.92						07/16/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1		U	*	mg/L	0.1	0.5	07/10/19 15:37	emk

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B2 85-95 1446350

ACZ Sample ID: ***L52869-04***
Date Sampled: *06/27/19 12:00*
Date Received: *06/28/19*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-						07/02/19 10:31	rbt
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/03/19 11:41	mss2
Nitrogen, total Kjeldahl	M351.2 - Block Digestor								07/09/19 13:33	mss2
Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid Digestion								07/09/19 13:02	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.05	0.3	07/15/19 19:11	dcm
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/10/19 17:41	bsu
Arsenic, dissolved	M200.8 ICP-MS	1	0.0045		*	mg/L	0.0002	0.001	07/10/19 17:41	bsu
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.007	0.04	07/12/19 18:52	dcm
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/10/19 17:41	bsu
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/12/19 18:52	dcm
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/12/19 18:52	dcm
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/10/19 17:41	bsu
Calcium, dissolved	M200.7 ICP	1	5.8		*	mg/L	0.1	0.5	07/15/19 19:11	dcm
Chromium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0005	0.002	07/10/19 17:41	bsu
Cobalt, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/10/19 17:41	bsu
Copper, dissolved	M200.8 ICP-MS	1	0.001	B	*	mg/L	0.0008	0.002	07/10/19 17:41	bsu
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/12/19 18:52	dcm
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/12/19 18:52	dcm
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B	*	mg/L	0.0001	0.0005	07/10/19 17:41	bsu
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/12/19 18:52	dcm
Magnesium, dissolved	M200.7 ICP	1	1.8		*	mg/L	0.2	1	07/12/19 18:52	dcm
Manganese, dissolved	M200.8 ICP-MS	1	0.0007	B	*	mg/L	0.0004	0.002	07/10/19 17:41	bsu
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/05/19 13:00	slm
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0004	B	*	mg/L	0.0002	0.0005	07/10/19 17:41	bsu
Nickel, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.001	07/10/19 17:41	bsu
Potassium, dissolved	M200.7 ICP	1	1.0		*	mg/L	0.2	1	07/12/19 18:52	dcm
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/12/19 18:52	dcm
Selenium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0003	07/10/19 17:41	bsu
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:41	bsu
Sodium, dissolved	M200.7 ICP	1	5.6		*	mg/L	0.2	1	07/12/19 18:52	dcm
Strontium, dissolved	M200.7 ICP	1	0.024	B	*	mg/L	0.009	0.05	07/12/19 18:52	dcm
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:41	bsu
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/12/19 18:52	dcm
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/15/19 19:11	dcm
Uranium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:41	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	0.0244		*	mg/L	0.0005	0.002	07/10/19 17:41	bsu
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/15/19 19:11	dcm

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B2 85-95 1446350

ACZ Sample ID: ***L52869-04***
Date Sampled: *06/27/19 12:00*
Date Received: *06/28/19*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	37.3		*	mg/L	2	20	07/06/19 0:00	kja
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/06/19 0:00	kja
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/06/19 0:00	kja
Total Alkalinity		1	37.3		*	mg/L	2	20	07/06/19 0:00	kja
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-5.0			%			07/16/19 0:00	calc
Sum of Anions			0.786			meq/L			07/16/19 0:00	calc
Sum of Cations			0.711			meq/L			07/16/19 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	07/09/19 11:50	rbt
Conductivity @25C	SM2510B	1	70		*	umhos/cm	1	10	07/03/19 22:29	kja
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.007	B	*	mg/L	0.003	0.01	07/03/19 0:50	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5	0.007	B	*	mg/L	0.003	0.01	07/03/19 15:43	mss2
Fluoride	SM4500F-C	1	0.2	B		mg/L	0.1	0.4	07/09/19 17:35	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		22			mg/L	0.2	5	07/16/19 0:00	calc
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.07	B		mg/L	0.02	0.1	07/16/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.09	B	*	mg/L	0.02	0.1	06/28/19 21:36	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.02	B	*	mg/L	0.01	0.05	06/28/19 21:36	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/08/19 11:00	mss2
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1		U	*	mg/L	0.1	0.5	07/10/19 1:00	pjb
pH (lab)	SM4500H+ B	1	8.1	H	*	units	0.1	0.1	07/03/19 22:29	kja
Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid (digest)	1	0.08		*	mg/L	0.01	0.05	07/09/19 15:04	mss2
Residue, Filterable (TDS) @180C	SM2540C	1	54			mg/L	20	40	07/03/19 15:06	enb
Sulfate	D516-02/-07 - Turbidimetric	1	1.1	B		mg/L	1	5	07/11/19 13:01	wtc
TDS (calculated)	Calculation		38.7			mg/L			07/16/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.40						07/16/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1		U	*	mg/L	0.1	0.5	07/10/19 15:39	emk

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B3 41-61 1446354

ACZ Sample ID: ***L52869-05***
Date Sampled: *06/27/19 12:00*
Date Received: *06/28/19*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-						07/02/19 10:38	rbt
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/03/19 11:47	mss2
Nitrogen, total Kjeldahl	M351.2 - Block Digestor								07/09/19 13:46	mss2
Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid Digestion								07/09/19 13:07	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.05	0.3	07/15/19 19:14	dcm
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/10/19 17:47	bsu
Arsenic, dissolved	M200.8 ICP-MS	1	0.0017		*	mg/L	0.0002	0.001	07/10/19 17:47	bsu
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.007	0.04	07/12/19 18:55	dcm
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/10/19 17:47	bsu
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/12/19 18:55	dcm
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/12/19 18:55	dcm
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/10/19 17:47	bsu
Calcium, dissolved	M200.7 ICP	1	3.0		*	mg/L	0.1	0.5	07/15/19 19:14	dcm
Chromium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0005	0.002	07/10/19 17:47	bsu
Cobalt, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/10/19 17:47	bsu
Copper, dissolved	M200.8 ICP-MS	1	0.0028		*	mg/L	0.0008	0.002	07/10/19 17:47	bsu
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/12/19 18:55	dcm
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/12/19 18:55	dcm
Lead, dissolved	M200.8 ICP-MS	1	0.001		*	mg/L	0.0001	0.0005	07/10/19 17:47	bsu
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/12/19 18:55	dcm
Magnesium, dissolved	M200.7 ICP	1	0.8	B	*	mg/L	0.2	1	07/12/19 18:55	dcm
Manganese, dissolved	M200.8 ICP-MS	1	0.0012	B	*	mg/L	0.0004	0.002	07/10/19 17:47	bsu
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/05/19 13:00	slm
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0005		*	mg/L	0.0002	0.0005	07/10/19 17:47	bsu
Nickel, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.001	07/10/19 17:47	bsu
Potassium, dissolved	M200.7 ICP	1	0.3	B	*	mg/L	0.2	1	07/12/19 18:55	dcm
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/12/19 18:55	dcm
Selenium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0003	07/10/19 17:47	bsu
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:47	bsu
Sodium, dissolved	M200.7 ICP	1	2.0		*	mg/L	0.2	1	07/12/19 18:55	dcm
Strontium, dissolved	M200.7 ICP	1		U	*	mg/L	0.009	0.05	07/12/19 18:55	dcm
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:47	bsu
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/12/19 18:55	dcm
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/15/19 19:14	dcm
Uranium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:47	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	0.0011	B	*	mg/L	0.0005	0.002	07/10/19 17:47	bsu
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/15/19 19:14	dcm

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B3 41-61 1446354

ACZ Sample ID: ***L52869-05***
Date Sampled: *06/27/19 12:00*
Date Received: *06/28/19*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	21.8		*	mg/L	2	20	07/06/19 0:00	kja
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/06/19 0:00	kja
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/06/19 0:00	kja
Total Alkalinity		1	21.8		*	mg/L	2	20	07/06/19 0:00	kja
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-16.6			%			07/16/19 0:00	calc
Sum of Anions			0.436	B		meq/L			07/16/19 0:00	calc
Sum of Cations			0.312	B		meq/L			07/16/19 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	07/09/19 11:50	rbt
Conductivity @25C	SM2510B	1	34		*	umhos/cm	1	10	07/03/19 22:35	kja
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.005	B	*	mg/L	0.003	0.01	07/03/19 0:51	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5	0.005	B	*	mg/L	0.003	0.01	07/03/19 15:44	mss2
Fluoride	SM4500F-C	4		U	*	mg/L	0.4	1	07/09/19 17:40	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		11			mg/L	0.2	5	07/16/19 0:00	calc
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2			U		mg/L	0.02	0.1	07/16/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.02	0.1	06/28/19 21:37	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.01	0.05	06/28/19 23:12	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/08/19 11:02	mss2
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1		U	*	mg/L	0.1	0.5	07/10/19 1:01	pjb
pH (lab)	SM4500H+ B	1	7.7	H	*	units	0.1	0.1	07/03/19 22:35	kja
Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid (digest)	1	0.09		*	mg/L	0.01	0.05	07/09/19 15:05	mss2
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	20	40	07/03/19 15:09	enb
Sulfate	D516-02/-07 - Turbidimetric	1		U		mg/L	1	5	07/11/19 13:01	wtc
TDS (calculated)	Calculation		19.4			mg/L			07/16/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						07/16/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1		U	*	mg/L	0.1	0.5	07/10/19 15:42	emk

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B3 93-110 1446356

ACZ Sample ID: ***L52869-06***
Date Sampled: *06/27/19 12:00*
Date Received: *06/28/19*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-						07/02/19 10:45	rbt
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/03/19 11:54	mss2
Nitrogen, total Kjeldahl	M351.2 - Block Digestor								07/09/19 13:59	mss2
Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid Digestion								07/09/19 13:16	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.05	0.3	07/15/19 19:17	dcm
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/10/19 17:49	bsu
Arsenic, dissolved	M200.8 ICP-MS	1	0.0069		*	mg/L	0.0002	0.001	07/10/19 17:49	bsu
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.007	0.04	07/12/19 18:58	dcm
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/10/19 17:49	bsu
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/12/19 18:58	dcm
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/12/19 18:58	dcm
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/10/19 17:49	bsu
Calcium, dissolved	M200.7 ICP	1	6.3		*	mg/L	0.1	0.5	07/15/19 19:17	dcm
Chromium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0005	0.002	07/10/19 17:49	bsu
Cobalt, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/10/19 17:49	bsu
Copper, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0008	0.002	07/10/19 17:49	bsu
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/12/19 18:58	dcm
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/12/19 18:58	dcm
Lead, dissolved	M200.8 ICP-MS	1	0.0006		*	mg/L	0.0001	0.0005	07/10/19 17:49	bsu
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/12/19 18:58	dcm
Magnesium, dissolved	M200.7 ICP	1	2.6		*	mg/L	0.2	1	07/12/19 18:58	dcm
Manganese, dissolved	M200.8 ICP-MS	1	0.0009	B	*	mg/L	0.0004	0.002	07/10/19 17:49	bsu
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/05/19 13:01	slm
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0017		*	mg/L	0.0002	0.0005	07/10/19 17:49	bsu
Nickel, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.001	07/10/19 17:49	bsu
Potassium, dissolved	M200.7 ICP	1	1.5		*	mg/L	0.2	1	07/12/19 18:58	dcm
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/12/19 18:58	dcm
Selenium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0003	07/10/19 17:49	bsu
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:49	bsu
Sodium, dissolved	M200.7 ICP	1	6.3		*	mg/L	0.2	1	07/12/19 18:58	dcm
Strontium, dissolved	M200.7 ICP	1		U	*	mg/L	0.009	0.05	07/12/19 18:58	dcm
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:49	bsu
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/12/19 18:58	dcm
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/15/19 19:17	dcm
Uranium, dissolved	M200.8 ICP-MS	1	0.0001	B	*	mg/L	0.0001	0.0005	07/10/19 17:49	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	0.0271		*	mg/L	0.0005	0.002	07/10/19 17:49	bsu
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/15/19 19:17	dcm

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B3 93-110 1446356

ACZ Sample ID: ***L52869-06***
Date Sampled: *06/27/19 12:00*
Date Received: *06/28/19*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	38.9		*	mg/L	2	20	07/03/19 0:00	kja
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/03/19 0:00	kja
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/03/19 0:00	kja
Total Alkalinity		1	38.9		*	mg/L	2	20	07/03/19 0:00	kja
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-0.7			%			07/16/19 0:00	calc
Sum of Anions			0.856			meq/L			07/16/19 0:00	calc
Sum of Cations			0.844			meq/L			07/16/19 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	07/09/19 11:50	rbt
Conductivity @25C	SM2510B	1	85		*	umhos/cm	1	10	07/03/19 23:15	kja
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/03/19 0:52	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/03/19 15:47	mss2
Fluoride	SM4500F-C	1	0.5			mg/L	0.1	0.4	07/09/19 17:48	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		26			mg/L	0.2	5	07/16/19 0:00	calc
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.05	B		mg/L	0.02	0.1	07/16/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.05	B	*	mg/L	0.02	0.1	06/28/19 21:38	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.01	0.05	06/28/19 23:13	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/08/19 11:03	mss2
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1	0.1	B	*	mg/L	0.1	0.5	07/10/19 1:02	pjb
pH (lab)	SM4500H+ B	1	8.0	H	*	units	0.1	0.1	07/03/19 23:15	kja
Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid (digest)	1	0.10		*	mg/L	0.01	0.05	07/09/19 15:07	mss2
Residue, Filterable (TDS) @180C	SM2540C	1	58			mg/L	20	40	07/03/19 15:11	enb
Sulfate	D516-02/-07 - Turbidimetric	1	1.6	B		mg/L	1	5	07/11/19 13:01	wtc
TDS (calculated)	Calculation		43.3			mg/L			07/16/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.34						07/16/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1		U	*	mg/L	0.1	0.5	07/10/19 15:44	emk

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B3 151-156 1446358

ACZ Sample ID: ***L52869-07***
Date Sampled: *06/27/19 12:00*
Date Received: *06/28/19*
Sample Matrix: *Waste Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-						07/02/19 10:52	rbt
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/03/19 12:00	mss2
Nitrogen, total Kjeldahl	M351.2 - Block Digestor								07/09/19 14:38	mss2
Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid Digestion								07/09/19 13:26	mss2

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.05	0.3	07/15/19 19:20	dcm
Antimony, dissolved	M200.8 ICP-MS	1	0.0006	B	*	mg/L	0.0004	0.002	07/10/19 17:50	bsu
Arsenic, dissolved	M200.8 ICP-MS	1	0.0105		*	mg/L	0.0002	0.001	07/10/19 17:50	bsu
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.007	0.04	07/12/19 19:01	dcm
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/10/19 17:50	bsu
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/12/19 19:01	dcm
Boron, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.02	0.1	07/12/19 19:01	dcm
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/10/19 17:50	bsu
Calcium, dissolved	M200.7 ICP	1	7.1		*	mg/L	0.1	0.5	07/15/19 19:20	dcm
Chromium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0005	0.002	07/10/19 17:50	bsu
Cobalt, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/10/19 17:50	bsu
Copper, dissolved	M200.8 ICP-MS	1	0.001	B	*	mg/L	0.0008	0.002	07/10/19 17:50	bsu
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/12/19 19:01	dcm
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/12/19 19:01	dcm
Lead, dissolved	M200.8 ICP-MS	1	0.0007		*	mg/L	0.0001	0.0005	07/10/19 17:50	bsu
Lithium, dissolved	M200.7 ICP	1	0.009	B	*	mg/L	0.008	0.04	07/12/19 19:01	dcm
Magnesium, dissolved	M200.7 ICP	1	2.7		*	mg/L	0.2	1	07/12/19 19:01	dcm
Manganese, dissolved	M200.8 ICP-MS	1	0.0008	B	*	mg/L	0.0004	0.002	07/10/19 17:50	bsu
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/05/19 13:02	slm
Molybdenum, dissolved	M200.8 ICP-MS	1	0.0013		*	mg/L	0.0002	0.0005	07/10/19 17:50	bsu
Nickel, dissolved	M200.8 ICP-MS	1	0.0006	B	*	mg/L	0.0004	0.001	07/10/19 17:50	bsu
Potassium, dissolved	M200.7 ICP	1	3.2		*	mg/L	0.2	1	07/12/19 19:01	dcm
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/12/19 19:01	dcm
Selenium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0003	07/10/19 17:50	bsu
Silver, dissolved	M200.8 ICP-MS	1	0.0002	B	*	mg/L	0.0001	0.0005	07/10/19 17:50	bsu
Sodium, dissolved	M200.7 ICP	1	13.4		*	mg/L	0.2	1	07/12/19 19:01	dcm
Strontium, dissolved	M200.7 ICP	1	0.023	B	*	mg/L	0.009	0.05	07/12/19 19:01	dcm
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/10/19 17:50	bsu
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/12/19 19:01	dcm
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/15/19 19:20	dcm
Uranium, dissolved	M200.8 ICP-MS	1	0.0002	B	*	mg/L	0.0001	0.0005	07/10/19 17:50	bsu
Vanadium, dissolved	M200.8 ICP-MS	1	0.0405		*	mg/L	0.0005	0.002	07/10/19 17:50	bsu
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/15/19 19:20	dcm

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B3 151-156 1446358

ACZ Sample ID: ***L52869-07***
Date Sampled: *06/27/19 12:00*
Date Received: *06/28/19*
Sample Matrix: *Waste Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	33.4		*	mg/L	2	20	07/03/19 0:00	kja
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/03/19 0:00	kja
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/03/19 0:00	kja
Total Alkalinity		1	33.4		*	mg/L	2	20	07/03/19 0:00	kja
Cation-Anion Balance	Calculation									
Cation-Anion Balance			8.3			%			07/16/19 0:00	calc
Sum of Anions			1.1			meq/L			07/16/19 0:00	calc
Sum of Cations			1.3			meq/L			07/16/19 0:00	calc
Chloride	SM4500Cl-E	1	2.5		*	mg/L	0.5	2	07/09/19 11:50	rbt
Conductivity @25C	SM2510B	1	130		*	umhos/cm	1	10	07/03/19 23:22	kja
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.008	B	*	mg/L	0.003	0.01	07/03/19 0:53	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5	0.008	B	*	mg/L	0.003	0.01	07/03/19 15:48	mss2
Fluoride	SM4500F-C	1	2.3			mg/L	0.1	0.4	07/09/19 17:56	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		29			mg/L	0.2	5	07/16/19 0:00	calc
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.65			mg/L	0.02	0.1	07/16/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.99		*	mg/L	0.02	0.1	06/28/19 21:39	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.34		*	mg/L	0.01	0.05	06/28/19 21:39	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/08/19 11:05	mss2
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1	0.3	B	*	mg/L	0.1	0.5	07/10/19 1:05	pjb
pH (lab)	SM4500H+ B	1	7.8	H	*	units	0.1	0.1	07/03/19 23:22	kja
Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid (digest)	1	0.14		*	mg/L	0.01	0.05	07/09/19 15:09	mss2
Residue, Filterable (TDS) @180C	SM2540C	1	50		*	mg/L	20	40	07/02/19 11:52	eij
Sulfate	D516-02/-07 - Turbidimetric	1	8.5			mg/L	1	5	07/11/19 13:01	wtc
TDS (calculated)	Calculation		64.5			mg/L			07/16/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.78						07/16/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1		U	*	mg/L	0.1	0.5	07/10/19 15:51	emk

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

McClelland Laboratories, Inc. ACZ Project ID: ***L52869***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476236													
WG476236PBW1	PBW	07/03/19 16:25				U	mg/L		-20	20			
WG476236LCSW3	LCSW	07/03/19 16:43	WC190627-1	820.0001		828	mg/L	101	90	110			
WG476236LCSW6	LCSW	07/03/19 19:31	WC190627-1	820.0001		832	mg/L	101	90	110			
WG476236PBW2	PBW	07/03/19 19:38				2.3	mg/L		-20	20			
WG476236LCSW9	LCSW	07/03/19 23:00	WC190627-1	820.0001		822	mg/L	100	90	110			
WG476236PBW3	PBW	07/03/19 23:06				2.3	mg/L		-20	20			
L52893-01DUP	DUP	07/04/19 1:05			106	92.3	mg/L				14	20	
WG476236LCSW12	LCSW	07/04/19 2:31	WC190627-1	820.0001		827	mg/L	101	90	110			
WG476236PBW4	PBW	07/04/19 2:37				2.6	mg/L		-20	20			
WG476236LCSW15	LCSW	07/04/19 5:22	WC190627-1	820.0001		832	mg/L	101	90	110			
WG476320													
WG476320PBW1	PBW	07/06/19 11:16				2.4	mg/L		-20	20			
WG476320LCSW3	LCSW	07/06/19 11:35	WC190627-1	820.0001		826	mg/L	101	90	110			
WG476320LCSW6	LCSW	07/06/19 14:26	WC190627-1	820.0001		823	mg/L	100	90	110			
WG476320PBW2	PBW	07/06/19 14:32				2.3	mg/L		-20	20			
WG476320LCSW9	LCSW	07/06/19 18:31	WC190627-1	820.0001		829	mg/L	101	90	110			
WG476320PBW3	PBW	07/06/19 18:37				2.4	mg/L		-20	20			
L52860-06DUP	DUP	07/06/19 19:25			147	145	mg/L				1	20	
WG476320LCSW12	LCSW	07/06/19 21:58	WC190627-1	820.0001		811	mg/L	99	90	110			
WG476320PBW4	PBW	07/06/19 22:04				2.2	mg/L		-20	20			
WG476320LCSW15	LCSW	07/06/19 23:17	WC190627-1	820.0001		816	mg/L	100	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476912													
WG476912ICV	ICV	07/15/19 18:09	II190715-2	2		1.89	mg/L	95	95	105			
WG476912ICB	ICB	07/15/19 18:15				U	mg/L		-0.15	0.15			
WG476912LFB	LFB	07/15/19 18:28	II190701-2	1.0006		1.037	mg/L	104	85	115			
L52869-03AS	AS	07/15/19 18:58	II190701-2	1.0006	U	1.078	mg/L	108	85	115			
L52869-03ASD	ASD	07/15/19 19:07	II190701-2	1.0006	U	1.049	mg/L	105	85	115	3	20	
L52869-07AS	AS	07/15/19 19:24	II190701-2	1.0006	U	1.043	mg/L	104	85	115			
L52869-07ASD	ASD	07/15/19 19:27	II190701-2	1.0006	U	1.05	mg/L	105	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.02		.01979	mg/L	99	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.00088	0.00088			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.01		.01095	mg/L	110	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.01	U	.01081	mg/L	108	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.01	U	.01074	mg/L	107	70	130	1	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.01	U	.00944	mg/L	94	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.01	U	.00984	mg/L	98	70	130	4	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L52869***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.05		.04793	mg/L	96	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.00044	0.00044			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.05005		.05282	mg/L	106	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.05005	.0004	.05107	mg/L	101	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.05005	.0004	.05317	mg/L	105	70	130	4	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.05005	.0045	.05684	mg/L	105	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.05005	.0045	.05867	mg/L	108	70	130	3	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476802													
WG476802ICV	ICV	07/12/19 17:54	II190702-1	2		1.9238	mg/L	96	95	105			
WG476802ICB	ICB	07/12/19 18:00				U	mg/L		-0.021	0.021			
WG476802LFB	LFB	07/12/19 18:12	II190701-2	.4995		.4882	mg/L	98	85	115			
L52869-03AS	AS	07/12/19 18:40	II190701-2	.4995	U	.4942	mg/L	99	85	115			
L52869-03ASD	ASD	07/12/19 18:49	II190701-2	.4995	U	.4889	mg/L	98	85	115	1	20	
L52869-07AS	AS	07/12/19 19:04	II190701-2	.4995	U	.491	mg/L	98	85	115			
L52869-07ASD	ASD	07/12/19 19:07	II190701-2	.4995	U	.4891	mg/L	98	85	115	0	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.05		.048548	mg/L	97	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.000176	########			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.05005		.053192	mg/L	106	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.05005	.0002	.047305	mg/L	94	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.05005	.0002	.04997	mg/L	99	70	130	5	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.05005	U	.051917	mg/L	104	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.05005	U	.052818	mg/L	106	70	130	2	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476802													
WG476802ICV	ICV	07/12/19 17:54	II190702-1	2		1.943	mg/L	97	95	105			
WG476802ICB	ICB	07/12/19 18:00				U	mg/L		-0.12	0.12			
WG476802LFB	LFB	07/12/19 18:12	II190701-2	.9993		.979	mg/L	98	85	115			
L52869-03AS	AS	07/12/19 18:40	II190701-2	.9993	U	.977	mg/L	98	85	115			
L52869-03ASD	ASD	07/12/19 18:49	II190701-2	.9993	U	.96	mg/L	96	85	115	2	20	
L52869-07AS	AS	07/12/19 19:04	II190701-2	.9993	U	.978	mg/L	98	85	115			
L52869-07ASD	ASD	07/12/19 19:07	II190701-2	.9993	U	.962	mg/L	96	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L52869***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476802													
WG476802ICV	ICV	07/12/19 17:54	II190702-1	2		1.994	mg/L	100	95	105			
WG476802ICB	ICB	07/12/19 18:00				U	mg/L		-0.06	0.06			
WG476802LFB	LFB	07/12/19 18:12	II190701-2	.5005		.536	mg/L	107	85	115			
L52869-03AS	AS	07/12/19 18:40	II190701-2	.5005	U	.546	mg/L	109	85	115			
L52869-03ASD	ASD	07/12/19 18:49	II190701-2	.5005	U	.513	mg/L	102	85	115	6	20	
L52869-07AS	AS	07/12/19 19:04	II190701-2	.5005	.03	.535	mg/L	101	85	115			
L52869-07ASD	ASD	07/12/19 19:07	II190701-2	.5005	.03	.529	mg/L	100	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.05		.04929	mg/L	99	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.00011	0.00011			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.05005		.052847	mg/L	106	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.05005	.00006	.050003	mg/L	100	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.05005	.00006	.052319	mg/L	104	70	130	5	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.05005	U	.052046	mg/L	104	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.05005	U	.053129	mg/L	106	70	130	2	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476912													
WG476912ICV	ICV	07/15/19 18:09	II190715-2	100		100.19	mg/L	100	95	105			
WG476912ICB	ICB	07/15/19 18:15				U	mg/L		-0.3	0.3			
WG476912LFB	LFB	07/15/19 18:28	II190701-2	68.11783		72.77	mg/L	107	85	115			
L52869-03AS	AS	07/15/19 18:58	II190701-2	68.11783	4.5	77.64	mg/L	107	85	115			
L52869-03ASD	ASD	07/15/19 19:07	II190701-2	68.11783	4.5	77.44	mg/L	107	85	115	0	20	
L52869-07AS	AS	07/15/19 19:24	II190701-2	68.11783	7.1	78.79	mg/L	105	85	115			
L52869-07ASD	ASD	07/15/19 19:27	II190701-2	68.11783	7.1	79.16	mg/L	106	85	115	0	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476437													
WG476437ICB	ICB	07/09/19 8:30				U	mg/L		-1.5	1.5			
WG476437ICV	ICV	07/09/19 8:30	WI190501-1	54.835		52.85	mg/L	96	90	110			
WG476437LFB1	LFB	07/09/19 9:44	WI190111-6	30.03		30.6	mg/L	102	90	110			
WG476437LFB2	LFB	07/09/19 9:55	WI190111-6	30.03		30.7	mg/L	102	90	110			
L52864-01AS	AS	07/09/19 10:06	WI190111-6	30.03	68.3	73.67	mg/L	18	90	110			M2
L52864-02DUP	DUP	07/09/19 10:06			52.7	54.19	mg/L				3	20	
WG476456													
WG476456ICB	ICB	07/09/19 8:30				U	mg/L		-1.5	1.5			
WG476456ICV	ICV	07/09/19 8:30	WI190501-1	54.835		52.85	mg/L	96	90	110			
WG476456LFB1	LFB	07/09/19 11:50	WI190111-6	30.03		31.87	mg/L	106	90	110			
L52869-02AS	AS	07/09/19 11:50	WI190111-6	30.03	U	31.44	mg/L	105	90	110			
L52869-03DUP	DUP	07/09/19 11:50			U	U	mg/L				0	20	RA
WG476456LFB2	LFB	07/09/19 13:10	WI190111-6	30.03		32.14	mg/L	107	90	110			

McClelland Laboratories, Inc. ACZ Project ID: ***L52869***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.05		.05009	mg/L	100	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.0011	0.0011			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.05005		.0536	mg/L	107	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.05005	.0014	.05143	mg/L	100	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.05005	.0014	.05321	mg/L	104	70	130	3	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.05005	U	.0532	mg/L	106	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.05005	U	.05392	mg/L	108	70	130	1	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.05		.049677	mg/L	99	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.00011	0.00011			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.05005		.054538	mg/L	109	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.05005	.00014	.0504	mg/L	100	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.05005	.00014	.052804	mg/L	105	70	130	5	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.05005	U	.054606	mg/L	109	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.05005	U	.054589	mg/L	109	70	130	0	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476236													
WG476236LCSW2	LCSW	07/03/19 16:31	PCN58600	1410		1410	umhos/cm	100	90	110			
WG476236LCSW5	LCSW	07/03/19 19:18	PCN58600	1410		1400	umhos/cm	99	90	110			
L52869-05DUP	DUP	07/03/19 22:42			34	33.3	umhos/cm				2	20	
WG476236LCSW8	LCSW	07/03/19 22:48	PCN58600	1410		1390	umhos/cm	99	90	110			
L52893-01DUP	DUP	07/04/19 1:05			1970	1970	umhos/cm				0	20	
WG476236LCSW11	LCSW	07/04/19 2:18	PCN58600	1410		1380	umhos/cm	98	90	110			
WG476236LCSW14	LCSW	07/04/19 5:10	PCN58600	1410		1350	umhos/cm	96	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.05		.05014	mg/L	100	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.00176	0.00176			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.0501		.05455	mg/L	109	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.0501	.0296	.07816	mg/L	97	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.0501	.0296	.07997	mg/L	101	70	130	2	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.0501	.001	.05348	mg/L	105	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.0501	.001	.05466	mg/L	107	70	130	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L52869***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476148													
WG476148ICV	ICV	07/02/19 23:51	WI190630-5	.3		.2834	mg/L	94	90	110			
WG476148ICB	ICB	07/02/19 23:53				U	mg/L		-0.003	0.003			
WG476151													
WG476025LRB	LRB	07/03/19 0:28				U	mg/L		-0.003	0.003			
WG476025LFB	LFB	07/03/19 0:29	WI190630-2	.2		.1924	mg/L	96	90	110			
L52850-02LFM	LFM	07/03/19 0:43	WI190630-2	.2	U	.208	mg/L	104	90	110			
L52851-01DUP	DUP	07/03/19 0:45			U	U	mg/L				0	20	RA

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476148													
WG476148ICV	ICV	07/02/19 23:51	WI190630-5	.3		.2834	mg/L	94	90	110			
WG476148ICB	ICB	07/02/19 23:53				U	mg/L		-0.003	0.003			
WG476056LRB	LRB	07/02/19 23:54				U	mg/L		-0.003	0.003			
WG476056LFB	LFB	07/02/19 23:55	WI190630-4	.2		.1991	mg/L	100	90	110			
L52869-01LFM	LFM	07/02/19 23:56	WI190630-4	.2	.007	.1961	mg/L	95	90	110			
L52869-02DUP	DUP	07/02/19 23:58			.009	.0084	mg/L				7	20	RA
WG476220													
WG476220ICV	ICV	07/03/19 13:55	WI190630-5	.3		.2917	mg/L	97	90	110			
WG476220ICB	ICB	07/03/19 13:56				U	mg/L		-0.003	0.003			
WG476220ICV1	ICV	07/03/19 14:41	WI190630-5	.3		.2872	mg/L	96	90	110			
WG476220ICB1	ICB	07/03/19 14:42				U	mg/L		-0.003	0.003			
WG476225													
WG476180LRB	LRB	07/03/19 15:27				U	mg/L		-0.003	0.003			
WG476180LFB	LFB	07/03/19 15:27	WI190630-4	.2		.2025	mg/L	101	90	110			
L52849-01DUP	DUP	07/03/19 15:41			U	U	mg/L				0	20	RA
L52850-02LFM	LFM	07/03/19 15:43	WI190630-4	.2	U	.2026	mg/L	101	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476388													
WG476388ICV	ICV	07/09/19 10:43	WC190708-1	2.004		2.02	mg/L	101	90	110			
WG476388ICB	ICB	07/09/19 10:48				U	mg/L		-0.3	0.3			
WG476388LFB1	LFB	07/09/19 10:56	WC190409-6	5.01		4.75	mg/L	95	90	110			
WG476388LFB2	LFB	07/09/19 14:36	WC190409-6	5.01		5.07	mg/L	101	90	110			
L52614-04AS	AS	07/09/19 16:36	WC190409-6	5.01	.2	5.12	mg/L	98	90	110			
L52614-04ASD	ASD	07/09/19 16:58	WC190409-6	5.01	.2	5.02	mg/L	96	90	110	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L52869***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476802													
WG476802ICV	ICV	07/12/19 17:54	II190702-1	2		1.95	mg/L	98	95	105			
WG476802ICB	ICB	07/12/19 18:00				U	mg/L		-0.3	0.3			
WG476802LFB	LFB	07/12/19 18:12	II190701-2	.9822		.97	mg/L	99	85	115			
L52869-03AS	AS	07/12/19 18:40	II190701-2	.9822	U	1.03	mg/L	105	85	115			
L52869-03ASD	ASD	07/12/19 18:49	II190701-2	.9822	U	.98	mg/L	100	85	115	5	20	
L52869-07AS	AS	07/12/19 19:04	II190701-2	.9822	U	1.04	mg/L	106	85	115			
L52869-07ASD	ASD	07/12/19 19:07	II190701-2	.9822	U	.95	mg/L	97	85	115	9	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476802													
WG476802ICV	ICV	07/12/19 17:54	II190702-1	2		1.91	mg/L	96	95	105			
WG476802ICB	ICB	07/12/19 18:00				U	mg/L		-0.09	0.09			
WG476802LFB	LFB	07/12/19 18:12	II190701-2	1.0018		1.021	mg/L	102	85	115			
L52869-03AS	AS	07/12/19 18:40	II190701-2	1.0018	U	1.049	mg/L	105	85	115			
L52869-03ASD	ASD	07/12/19 18:49	II190701-2	1.0018	U	1.023	mg/L	102	85	115	3	20	
L52869-07AS	AS	07/12/19 19:04	II190701-2	1.0018	U	1.045	mg/L	104	85	115			
L52869-07ASD	ASD	07/12/19 19:07	II190701-2	1.0018	U	1.031	mg/L	103	85	115	1	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.05		.05093	mg/L	102	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.00022	0.00022			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.05005		.05443	mg/L	109	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.05005	.0002	.05185	mg/L	103	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.05005	.0002	.05456	mg/L	109	70	130	5	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.05005	.0004	.05442	mg/L	108	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.05005	.0004	.05479	mg/L	109	70	130	1	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476802													
WG476802ICV	ICV	07/12/19 17:54	II190702-1	2		2.0285	mg/L	101	95	105			
WG476802ICB	ICB	07/12/19 18:00				U	mg/L		-0.024	0.024			
WG476802LFB	LFB	07/12/19 18:12	II190701-2	1.003		1.043	mg/L	104	85	115			
L52869-03AS	AS	07/12/19 18:40	II190701-2	1.003	U	1.046	mg/L	104	85	115			
L52869-03ASD	ASD	07/12/19 18:49	II190701-2	1.003	U	1.034	mg/L	103	85	115	1	20	
L52869-07AS	AS	07/12/19 19:04	II190701-2	1.003	.009	1.05	mg/L	104	85	115			
L52869-07ASD	ASD	07/12/19 19:07	II190701-2	1.003	.009	1.039	mg/L	103	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L52869***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476802													
WG476802ICV	ICV	07/12/19 17:54	II190702-1	100		96.04	mg/L	96	95	105			
WG476802ICB	ICB	07/12/19 18:00				U	mg/L		-0.6	0.6			
WG476802LFB	LFB	07/12/19 18:12	II190701-2	50.31093		48.86	mg/L	97	85	115			
L52869-03AS	AS	07/12/19 18:40	II190701-2	50.31093	1	50.29	mg/L	98	85	115			
L52869-03ASD	ASD	07/12/19 18:49	II190701-2	50.31093	1	50.1	mg/L	98	85	115	0	20	
L52869-07AS	AS	07/12/19 19:04	II190701-2	50.31093	2.7	51.59	mg/L	97	85	115			
L52869-07ASD	ASD	07/12/19 19:07	II190701-2	50.31093	2.7	51.06	mg/L	96	85	115	1	20	

Manganese, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.05		.04948	mg/L	99	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.00088	0.00088			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.05		.0548	mg/L	110	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.05	.0039	.05449	mg/L	101	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.05	.0039	.05723	mg/L	107	70	130	5	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.05	.0007	.05542	mg/L	109	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.05	.0007	.05563	mg/L	110	70	130	0	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476144													
WG476144ICV	ICV	07/05/19 10:40	HG190528-3	.004995		.0051	mg/L	102	95	105			
WG476144ICB	ICB	07/05/19 10:41				U	mg/L		-0.0002	0.0002			
WG476203													
WG476203LRB	LRB	07/05/19 12:35				U	mg/L		-0.00044	0.00044			
WG476203LFB	LFB	07/05/19 12:36	HG190627-3	.002002		.00191	mg/L	95	85	115			
L39578-94LFM	LFM	07/05/19 12:51	HG190627-3	.002002	U	.00193	mg/L	96	85	115			
L39578-94LFMD	LFMD	07/05/19 12:52	HG190627-3	.002002	U	.00196	mg/L	98	85	115	2	20	

Molybdenum, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.0199		.02012	mg/L	101	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.00044	0.00044			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.0501		.05318	mg/L	106	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.0501	.0491	.0993	mg/L	100	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.0501	.0491	.10229	mg/L	106	70	130	3	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.0501	.0004	.0519	mg/L	103	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.0501	.0004	.05273	mg/L	104	70	130	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L52869***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Nickel, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.05		.04884	mg/L	98	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.00088	0.00088			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.0501		.05371	mg/L	107	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.0501	U	.04839	mg/L	97	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.0501	U	.04995	mg/L	100	70	130	3	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.0501	U	.05167	mg/L	103	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.0501	U	.05285	mg/L	105	70	130	2	20	

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475890													
WG475890ICV	ICV	06/28/19 20:59	WI190508-3	2.416		2.477	mg/L	103	90	110			
WG475890ICB	ICB	06/28/19 21:00				U	mg/L		-0.02	0.02			
WG475890LFB1	LFB	06/28/19 21:04	WI190405-9	2		2.04	mg/L	102	90	110			
L52869-01AS	AS	06/28/19 21:26	WI190405-9	2	.04	2.082	mg/L	102	90	110			
L52869-02DUP	DUP	06/28/19 21:29			U	U	mg/L				0	20	RA
WG475890LFB2	LFB	06/28/19 21:44	WI190405-9	2		2.033	mg/L	102	90	110			

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475890													
WG475890ICV	ICV	06/28/19 20:59	WI190508-3	.609		.617	mg/L	101	90	110			
WG475890ICB	ICB	06/28/19 21:00				U	mg/L		-0.01	0.01			
WG475890LFB1	LFB	06/28/19 21:04	WI190405-9	1		1.005	mg/L	101	90	110			
L52869-01AS	AS	06/28/19 21:26	WI190405-9	1	.02	1.014	mg/L	99	90	110			
L52869-02DUP	DUP	06/28/19 21:29			U	U	mg/L				0	20	RA
WG475890LFB2	LFB	06/28/19 21:44	WI190405-9	1		.997	mg/L	100	90	110			

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476340													
WG476340ICV	ICV	07/08/19 10:48	WI190510-1	12		12.13	mg/L	101	90	110			
WG476340ICB	ICB	07/08/19 10:50				U	mg/L		-0.05	0.05			
WG476340LFB1	LFB	07/08/19 10:51	WI180918-3	10		9.957	mg/L	100	90	110			
L52869-01DUP	DUP	07/08/19 10:54			U	U	mg/L				0	20	RA
L52869-02AS	AS	07/08/19 10:57	WI180918-3	10	U	10.154	mg/L	102	90	110			
WG476340LFB2	LFB	07/08/19 11:34	WI180918-3	10		10.281	mg/L	103	90	110			

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NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Nitrogen, total Kjeldahl M351.2 - TKN by Block Digester

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476539													
WG476539ICV	ICV	07/10/19 0:27	WI190628-6	4		4.11	mg/L	103	90	110			
WG476539ICB	ICB	07/10/19 0:28				U	mg/L		-0.1	0.1			
WG476423LRB1	LRB	07/10/19 0:29				U	mg/L		-0.1	0.1			
WG476423LFB1	LFB	07/10/19 0:30	WI190628-2	2.5		2.62	mg/L	105	90	110			
L52859-01DUP	DUP	07/10/19 0:48			.4	.41	mg/L				2	20	RA
WG476423LRB2	LRB	07/10/19 1:03				U	mg/L		-0.1	0.1			
WG476423LFB2	LFB	07/10/19 1:04	WI190628-2	2.5		2.26	mg/L	90	90	110			
L52869-07DUP	DUP	07/10/19 1:06			.3	.31	mg/L				3	20	RA
L52904-01LFM	LFM	07/10/19 1:11	WI190628-2	2.5	.2	2.59	mg/L	96	90	110			
L52859-02LFM	LFM	07/10/19 1:24	WI190628-2	2.5	4.9	10.01	mg/L	204	90	110			M1

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476236													
WG476236LCSW1	LCSW	07/03/19 16:29	PCN58053	6		6	units	100	5.9	6.1			
WG476236LCSW4	LCSW	07/03/19 19:16	PCN58053	6		6	units	100	5.9	6.1			
L52869-05DUP	DUP	07/03/19 22:42			7.7	7.7	units				0	20	
WG476236LCSW7	LCSW	07/03/19 22:45	PCN58053	6		6	units	100	5.9	6.1			
L52893-01DUP	DUP	07/04/19 1:05			7.4	7.4	units				0	20	
WG476236LCSW10	LCSW	07/04/19 2:16	PCN58053	6		6	units	100	5.9	6.1			
WG476236LCSW13	LCSW	07/04/19 5:07	PCN58053	6		6	units	100	5.9	6.1			

Phosphorus, dissolved M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476498													
WG476498ICV	ICV	07/09/19 14:43	WI190706-4	.65228		.672	mg/L	103	90	110			
WG476498ICB	ICB	07/09/19 14:46				U	mg/L		-0.01	0.01			
WG476461LRB	LRB	07/09/19 14:47				U	mg/L		-0.01	0.01			
WG476461LFB	LFB	07/09/19 14:48	WI190709-2	.5		.493	mg/L	99	90	110			
L52860-01DUP	DUP	07/09/19 14:50			U	U	mg/L				0	20	RA
L52860-02LFM	LFM	07/09/19 14:53	WI190709-2	.5	U	.501	mg/L	100	90	110			
L52869-05DUP	DUP	07/09/19 15:06			.09	.088	mg/L				2	20	RA
L52869-06LFM	LFM	07/09/19 15:08	WI190709-2	.5	.1	.603	mg/L	101	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476802													
WG476802ICV	ICV	07/12/19 17:54	II190702-1	20		19.54	mg/L	98	95	105			
WG476802ICB	ICB	07/12/19 18:00				U	mg/L		-0.6	0.6			
WG476802LFB	LFB	07/12/19 18:12	II190701-2	99.96426		98.82	mg/L	99	85	115			
L52869-03AS	AS	07/12/19 18:40	II190701-2	99.96426	.4	100.4	mg/L	100	85	115			
L52869-03ASD	ASD	07/12/19 18:49	II190701-2	99.96426	.4	99.9	mg/L	100	85	115	0	20	
L52869-07AS	AS	07/12/19 19:04	II190701-2	99.96426	3.2	102.2	mg/L	99	85	115			
L52869-07ASD	ASD	07/12/19 19:07	II190701-2	99.96426	3.2	101.1	mg/L	98	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L52869***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476055													
WG476055PBW	PBW	07/02/19 11:15				U	mg/L		-40	40			
WG476055LCSW	LCSW	07/02/19 11:16	PCN59106	1000		976	mg/L	98	80	120			
L52892-01DUP	DUP	07/02/19 11:59			282	270	mg/L				4	10	
WG476231													
WG476231PBW	PBW	07/03/19 14:30				U	mg/L		-40	40			
WG476231LCSW	LCSW	07/03/19 14:32	PCN59106	1000		984	mg/L	98	80	120			
L52869-03DUP	DUP	07/03/19 15:04			22	U	mg/L				200	10	RA
L52960-02DUP	DUP	07/03/19 15:30			718	720	mg/L				0	10	

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476802													
WG476802ICV	ICV	07/12/19 17:54	II190702-1	2		1.91	mg/L	96	95	105			
WG476802ICB	ICB	07/12/19 18:00				U	mg/L		-0.3	0.3			
WG476802LFB	LFB	07/12/19 18:12	II190701-2	.9868		.98	mg/L	99	85	115			
L52869-03AS	AS	07/12/19 18:40	II190701-2	.9868	U	.99	mg/L	100	85	115			
L52869-03ASD	ASD	07/12/19 18:49	II190701-2	.9868	U	.97	mg/L	98	85	115	2	20	
L52869-07AS	AS	07/12/19 19:04	II190701-2	.9868	U	.97	mg/L	98	85	115			
L52869-07ASD	ASD	07/12/19 19:07	II190701-2	.9868	U	.97	mg/L	98	85	115	0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.05		.0489	mg/L	98	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.00022	0.00022			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.05005		.05256	mg/L	105	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.05005	.0025	.05234	mg/L	100	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.05005	.0025	.05492	mg/L	105	70	130	5	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.05005	U	.05181	mg/L	104	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.05005	U	.05268	mg/L	105	70	130	2	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.02004		.02048	mg/L	102	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.00022	0.00022			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.01002		.01064	mg/L	106	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.01002	U	.00977	mg/L	98	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.01002	U	.00945	mg/L	94	70	130	3	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.01002	U	.01033	mg/L	103	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.01002	U	.01057	mg/L	105	70	130	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L52869***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476802													
WG476802ICV	ICV	07/12/19 17:54	II190702-1	100		101.35	mg/L	101	95	105			
WG476802ICB	ICB	07/12/19 18:00				U	mg/L		-0.6	0.6			
WG476802LFB	LFB	07/12/19 18:12	II190701-2	100.0471		102.2	mg/L	102	85	115			
L52869-03AS	AS	07/12/19 18:40	II190701-2	100.0471	1.2	105.2	mg/L	104	85	115			
L52869-03ASD	ASD	07/12/19 18:49	II190701-2	100.0471	1.2	103.8	mg/L	103	85	115	1	20	
L52869-07AS	AS	07/12/19 19:04	II190701-2	100.0471	13.4	114.9	mg/L	101	85	115			
L52869-07ASD	ASD	07/12/19 19:07	II190701-2	100.0471	13.4	114.4	mg/L	101	85	115	0	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476802													
WG476802ICV	ICV	07/12/19 17:54	II190702-1	2		1.9195	mg/L	96	95	105			
WG476802ICB	ICB	07/12/19 18:00				U	mg/L		-0.027	0.027			
WG476802LFB	LFB	07/12/19 18:12	II190701-2	.5005		.4839	mg/L	97	85	115			
L52869-03AS	AS	07/12/19 18:40	II190701-2	.5005	.014	.5028	mg/L	98	85	115			
L52869-03ASD	ASD	07/12/19 18:49	II190701-2	.5005	.014	.5002	mg/L	97	85	115	1	20	
L52869-07AS	AS	07/12/19 19:04	II190701-2	.5005	.023	.5076	mg/L	97	85	115			
L52869-07ASD	ASD	07/12/19 19:07	II190701-2	.5005	.023	.5024	mg/L	96	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476656													
WG476656ICB	ICB	07/11/19 8:46				U	mg/L		-3	3			
WG476656ICV	ICV	07/11/19 8:46	WI190710-1	20		19.6	mg/L	98	90	110			
WG476656LFB	LFB	07/11/19 12:59	WI181024-4	10.03		10.1	mg/L	101	90	110			
L52996-01DUP	DUP	07/11/19 13:02			33.9	28.1	mg/L				19	20	
L45966-49DUP	DUP	07/11/19 13:40			62.3	63.6	mg/L				2	20	
L45966-50AS	AS	07/11/19 13:40	SO4TURB5X	10	55.6	66.1	mg/L	105	90	110			
L52876-07AS	AS	07/11/19 14:09	SO4TURB60X	9.99	1020	1030	mg/L	100	90	110			
WG476655													
WG476655ICB	ICB	07/11/19 8:46				U	mg/L		-3	3			
WG476655ICV	ICV	07/11/19 8:46	WI190710-1	20		19.6	mg/L	98	90	110			
WG476655LFB	LFB	07/11/19 11:24	WI181024-4	10.03		9.3	mg/L	93	90	110			
L52869-01DUP	DUP	07/11/19 12:06			1.1	U	mg/L				200	20	RA
L52865-05AS	AS	07/11/19 14:24	SO4TURB20X	50	2040	2140	mg/L	200	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.05		.0519	mg/L	104	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.00022	0.00022			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.0501		.05385	mg/L	107	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.0501	U	.05273	mg/L	105	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.0501	U	.05419	mg/L	108	70	130	3	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.0501	U	.05349	mg/L	107	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.0501	U	.05346	mg/L	107	70	130	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L52869***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Thiocyanate as SCN SM4500-CN M

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476622													
WG476622ICV	ICV	07/10/19 15:19	WC190405-9	2		2	mg/L	100	90	110			
WG476622ICB	ICB	07/10/19 15:21				U	mg/L		-0.3	0.3			
WG476622LFB1	LFB	07/10/19 15:23	WC190607-4	2.5		2.43	mg/L	97	80	120			
L52869-07AS	AS	07/10/19 15:53	WC190607-4	2.5	U	2.59	mg/L	104	80	120			
L52869-07DUP	DUP	07/10/19 15:56			U	U	mg/L				0	20	RA
WG476622LFB2	LFB	07/10/19 16:30	WC190607-4	2.5		2.51	mg/L	100	80	120			

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476802													
WG476802ICV	ICV	07/12/19 17:54	II190702-1	2		1.89	mg/L	95	95	105			
WG476802ICB	ICB	07/12/19 18:00				U	mg/L		-0.12	0.12			
WG476802LFB	LFB	07/12/19 18:12	II190701-2	1.002		1.012	mg/L	101	85	115			
L52869-03AS	AS	07/12/19 18:40	II190701-2	1.002	U	1.022	mg/L	102	85	115			
L52869-03ASD	ASD	07/12/19 18:49	II190701-2	1.002	U	.974	mg/L	97	85	115	5	20	
L52869-07AS	AS	07/12/19 19:04	II190701-2	1.002	U	.98	mg/L	98	85	115			
L52869-07ASD	ASD	07/12/19 19:07	II190701-2	1.002	U	.979	mg/L	98	85	115	0	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476912													
WG476912ICV	ICV	07/15/19 18:09	II190715-2	2		1.9702	mg/L	99	95	105			
WG476912ICB	ICB	07/15/19 18:15				U	mg/L		-0.015	0.015			
WG476912LFB	LFB	07/15/19 18:28	II190701-2	1		1.059	mg/L	106	85	115			
L52869-03AS	AS	07/15/19 18:58	II190701-2	1	U	1.062	mg/L	106	85	115			
L52869-03ASD	ASD	07/15/19 19:07	II190701-2	1	U	1.063	mg/L	106	85	115	0	20	
L52869-07AS	AS	07/15/19 19:24	II190701-2	1	U	1.053	mg/L	105	85	115			
L52869-07ASD	ASD	07/15/19 19:27	II190701-2	1	U	1.058	mg/L	106	85	115	0	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.05		.04986	mg/L	100	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.00022	0.00022			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.05		.05322	mg/L	106	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.05	.032	.08319	mg/L	102	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.05	.032	.08508	mg/L	106	70	130	2	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.05	U	.0528	mg/L	106	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.05	U	.05294	mg/L	106	70	130	0	20	

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NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Vanadium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476619													
WG476619ICV	ICV	07/10/19 17:12	MS190630-2	.05		.04751	mg/L	95	90	110			
WG476619ICB	ICB	07/10/19 17:14				U	mg/L		-0.0011	0.0011			
WG476619LFB	LFB	07/10/19 17:16	MS190606-3	.05005		.05411	mg/L	108	85	115			
L52714-02AS	AS	07/10/19 17:21	MS190606-3	.05005	.0008	.05105	mg/L	100	70	130			
L52714-02ASD	ASD	07/10/19 17:23	MS190606-3	.05005	.0008	.05341	mg/L	105	70	130	5	20	
L52869-04AS	AS	07/10/19 17:43	MS190606-3	.05005	.0244	.07525	mg/L	102	70	130			
L52869-04ASD	ASD	07/10/19 17:45	MS190606-3	.05005	.0244	.0768	mg/L	105	70	130	2	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476912													
WG476912ICV	ICV	07/15/19 18:09	II190715-2	2		1.91	mg/L	96	95	105			
WG476912ICB	ICB	07/15/19 18:15				U	mg/L		-0.03	0.03			
WG476912LFB	LFB	07/15/19 18:28	II190701-2	.50075		.532	mg/L	106	85	115			
L52869-03AS	AS	07/15/19 18:58	II190701-2	.50075	U	.536	mg/L	107	85	115			
L52869-03ASD	ASD	07/15/19 19:07	II190701-2	.50075	U	.532	mg/L	106	85	115	1	20	
L52869-07AS	AS	07/15/19 19:24	II190701-2	.50075	U	.523	mg/L	104	85	115			
L52869-07ASD	ASD	07/15/19 19:27	II190701-2	.50075	U	.528	mg/L	105	85	115	1	20	

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L52869-01	WG476912	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Antimony, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Arsenic, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Beryllium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Bicarbonate as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476802	Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Cadmium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Carbonate as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476437	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG476619	Chromium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476619	Copper, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476151	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476148	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Hydroxide as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476802	Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Lead, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Manganese, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476203	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Molybdenum, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG475890	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					sample is too low for accurate evaluation (< 10x MDL).
	WG476340	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476539	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476236	pH (lab)	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476498	Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476231	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Selenium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476655	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476619	Thallium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476622	Thiocyanate as SCN	SM4500-CN M	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476619	Uranium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Vanadium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L52869-02	WG476912	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Antimony, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Arsenic, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Beryllium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Bicarbonate as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476802	Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Cadmium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Carbonate as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476456	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476619	Chromium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476619	Copper, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476151	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476148	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Hydroxide as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476802	Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Lead, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Manganese, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476203	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Molybdenum, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG475890	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
	WG476340	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476539	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476236	pH (lab)	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476498	Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476231	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540C	Z3	Sample volume yielded a residue less than 2.5 mg
	WG476802	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Selenium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Thallium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476622	Thiocyanate as SCN	SM4500-CN M	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476619	Uranium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Vanadium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L52869-03	WG476912	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Antimony, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Arsenic, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Beryllium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Bicarbonate as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476802	Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Cadmium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Carbonate as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476456	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476619	Chromium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476619	Copper, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476151	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476148	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476388	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
	WG476802	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Hydroxide as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476802	Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Lead, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Manganese, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476203	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Molybdenum, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG475890	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					sample is too low for accurate evaluation (< 10x MDL).
	WG476340	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476539	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476236	pH (lab)	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476498	Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476231	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540C	Z3	Sample volume yielded a residue less than 2.5 mg
	WG476802	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Selenium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Thallium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476622	Thiocyanate as SCN	SM4500-CN M	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476619	Uranium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Vanadium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L52869-04	WG476912	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Antimony, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Arsenic, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Beryllium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Bicarbonate as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476802	Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Cadmium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Carbonate as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476456	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476619	Chromium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476619	Copper, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476151	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476225	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Hydroxide as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476802	Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Lead, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Manganese, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476203	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Molybdenum, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG475890	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
	WG476340	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476539	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476236	pH (lab)	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476498	Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Selenium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Thallium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476622	Thiocyanate as SCN	SM4500-CN M	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476619	Uranium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Vanadium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L52869-05	WG476912	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Antimony, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Arsenic, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Beryllium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Bicarbonate as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476802	Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Cadmium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Carbonate as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476456	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476619	Chromium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476619	Copper, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476151	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476225	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476388	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
	WG476802	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Hydroxide as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476802	Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Lead, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Manganese, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476203	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Molybdenum, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG475890	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					sample is too low for accurate evaluation (< 10x MDL).
	WG476340	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476539	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476236	pH (lab)	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476498	Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476231	Residue, Filterable (TDS) @180C	SM2540C	Z3	Sample volume yielded a residue less than 2.5 mg
	WG476802	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Selenium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Thallium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476622	Thiocyanate as SCN	SM4500-CN M	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476320	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476619	Uranium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Vanadium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L52869-06	WG476912	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Antimony, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Arsenic, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Beryllium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Bicarbonate as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476802	Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Cadmium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Carbonate as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476456	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476619	Chromium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476619	Copper, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476151	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476225	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Hydroxide as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476802	Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Lead, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Manganese, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476203	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Molybdenum, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG475890	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
	WG476340	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476539	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476236	pH (lab)	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476498	Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Selenium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Thallium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476622	Thiocyanate as SCN	SM4500-CN M	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476619	Uranium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Vanadium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L52869-07	WG476912	Aluminum, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Antimony, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Arsenic, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Barium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Beryllium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Bicarbonate as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476802	Bismuth, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Boron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Cadmium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Calcium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Carbonate as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476456	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476619	Chromium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Cobalt, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Conductivity @25C	SM2510B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476619	Copper, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476151	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476225	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Gallium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Hydroxide as CaCO3	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476802	Iron, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Lead, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Lithium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Magnesium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Manganese, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476203	Mercury, dissolved	M245.1 CVAA	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Molybdenum, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Nickel, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG475890	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

McClelland Laboratories, Inc. ACZ Project ID: ***L52869***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
	WG476340	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476539	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476236	pH (lab)	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476498	Phosphorus, dissolved	M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Potassium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476055	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG476802	Scandium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Selenium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Silver, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476802	Sodium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Strontium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476619	Thallium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476622	Thiocyanate as SCN	SM4500-CN M	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
			SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476802	Tin, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Titanium, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476236	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG476619	Uranium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
		Vanadium, dissolved	M200.8 ICP-MS	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG476912	Zinc, dissolved	M200.7 ICP	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.	
Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP
The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.	
Bismuth, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.	
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation
Thiocyanate as SCN	SM4500-CN M
The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.	
Thiocyanate as SCN	SM4500-CN M

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
4303

ACZ Project ID: L52869
Date Received: 06/28/2019 11:25
Received By:
Date Printed: 7/1/2019

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]		X	

```
L52869-01 Container B2149076 (GREEN): Added 1 mls nitric acid
to the sub-sample to adjust the pH to the appropriate range.

L52869-01 Container B2149077 (BLACK): Added 0.5 mls nitric acid
to the sub-sample to adjust the pH to the appropriate range.

L52869-01 Container B2149078 (YELLOW): Added 1 mls sulfuric
acid to the sub-sample to adjust the pH to the appropriate
range.

L52869-01 Container B2149079 (BLUE): Added 1 mls sulfuric acid
to the sub-sample to adjust the pH to the appropriate range.

L52869-02 Container B2149147 (GREEN): Added 1 mls nitric acid
to the sub-sample to adjust the pH to the appropriate range.

L52869-02 Container B2149148 (BLACK): Added 0.5 mls nitric acid
to the sub-sample to adjust the pH to the appropriate range.

L52869-02 Container B2149149 (YELLOW): Added 1 mls sulfuric
acid to the sub-sample to adjust the pH to the appropriate
range.

L52869-02 Container B2149150 (BLUE): Added 1 mls sulfuric acid
to the sub-sample to adjust the pH to the appropriate range.

L52869-03 Container B2149153 (GREEN): Added 1 mls nitric acid
to the sub-sample to adjust the pH to the appropriate range.

L52869-03 Container B2149154 (BLACK): Added 0.5 mls nitric acid
to the sub-sample to adjust the pH to the appropriate range.

L52869-03 Container B2149155 (YELLOW): Added 1 mls sulfuric
acid to the sub-sample to adjust the pH to the appropriate
range.
```

McClelland Laboratories, Inc.
4303

ACZ Project ID: L52869
Date Received: 06/28/2019 11:25
Received By:
Date Printed: 7/1/2019

L52869-03 Container B2149156 (BLUE): Added 1 mls sulfuric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-04 Container B2149159 (GREEN): Added 1 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-04 Container B2149160 (BLACK): Added 0.5 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-04 Container B2149161 (YELLOW): Added 1 mls sulfuric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-04 Container B2149162 (BLUE): Added 1 mls sulfuric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-05 Container B2149165 (GREEN): Added 1 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-05 Container B2149166 (BLACK): Added 0.5 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-05 Container B2149167 (YELLOW): Added 1 mls sulfuric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-05 Container B2149168 (BLUE): Added 1 mls sulfuric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-06 Container B2149171 (GREEN): Added 1 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-06 Container B2149172 (BLACK): Added 0.5 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-06 Container B2149173 (YELLOW): Added 1 mls sulfuric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-06 Container B2149174 (BLUE): Added 1 mls sulfuric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-07 Container B2149177 (GREEN): Added 1 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-07 Container B2149178 (BLACK): Added 0.5 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-07 Container B2149179 (YELLOW): Added 1 mls sulfuric acid to the sub-sample to adjust the pH to the appropriate range.

L52869-07 Container B2149180 (BLUE): Added 1 mls sulfuric acid to the sub-sample to adjust the pH to the appropriate range.

12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X

McClelland Laboratories, Inc.
4303

ACZ Project ID: L52869
Date Received: 06/28/2019 11:25
Received By:
Date Printed: 7/1/2019

15) Are all sample containers appropriate for analytical requirements?		X	

L52869-01 : A Purple, White, Green, Black, Yellow, Blue container not received and a new container created from the Raw .

L52869-02 : A Purple, White, Green, Black, Yellow, Blue container not received and a new container created from the Raw .

L52869-03 : A Purple, White, Green, Black, Yellow, Blue container not received and a new container created from the Raw .

L52869-04 : A Purple, White, Green, Black, Yellow, Blue container not received and a new container created from the Raw .

L52869-05 : A Purple, White, Green, Black, Yellow, Blue container not received and a new container created from the Raw .

L52869-06 : A Purple, White, Green, Black, Yellow, Blue container not received and a new container created from the Raw .

L52869-07 : A Purple, White, Green, Black, Yellow, Blue container not received and a new container created from the Raw .

16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA30867	6	<=6.0	15	N/A

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L52869

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	results@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:		Address:	
Company:			
E-mail:		Telephone:	

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ☐ NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:

Project/PO #: 4303

Reporting state for compliance testing:

Sampler's Name: Robert

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	see attached								
BASALT B1 0-30 1446340	6/27/2019:12PM	WW	1	X								
BASALT B1 56-67 1446342	6/27/2019:12PM	WW	1	X								
BASALT B2 30-50 1446348	6/27/2019:12PM	WW	1	X								
BASALT B2 85-95 1446350	6/27/2019:12PM	WW	1	X								
BASALT B3 41-61 1446354	6/27/2019:12PM	WW	1	X								
BASALT B3 93-110 1446356	6/27/2019:12PM	WW	1	X								
BASALT B3 151-156 1446358	6/27/2019:12PM	WW	1	X								

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Modified SPLP with 1:1 water to rock ratio and distilled water for lixiviant.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	6/27/19 12PM	[signature]	6/28/19 11:25

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L52869 Chain of Custod

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Thiocyanate				dissolved
TKN				dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury	Method 1631E (low level)	0.2 ng/L	0.5 ng/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate as N				dissolved
Nitrite as N				dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 25, 2019

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

cc: ReportsCC-Always Use

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID: 4303
ACZ Project ID: L53063

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 09, 2019. This project has been assigned to ACZ's project number, L53063. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L53063. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 24, 2019. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B1 115-121 1446345

ACZ Sample ID: ***L53063-01***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-		*				07/10/19 13:12	wtc
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/11/19 12:58	ttg
Nitrogen, total Kjeldahl	M351.2 - Block Digestor				*				07/12/19 14:44	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/12/19 12:28	rbt

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.06	B	*	mg/L	0.05	0.3	07/23/19 19:15	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.0004	B	*	mg/L	0.0004	0.002	07/17/19 18:37	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0078		*	mg/L	0.0002	0.001	07/17/19 18:37	msh
Barium, dissolved	M200.7 ICP	1	0.011	B	*	mg/L	0.007	0.04	07/23/19 19:15	aeh
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/17/19 18:37	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:15	aeh
Boron, dissolved	M200.7 ICP	1	0.09	B	*	mg/L	0.02	0.1	07/23/19 19:15	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/17/19 18:37	msh
Calcium, dissolved	M200.7 ICP	1	6.6		*	mg/L	0.1	0.5	07/23/19 19:15	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:15	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:15	aeh
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:15	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:15	aeh
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/23/19 19:15	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0006		*	mg/L	0.0001	0.0005	07/17/19 18:37	msh
Lithium, dissolved	M200.7 ICP	1	0.022	B	*	mg/L	0.008	0.04	07/24/19 14:24	aeh
Magnesium, dissolved	M200.7 ICP	1	3.5		*	mg/L	0.2	1	07/23/19 19:15	aeh
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:15	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/11/19 12:50	slm
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/23/19 19:15	aeh
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/23/19 19:15	aeh
Potassium, dissolved	M200.7 ICP	1	1.3		*	mg/L	0.2	1	07/23/19 19:15	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:15	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B	*	mg/L	0.0001	0.0003	07/17/19 18:37	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/23/19 19:15	aeh
Sodium, dissolved	M200.7 ICP	1	6.8		*	mg/L	0.2	1	07/23/19 19:15	aeh
Strontium, dissolved	M200.7 ICP	1	0.060		*	mg/L	0.009	0.05	07/23/19 19:15	aeh
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/17/19 18:37	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:15	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/23/19 19:15	aeh
Uranium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/17/19 18:37	msh
Vanadium, dissolved	M200.7 ICP	1	0.054		*	mg/L	0.005	0.03	07/23/19 19:15	aeh
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:15	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B1 115-121 1446345

ACZ Sample ID: ***L53063-01***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	33.0		*	mg/L	2	20	07/12/19 0:00	enb
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Total Alkalinity		1	33.0		*	mg/L	2	20	07/12/19 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.1			%			07/25/19 0:00	calc
Sum of Anions			1.0			meq/L			07/25/19 0:00	calc
Sum of Cations			0.958			meq/L			07/25/19 0:00	calc
Chloride	SM4500Cl-E	1	2.4		*	mg/L	0.5	2	07/13/19 11:44	wtc
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/12/19 0:39	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/11/19 23:12	pjb
Fluoride	SM4500F-C	1	1.4		*	mg/L	0.1	0.4	07/16/19 18:36	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		31			mg/L	0.2	5	07/25/19 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/18/19 0:10	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/12/19 12:02	ttg
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1		U	*	mg/L	0.1	0.5	07/12/19 23:05	pjb
pH (lab)	SM4500H+ B	1	7.8	H	*	units	0.1	0.1	07/12/19 1:56	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.13		*	mg/L	0.01	0.05	07/16/19 14:35	ttg
Residue, Filterable (TDS) @180C	SM2540C	1	118		*	mg/L	20	40	07/11/19 15:43	emk
Sulfate	D516-02/-07 - Turbidimetric	1	11.4			mg/L	1	5	07/18/19 9:20	ttg
TDS (calculated)	Calculation		53.7			mg/L			07/25/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.20						07/25/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1		U	*	mg/L	0.1	0.5	07/10/19 16:07	emk

Arizona license number: AZ0102

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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B2 109-114 1446352

ACZ Sample ID: ***L53063-02***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-		*				07/10/19 13:16	wtc
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/11/19 13:08	ttg
Nitrogen, total Kjeldahl	M351.2 - Block Digestor				*				07/12/19 14:56	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/12/19 12:43	rbt

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.05	0.3	07/23/19 19:18	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/17/19 18:40	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.006		*	mg/L	0.0002	0.001	07/17/19 18:40	msh
Barium, dissolved	M200.7 ICP	1	0.009	B	*	mg/L	0.007	0.04	07/23/19 19:18	aeh
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/17/19 18:40	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:18	aeh
Boron, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.02	0.1	07/23/19 19:18	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/17/19 18:40	msh
Calcium, dissolved	M200.7 ICP	1	3.5		*	mg/L	0.1	0.5	07/23/19 19:18	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:18	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:18	aeh
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:18	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:18	aeh
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/23/19 19:18	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0006		*	mg/L	0.0001	0.0005	07/17/19 18:40	msh
Lithium, dissolved	M200.7 ICP	1	0.036	B	*	mg/L	0.008	0.04	07/24/19 14:27	aeh
Magnesium, dissolved	M200.7 ICP	1	1.6		*	mg/L	0.2	1	07/23/19 19:18	aeh
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:18	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/11/19 12:51	slm
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/23/19 19:18	aeh
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/23/19 19:18	aeh
Potassium, dissolved	M200.7 ICP	1	1.3		*	mg/L	0.2	1	07/23/19 19:18	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:18	aeh
Selenium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0003	07/17/19 18:40	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/23/19 19:18	aeh
Sodium, dissolved	M200.7 ICP	1	10.8		*	mg/L	0.2	1	07/23/19 19:18	aeh
Strontium, dissolved	M200.7 ICP	1	0.025	B	*	mg/L	0.009	0.05	07/23/19 19:18	aeh
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/17/19 18:40	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:18	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/23/19 19:18	aeh
Uranium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/17/19 18:40	msh
Vanadium, dissolved	M200.7 ICP	1	0.042		*	mg/L	0.005	0.03	07/23/19 19:18	aeh
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:18	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: BASALT B2 109-114 1446352

ACZ Sample ID: ***L53063-02***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	36.6		*	mg/L	2	20	07/12/19 0:00	enb
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Total Alkalinity		1	36.6		*	mg/L	2	20	07/12/19 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.1			%			07/25/19 0:00	calc
Sum of Anions			0.869			meq/L			07/25/19 0:00	calc
Sum of Cations			0.816			meq/L			07/25/19 0:00	calc
Chloride	SM4500Cl-E	1	0.7	B	*	mg/L	0.5	2	07/13/19 11:44	wtc
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/12/19 0:40	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/11/19 23:12	pjb
Fluoride	SM4500F-C	1	1.1		*	mg/L	0.1	0.4	07/16/19 18:44	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		15			mg/L	0.2	5	07/25/19 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/18/19 0:11	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/12/19 12:05	ttg
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1		U	*	mg/L	0.1	0.5	07/12/19 23:08	pjb
pH (lab)	SM4500H+ B	1	7.8	H	*	units	0.1	0.1	07/12/19 2:36	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.24		*	mg/L	0.01	0.05	07/16/19 14:37	ttg
Residue, Filterable (TDS) @180C	SM2540C	1	86		*	mg/L	20	40	07/09/19 15:30	eij
Sulfate	D516-02/-07 - Turbidimetric	1	2.8	B		mg/L	1	5	07/18/19 9:20	ttg
TDS (calculated)	Calculation		44.2			mg/L			07/25/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.95						07/25/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1		U	*	mg/L	0.1	0.5	07/10/19 16:09	emk

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: ERIONITE #2

ACZ Sample ID: ***L53063-03***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-		*				07/10/19 13:25	wtc
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/11/19 15:42	ttg
Nitrogen, total Kjeldahl	M351.2 - Block Digestor				*				07/12/19 15:09	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/12/19 12:50	rbt

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.05	0.3	07/23/19 19:21	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/17/19 18:43	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0039		*	mg/L	0.0002	0.001	07/17/19 18:43	msh
Barium, dissolved	M200.7 ICP	1	0.007	B	*	mg/L	0.007	0.04	07/23/19 19:21	aeh
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/17/19 18:43	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:21	aeh
Boron, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.02	0.1	07/23/19 19:21	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/17/19 18:43	msh
Calcium, dissolved	M200.7 ICP	1	4.5		*	mg/L	0.1	0.5	07/23/19 19:21	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:21	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:21	aeh
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:21	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:21	aeh
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/23/19 19:21	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0005		*	mg/L	0.0001	0.0005	07/17/19 18:43	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/24/19 14:30	aeh
Magnesium, dissolved	M200.7 ICP	1	0.4	B	*	mg/L	0.2	1	07/23/19 19:21	aeh
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:21	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/11/19 12:52	slm
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/23/19 19:21	aeh
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/23/19 19:21	aeh
Potassium, dissolved	M200.7 ICP	1	0.9	B	*	mg/L	0.2	1	07/23/19 19:21	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:21	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B	*	mg/L	0.0001	0.0003	07/17/19 18:43	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/23/19 19:21	aeh
Sodium, dissolved	M200.7 ICP	1	3.6		*	mg/L	0.2	1	07/23/19 19:21	aeh
Strontium, dissolved	M200.7 ICP	1	0.020	B	*	mg/L	0.009	0.05	07/23/19 19:21	aeh
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/17/19 18:43	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:21	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/23/19 19:21	aeh
Uranium, dissolved	M200.8 ICP-MS	1	0.0001	B	*	mg/L	0.0001	0.0005	07/17/19 18:43	msh
Vanadium, dissolved	M200.7 ICP	1	0.068		*	mg/L	0.005	0.03	07/23/19 19:21	aeh
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:21	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: ERIONITE #2

ACZ Sample ID: ***L53063-03***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	18.0	B	*	mg/L	2	20	07/12/19 0:00	enb
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Total Alkalinity		1	18.0	B	*	mg/L	2	20	07/12/19 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-5.1			%			07/25/19 0:00	calc
Sum of Anions			0.443	B		meq/L			07/25/19 0:00	calc
Sum of Cations			0.4	B		meq/L			07/25/19 0:00	calc
Chloride	SM4500Cl-E	1	0.5	B	*	mg/L	0.5	2	07/13/19 11:44	wtc
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/12/19 0:41	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/13/19 19:15	pjb
Fluoride	SM4500F-C	1		U	*	mg/L	0.1	0.4	07/16/19 18:52	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		13			mg/L	0.2	5	07/25/19 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.18		*	mg/L	0.02	0.1	07/18/19 0:12	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/12/19 12:08	ttg
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1		U	*	mg/L	0.1	0.5	07/12/19 23:10	pjb
pH (lab)	SM4500H+ B	1	7.6	H	*	units	0.1	0.1	07/12/19 2:42	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.16		*	mg/L	0.01	0.05	07/16/19 14:38	ttg
Residue, Filterable (TDS) @180C	SM2540C	1	24	B	*	mg/L	20	40	07/09/19 15:32	eij
Sulfate	D516-02/-07 - Turbidimetric	1	3.3	B	*	mg/L	1	5	07/18/19 9:47	ttg
TDS (calculated)	Calculation		24.2			mg/L			07/25/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.99						07/25/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1		U	*	mg/L	0.1	0.5	07/10/19 16:12	emk

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: ERIONITE #3

ACZ Sample ID: ***L53063-04***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-		*				07/15/19 12:32	mss2
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/11/19 15:51	ttg
Nitrogen, total Kjeldahl	M351.2 - Block Digestor				*				07/12/19 15:21	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/12/19 12:57	rbt

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.05	0.3	07/23/19 19:24	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/17/19 18:46	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0029		*	mg/L	0.0002	0.001	07/17/19 18:46	msh
Barium, dissolved	M200.7 ICP	1	0.008	B	*	mg/L	0.007	0.04	07/23/19 19:24	aeh
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/17/19 18:46	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:24	aeh
Boron, dissolved	M200.7 ICP	1	0.02	B	*	mg/L	0.02	0.1	07/23/19 19:24	aeh
Cadmium, dissolved	M200.8 ICP-MS	1	0.00009	B	*	mg/L	0.00005	0.0003	07/17/19 18:46	msh
Calcium, dissolved	M200.7 ICP	1	5.8		*	mg/L	0.1	0.5	07/23/19 19:24	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:24	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:24	aeh
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:24	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:24	aeh
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/23/19 19:24	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0011		*	mg/L	0.0001	0.0005	07/17/19 18:46	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/24/19 14:34	aeh
Magnesium, dissolved	M200.7 ICP	1	1.1		*	mg/L	0.2	1	07/23/19 19:24	aeh
Manganese, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.01	0.05	07/23/19 19:24	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/11/19 12:54	slm
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/23/19 19:24	aeh
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/23/19 19:24	aeh
Potassium, dissolved	M200.7 ICP	1	0.9	B	*	mg/L	0.2	1	07/23/19 19:24	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:24	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0005		*	mg/L	0.0001	0.0003	07/17/19 18:46	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/23/19 19:24	aeh
Sodium, dissolved	M200.7 ICP	1	0.8	B	*	mg/L	0.2	1	07/23/19 19:24	aeh
Strontium, dissolved	M200.7 ICP	1	0.020	B	*	mg/L	0.009	0.05	07/23/19 19:24	aeh
Thallium, dissolved	M200.8 ICP-MS	1	0.0001	B	*	mg/L	0.0001	0.0005	07/17/19 18:46	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:24	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/23/19 19:24	aeh
Uranium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/17/19 18:46	msh
Vanadium, dissolved	M200.7 ICP	1	0.012	B	*	mg/L	0.005	0.03	07/23/19 19:24	aeh
Zinc, dissolved	M200.7 ICP	1	0.09		*	mg/L	0.01	0.05	07/23/19 19:24	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: ERIONITE #3

ACZ Sample ID: ***L53063-04***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	22.2		*	mg/L	2	20	07/12/19 0:00	enb
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Total Alkalinity		1	22.2		*	mg/L	2	20	07/12/19 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.1			%			07/25/19 0:00	calc
Sum of Anions			0.444	B		meq/L			07/25/19 0:00	calc
Sum of Cations			0.445	B		meq/L			07/25/19 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	07/13/19 11:44	wtc
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.008	B	*	mg/L	0.003	0.01	07/16/19 15:11	mss2
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5	0.007	B	*	mg/L	0.003	0.01	07/13/19 19:16	pjb
Fluoride	SM4500F-C	1		U	*	mg/L	0.1	0.4	07/16/19 18:56	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		19.0			mg/L	0.2	5	07/25/19 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/18/19 0:13	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/12/19 12:09	ttg
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1		U	*	mg/L	0.1	0.5	07/12/19 23:11	pjb
pH (lab)	SM4500H+ B	1	7.6	H	*	units	0.1	0.1	07/12/19 2:50	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.27		*	mg/L	0.01	0.05	07/16/19 14:39	ttg
Residue, Filterable (TDS) @180C	SM2540C	1	28	B	*	mg/L	20	40	07/09/19 15:34	eij
Sulfate	D516-02/-07 - Turbidimetric	1		U	*	mg/L	1	5	07/18/19 9:47	ttg
TDS (calculated)	Calculation		22.3			mg/L			07/25/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.26						07/25/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1		U	*	mg/L	0.1	0.5	07/10/19 16:19	emk

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: ERIONITE #4

ACZ Sample ID: ***L53063-05***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-		*				07/15/19 12:42	mss2
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/11/19 16:01	ttg
Nitrogen, total Kjeldahl	M351.2 - Block Digestor				*				07/16/19 11:54	ttg
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/12/19 13:04	rbt

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.05	0.3	07/23/19 19:27	aeh
Antimony, dissolved	M200.8 ICP-MS	1	0.001	B	*	mg/L	0.0004	0.002	07/17/19 18:56	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0122		*	mg/L	0.0002	0.001	07/17/19 18:56	msh
Barium, dissolved	M200.7 ICP	1	0.032	B	*	mg/L	0.007	0.04	07/23/19 19:27	aeh
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/17/19 18:56	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:27	aeh
Boron, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.02	0.1	07/23/19 19:27	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/17/19 18:56	msh
Calcium, dissolved	M200.7 ICP	1	1.4		*	mg/L	0.1	0.5	07/23/19 19:27	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:27	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:27	aeh
Copper, dissolved	M200.7 ICP	1	0.01	B	*	mg/L	0.01	0.05	07/23/19 19:27	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:27	aeh
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/23/19 19:27	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0006		*	mg/L	0.0001	0.0005	07/17/19 18:56	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/24/19 14:37	aeh
Magnesium, dissolved	M200.7 ICP	1	0.6	B	*	mg/L	0.2	1	07/23/19 19:27	aeh
Manganese, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.01	0.05	07/23/19 19:27	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/11/19 12:55	slm
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/23/19 19:27	aeh
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/23/19 19:27	aeh
Potassium, dissolved	M200.7 ICP	1	1.6		*	mg/L	0.2	1	07/23/19 19:27	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:27	aeh
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B	*	mg/L	0.0001	0.0003	07/17/19 18:56	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/23/19 19:27	aeh
Sodium, dissolved	M200.7 ICP	1	0.9	B	*	mg/L	0.2	1	07/23/19 19:27	aeh
Strontium, dissolved	M200.7 ICP	1	0.014	B	*	mg/L	0.009	0.05	07/23/19 19:27	aeh
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/17/19 18:56	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:27	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/23/19 19:27	aeh
Uranium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/17/19 18:56	msh
Vanadium, dissolved	M200.7 ICP	1	0.005	B	*	mg/L	0.005	0.03	07/23/19 19:27	aeh
Zinc, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.01	0.05	07/23/19 19:27	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: ERIONITE #4

ACZ Sample ID: ***L53063-05***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	10.1	B	*	mg/L	2	20	07/12/19 0:00	enb
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Total Alkalinity		1	10.1	B	*	mg/L	2	20	07/12/19 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.2			%			07/25/19 0:00	calc
Sum of Anions			0.222	B		meq/L			07/25/19 0:00	calc
Sum of Cations			0.204	B		meq/L			07/25/19 0:00	calc
Chloride	SM4500Cl-E	1	0.7	B	*	mg/L	0.5	2	07/16/19 10:20	wtc
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.005	B	*	mg/L	0.003	0.01	07/16/19 15:12	mss2
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5	0.005	B	*	mg/L	0.003	0.01	07/13/19 19:17	pjb
Fluoride	SM4500F-C	1		U	*	mg/L	0.1	0.4	07/16/19 19:00	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		6			mg/L	0.2	5	07/25/19 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/18/19 0:16	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/12/19 12:11	ttg
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1	0.5		*	mg/L	0.1	0.5	07/19/19 0:24	pjb
pH (lab)	SM4500H+ B	1	6.8	H	*	units	0.1	0.1	07/12/19 2:56	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.16		*	mg/L	0.01	0.05	07/16/19 14:41	ttg
Residue, Filterable (TDS) @180C	SM2540C	1	34	B	*	mg/L	20	40	07/09/19 15:36	eij
Sulfate	D516-02/-07 - Turbidimetric	1		U	*	mg/L	1	5	07/18/19 9:47	ttg
TDS (calculated)	Calculation		11.4			mg/L			07/25/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		2.98						07/25/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1	0.3	B	*	mg/L	0.1	0.5	07/10/19 16:21	emk

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: ERIONITE #5

ACZ Sample ID: ***L53063-06***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-		*				07/15/19 12:53	mss2
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/11/19 16:10	ttg
Nitrogen, total Kjeldahl	M351.2 - Block Digestor				*				07/16/19 12:07	ttg
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/12/19 13:12	rbt

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.05	0.3	07/23/19 19:30	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/17/19 18:59	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0009	B	*	mg/L	0.0002	0.001	07/17/19 18:59	msh
Barium, dissolved	M200.7 ICP	1		U	*	mg/L	0.007	0.04	07/23/19 19:30	aeh
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/17/19 18:59	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:30	aeh
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/23/19 19:30	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/17/19 18:59	msh
Calcium, dissolved	M200.7 ICP	1	0.7		*	mg/L	0.1	0.5	07/23/19 19:30	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:30	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:30	aeh
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:30	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:30	aeh
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/23/19 19:30	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0007		*	mg/L	0.0001	0.0005	07/17/19 18:59	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/24/19 14:40	aeh
Magnesium, dissolved	M200.7 ICP	1	0.3	B	*	mg/L	0.2	1	07/23/19 19:30	aeh
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:30	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/11/19 12:56	slm
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/23/19 19:30	aeh
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/23/19 19:30	aeh
Potassium, dissolved	M200.7 ICP	1	0.6	B	*	mg/L	0.2	1	07/23/19 19:30	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:30	aeh
Selenium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0003	07/17/19 18:59	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/23/19 19:30	aeh
Sodium, dissolved	M200.7 ICP	1	0.3	B	*	mg/L	0.2	1	07/23/19 19:30	aeh
Strontium, dissolved	M200.7 ICP	1	0.009	B	*	mg/L	0.009	0.05	07/23/19 19:30	aeh
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/17/19 18:59	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:30	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/23/19 19:30	aeh
Uranium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/17/19 18:59	msh
Vanadium, dissolved	M200.7 ICP	1	0.007	B	*	mg/L	0.005	0.03	07/23/19 19:30	aeh
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:30	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: ERIONITE #5

ACZ Sample ID: ***L53063-06***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	3.7	B	*	mg/L	2	20	07/12/19 0:00	enb
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Total Alkalinity		1	3.7	B	*	mg/L	2	20	07/12/19 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			07/25/19 0:00	calc
Sum of Anions				U		meq/L			07/25/19 0:00	calc
Sum of Cations				U		meq/L			07/25/19 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	07/16/19 10:20	wtc
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.008	B	*	mg/L	0.003	0.01	07/16/19 15:13	mss2
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5	0.007	B	*	mg/L	0.003	0.01	07/13/19 19:17	pjb
Fluoride	SM4500F-C	1		U	*	mg/L	0.1	0.4	07/16/19 19:08	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		3	B		mg/L	0.2	5	07/25/19 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	07/18/19 0:19	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/12/19 12:12	ttg
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1		U	*	mg/L	0.1	0.5	07/19/19 0:25	pjb
pH (lab)	SM4500H+ B	1	6.8	H	*	units	0.1	0.1	07/12/19 3:02	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.15		*	mg/L	0.01	0.05	07/16/19 14:44	ttg
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	20	40	07/09/19 15:40	eij
Sulfate	D516-02/-07 - Turbidimetric	1		U	*	mg/L	1	5	07/18/19 9:47	ttg
TDS (calculated)	Calculation		4.17			mg/L			07/25/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						07/25/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1		U	*	mg/L	0.1	0.5	07/10/19 16:23	emk

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: ERIONITE #6

ACZ Sample ID: ***L53063-07***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-		*				07/15/19 13:03	mss2
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/11/19 16:20	ttg
Nitrogen, total Kjeldahl	M351.2 - Block Digestor				*				07/16/19 12:21	ttg
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/12/19 13:19	rbt

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.05	0.3	07/23/19 19:39	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/17/19 19:08	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.0045		*	mg/L	0.0002	0.001	07/17/19 19:08	msh
Barium, dissolved	M200.7 ICP	1	0.040		*	mg/L	0.007	0.04	07/23/19 19:39	aeh
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/17/19 19:08	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:39	aeh
Boron, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.02	0.1	07/23/19 19:39	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/17/19 19:08	msh
Calcium, dissolved	M200.7 ICP	1	1.0		*	mg/L	0.1	0.5	07/23/19 19:39	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:39	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:39	aeh
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:39	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:39	aeh
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/23/19 19:39	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0003	B	*	mg/L	0.0001	0.0005	07/17/19 19:08	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/24/19 14:50	aeh
Magnesium, dissolved	M200.7 ICP	1	0.4	B	*	mg/L	0.2	1	07/23/19 19:39	aeh
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:39	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/11/19 12:57	slm
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/23/19 19:39	aeh
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/23/19 19:39	aeh
Potassium, dissolved	M200.7 ICP	1	1.2		*	mg/L	0.2	1	07/23/19 19:39	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:39	aeh
Selenium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0003	07/17/19 19:08	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/23/19 19:39	aeh
Sodium, dissolved	M200.7 ICP	1	1.0		*	mg/L	0.2	1	07/23/19 19:39	aeh
Strontium, dissolved	M200.7 ICP	1	0.012	B	*	mg/L	0.009	0.05	07/23/19 19:39	aeh
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/17/19 19:08	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:39	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/23/19 19:39	aeh
Uranium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/17/19 19:08	msh
Vanadium, dissolved	M200.7 ICP	1	0.008	B	*	mg/L	0.005	0.03	07/23/19 19:39	aeh
Zinc, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.01	0.05	07/23/19 19:39	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: ERIONITE #6

ACZ Sample ID: ***L53063-07***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	5.2	B	*	mg/L	2	20	07/12/19 0:00	enb
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Total Alkalinity		1	5.2	B	*	mg/L	2	20	07/12/19 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			07/25/19 0:00	calc
Sum of Anions			0.109	B		meq/L			07/25/19 0:00	calc
Sum of Cations			0.159	B		meq/L			07/25/19 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	07/16/19 10:20	wtc
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/16/19 15:14	mss2
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	07/13/19 19:18	pjb
Fluoride	SM4500F-C	1	0.1	B	*	mg/L	0.1	0.4	07/16/19 19:26	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		4.1	B		mg/L	0.2	5	07/25/19 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.16		*	mg/L	0.02	0.1	07/18/19 0:20	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/12/19 12:14	ttg
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1		U	*	mg/L	0.1	0.5	07/19/19 0:26	pjb
pH (lab)	SM4500H+ B	1	7.1	H	*	units	0.1	0.1	07/12/19 3:09	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.14		*	mg/L	0.01	0.05	07/16/19 14:45	ttg
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	20	40	07/09/19 15:42	eij
Sulfate	D516-02/-07 - Turbidimetric	1		U	*	mg/L	1	5	07/18/19 9:47	ttg
TDS (calculated)	Calculation		6.91			mg/L			07/25/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						07/25/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1		U	*	mg/L	0.1	0.5	07/10/19 16:33	emk

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: ERIONITE #7

ACZ Sample ID: ***L53063-08***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation		-		*				07/15/19 13:25	mss2
Cyanide, WAD	SM4500-CN I- distillation		-		*				07/11/19 16:30	ttg
Nitrogen, total Kjeldahl	M351.2 - Block Digestor				*				07/16/19 12:34	ttg
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				07/12/19 13:26	rbt

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U	*	mg/L	0.05	0.3	07/23/19 19:48	aeh
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	07/17/19 19:11	msh
Arsenic, dissolved	M200.8 ICP-MS	1	0.001		*	mg/L	0.0002	0.001	07/17/19 19:11	msh
Barium, dissolved	M200.7 ICP	1	0.061		*	mg/L	0.007	0.04	07/23/19 19:48	aeh
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00008	0.0003	07/17/19 19:11	msh
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:48	aeh
Boron, dissolved	M200.7 ICP	1	0.06	B	*	mg/L	0.02	0.1	07/23/19 19:48	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	07/17/19 19:11	msh
Calcium, dissolved	M200.7 ICP	1	0.8		*	mg/L	0.1	0.5	07/23/19 19:48	aeh
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:48	aeh
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:48	aeh
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	07/23/19 19:48	aeh
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:48	aeh
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.03	0.08	07/23/19 19:48	aeh
Lead, dissolved	M200.8 ICP-MS	1	0.0005		*	mg/L	0.0001	0.0005	07/17/19 19:11	msh
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/24/19 14:53	aeh
Magnesium, dissolved	M200.7 ICP	1	0.2	B	*	mg/L	0.2	1	07/23/19 19:48	aeh
Manganese, dissolved	M200.7 ICP	1	0.02	B	*	mg/L	0.01	0.05	07/23/19 19:48	aeh
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	07/11/19 12:58	slm
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	07/23/19 19:48	aeh
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	07/23/19 19:48	aeh
Potassium, dissolved	M200.7 ICP	1	1.0		*	mg/L	0.2	1	07/23/19 19:48	aeh
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	07/23/19 19:48	aeh
Selenium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0003	07/17/19 19:11	msh
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	07/23/19 19:48	aeh
Sodium, dissolved	M200.7 ICP	1	1.1		*	mg/L	0.2	1	07/23/19 19:48	aeh
Strontium, dissolved	M200.7 ICP	1	0.011	B	*	mg/L	0.009	0.05	07/23/19 19:48	aeh
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/17/19 19:11	msh
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	07/23/19 19:48	aeh
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/23/19 19:48	aeh
Uranium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	07/17/19 19:11	msh
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	07/23/19 19:48	aeh
Zinc, dissolved	M200.7 ICP	1	0.07		*	mg/L	0.01	0.05	07/23/19 19:48	aeh

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID: 4303
Sample ID: ERIONITE #7

ACZ Sample ID: ***L53063-08***
Date Sampled: *07/04/19 09:00*
Date Received: *07/09/19*
Sample Matrix: *Leachate*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	2.1	B	*	mg/L	2	20	07/12/19 0:00	enb
Carbonate as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Hydroxide as CaCO3		1		U	*	mg/L	2	20	07/12/19 0:00	enb
Total Alkalinity		1	2.1	B	*	mg/L	2	20	07/12/19 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			07/25/19 0:00	calc
Sum of Anions				U		meq/L			07/25/19 0:00	calc
Sum of Cations			0.135	B		meq/L			07/25/19 0:00	calc
Chloride	SM4500Cl-E	1	0.6	B	*	mg/L	0.5	2	07/16/19 10:20	wtc
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.009	B	*	mg/L	0.003	0.01	07/16/19 15:16	mss2
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	0.5	0.009	B	*	mg/L	0.003	0.01	07/13/19 19:19	pjb
Fluoride	SM4500F-C	1		U	*	mg/L	0.1	0.4	07/16/19 19:37	emk
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		2.8	B		mg/L	0.2	5	07/25/19 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.04	B	*	mg/L	0.02	0.1	07/18/19 0:21	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	07/12/19 12:18	ttg
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1	0.7		*	mg/L	0.1	0.5	07/19/19 0:27	pjb
pH (lab)	SM4500H+ B	1	6.8	H	*	units	0.1	0.1	07/12/19 3:15	enb
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	0.12		*	mg/L	0.01	0.05	07/16/19 14:46	ttg
Residue, Filterable (TDS) @180C	SM2540C	1	20	B	*	mg/L	20	40	07/09/19 15:44	eij
Sulfate	D516-02/-07 - Turbidimetric	1		U	*	mg/L	1	5	07/18/19 9:47	ttg
TDS (calculated)	Calculation		5.08			mg/L			07/25/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		3.94						07/25/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1	0.2	B	*	mg/L	0.1	0.5	07/10/19 16:35	emk

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

McClelland Laboratories, Inc. ACZ Project ID: ***L53063***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476718													
WG476718PBW1	PBW	07/11/19 14:55				4.5	mg/L		-20	20			
WG476718LCSW3	LCSW	07/11/19 15:12	WC190709-1	820.0001		809	mg/L	99	90	110			
WG476718LCSW6	LCSW	07/11/19 19:04	WC190709-1	820.0001		797	mg/L	97	90	110			
WG476718PBW2	PBW	07/11/19 19:11				2.1	mg/L		-20	20			
WG476718LCSW9	LCSW	07/11/19 23:01	WC190709-1	820.0001		746	mg/L	91	90	110			
WG476718PBW3	PBW	07/11/19 23:08				2.7	mg/L		-20	20			
L53063-01DUP	DUP	07/12/19 2:04			33	31.6	mg/L				4	20	
WG476718LCSW12	LCSW	07/12/19 2:22	WC190709-1	820.0001		755	mg/L	92	90	110			
WG476718PBW4	PBW	07/12/19 2:28				2.6	mg/L		-20	20			
L53068-01DUP	DUP	07/12/19 3:45			9.8	9.9	mg/L				1	20	RA
WG476718LCSW15	LCSW	07/12/19 5:41	WC190709-1	820.0001		807	mg/L	98	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		2.045	mg/L	102	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.15	0.15			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	1.0006		1.051	mg/L	105	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	20.012	U	21.5	mg/L	107	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	20.012	U	21.3	mg/L	106	85	115	1	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	1.0006	U	1.078	mg/L	108	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	1.0006	U	1.075	mg/L	107	85	115	0	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477177													
WG477177ICV	ICV	07/17/19 18:27	MS190630-2	.02		.01954	mg/L	98	90	110			
WG477177ICB	ICB	07/17/19 18:30				U	mg/L		-0.00088	0.00088			
WG477177LFB	LFB	07/17/19 18:34	MS190606-3	.01		.00992	mg/L	99	85	115			
L53063-04AS	AS	07/17/19 18:49	MS190606-3	.01	U	.00929	mg/L	93	70	130			
L53063-04ASD	ASD	07/17/19 18:53	MS190606-3	.01	U	.00939	mg/L	94	70	130	1	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477177													
WG477177ICV	ICV	07/17/19 18:27	MS190630-2	.05		.0492	mg/L	98	90	110			
WG477177ICB	ICB	07/17/19 18:30				U	mg/L		-0.00044	0.00044			
WG477177LFB	LFB	07/17/19 18:34	MS190606-3	.05005		.04927	mg/L	98	85	115			
L53063-04AS	AS	07/17/19 18:49	MS190606-3	.05005	.0029	.05458	mg/L	103	70	130			
L53063-04ASD	ASD	07/17/19 18:53	MS190606-3	.05005	.0029	.05529	mg/L	105	70	130	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L53063***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		1.9968	mg/L	100	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.021	0.021			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.4995		.5018	mg/L	100	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	9.99	7.4	17.34	mg/L	99	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	9.99	7.4	18.12	mg/L	107	85	115	4	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	.4995	U	.511	mg/L	102	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.4995	U	.5046	mg/L	101	85	115	1	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477177													
WG477177ICV	ICV	07/17/19 18:27	MS190630-2	.05		.04687	mg/L	94	90	110			
WG477177ICB	ICB	07/17/19 18:30				U	mg/L		-0.000176	0.000176			
WG477177LFB	LFB	07/17/19 18:34	MS190606-3	.05005		.04725	mg/L	94	85	115			
L53063-04AS	AS	07/17/19 18:49	MS190606-3	.05005	U	.04912	mg/L	98	70	130			
L53063-04ASD	ASD	07/17/19 18:53	MS190606-3	.05005	U	.05023	mg/L	100	70	130	2	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		1.976	mg/L	99	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.12	0.12			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.9993		1.004	mg/L	100	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	19.986	U	19.76	mg/L	99	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	19.986	U	19.95	mg/L	100	85	115	1	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	.9993	U	1.016	mg/L	102	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.9993	U	.993	mg/L	99	85	115	2	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		2.042	mg/L	102	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.06	0.06			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.5005		.526	mg/L	105	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	10.01	94.9	102.24	mg/L	73	85	115			M3
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	10.01	94.9	103.08	mg/L	82	85	115	1	20	M3
L53063-06AS	AS	07/23/19 19:33	II190722-2	.5005	U	.53	mg/L	106	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.5005	U	.531	mg/L	106	85	115	0	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477177													
WG477177ICV	ICV	07/17/19 18:27	MS190630-2	.05		.04925	mg/L	99	90	110			
WG477177ICB	ICB	07/17/19 18:30				U	mg/L		-0.00011	0.00011			
WG477177LFB	LFB	07/17/19 18:34	MS190606-3	.05005		.04874	mg/L	97	85	115			
L53063-04AS	AS	07/17/19 18:49	MS190606-3	.05005	.00009	.04973	mg/L	99	70	130			
L53063-04ASD	ASD	07/17/19 18:53	MS190606-3	.05005	.00009	.0506	mg/L	101	70	130	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L53063***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	100		100.48	mg/L	100	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.3	0.3			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	68.11783		71.23	mg/L	105	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	1362.3566	1250	2606	mg/L	100	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	1362.3566	1250	2616	mg/L	100	85	115	0	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	68.11783	.7	72.44	mg/L	105	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	68.11783	.7	71.48	mg/L	104	85	115	1	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476841													
WG476841ICB	ICB	07/13/19 9:08				U	mg/L		-1.5	1.5			
WG476841ICV	ICV	07/13/19 9:08	WI190501-1	54.835		52.14	mg/L	95	90	110			
WG476841LFB1	LFB	07/13/19 11:40	WI190111-6	30.03		29.87	mg/L	99	90	110			
WG476841LFB2	LFB	07/13/19 11:44	WI190111-6	30.03		29.64	mg/L	99	90	110			
L53193-02AS	AS	07/13/19 11:50	WI190111-6	30.03	1.5	32.5	mg/L	103	90	110			
L53193-04DUP	DUP	07/13/19 11:50			1.3	1.16	mg/L				11	20	RA
L53049-04DUP	DUP	07/13/19 13:03			18000	18650	mg/L				4	20	
L53049-05AS	AS	07/13/19 13:03	40XCL	600	31600	28850	mg/L	-458	90	110			M3
WG476980													
WG476980ICB	ICB	07/16/19 10:08				U	mg/L		-1.5	1.5			
WG476980ICV	ICV	07/16/19 10:08	WI190501-1	54.835		53.73	mg/L	98	90	110			
WG476980LFB1	LFB	07/16/19 10:20	WI190111-6	30.03		30.87	mg/L	103	90	110			
L53063-05DUP	DUP	07/16/19 10:20			.7	.67	mg/L				4	20	RA
L53063-06AS	AS	07/16/19 10:20	WI190111-6	30.03	U	32.93	mg/L	110	90	110			
WG476980LFB2	LFB	07/16/19 10:24	WI190111-6	30.03		30.84	mg/L	103	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		1.954	mg/L	98	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.03	0.03			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.501		.516	mg/L	103	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	10.02	U	9.92	mg/L	97	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	10.02	U	9.98	mg/L	98	85	115	1	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	.501	U	.508	mg/L	101	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.501	U	.498	mg/L	99	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L53063***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2.004		2.01	mg/L	100	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.03	0.03			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.5		.509	mg/L	102	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	10	U	9.57	mg/L	96	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	10	U	9.75	mg/L	98	85	115	2	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	.5	U	.496	mg/L	99	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.5	U	.491	mg/L	98	85	115	1	20	

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		1.969	mg/L	98	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.03	0.03			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.5005		.501	mg/L	100	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	10.01	U	10.02	mg/L	100	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	10.01	U	10.1	mg/L	101	85	115	1	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	.5005	U	.513	mg/L	102	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.5005	U	.509	mg/L	102	85	115	1	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476741													
WG476741ICV	ICV	07/11/19 23:06	WI190630-5	.3		.2787	mg/L	93	90	110			
WG476741ICB	ICB	07/11/19 23:08				U	mg/L		-0.003	0.003			
WG476744													
WG476561LRB	LRB	07/12/19 0:16				U	mg/L		-0.003	0.003			
WG476561LFB	LFB	07/12/19 0:17	WI190630-2	.2		.2033	mg/L	102	90	110			
L53063-02LFM	LFM	07/12/19 0:40	WI190630-2	.2	U	.2065	mg/L	103	90	110			
L53063-03DUP	DUP	07/12/19 0:42			U	U	mg/L				0	20	RA
WG477047													
WG477047ICV	ICV	07/16/19 14:59	WI190715-5	.3		.2865	mg/L	96	90	110			
WG477047ICB	ICB	07/16/19 15:00				U	mg/L		-0.003	0.003			
WG476881LRB	LRB	07/16/19 15:00				U	mg/L		-0.003	0.003			
WG476881LFB	LFB	07/16/19 15:01	WI190715-2	.2		.2048	mg/L	102	90	110			
L49993-22DUP	DUP	07/16/19 15:06			.143	.1446	mg/L				1	20	
L53063-07DUP	DUP	07/16/19 15:15			U	U	mg/L				0	20	RA
L53063-08LFM	LFM	07/16/19 15:16	WI190715-2	.2	.009	.2081	mg/L	100	90	110			
L49994-22LFM	LFM	07/16/19 15:27	1XCN	.4	.13	.555	mg/L	106	90	110			

McClelland Laboratories, Inc. ACZ Project ID: ***L53063***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476741													
WG476741ICV	ICV	07/11/19 23:06	WI190630-5	.3		.2787	mg/L	93	90	110			
WG476741ICB	ICB	07/11/19 23:08				U	mg/L		-0.003	0.003			
WG476694LRB	LRB	07/11/19 23:09				U	mg/L		-0.003	0.003			
WG476694LFB	LFB	07/11/19 23:10	WI190630-4	.2		.1833	mg/L	92	90	110			
L53075-01DUP	DUP	07/11/19 23:14			U	U	mg/L				0	20	RA
L53075-02LFM	LFM	07/11/19 23:16	WI190630-4	.2	U	.1848	mg/L	92	90	110			
WG476849													
WG476849ICV	ICV	07/13/19 18:53	WI190630-5	.3		.2834	mg/L	94	90	110			
WG476849ICB	ICB	07/13/19 18:54				U	mg/L		-0.003	0.003			
WG476695LRB	LRB	07/13/19 18:55				U	mg/L		-0.003	0.003			
WG476695LFB	LFB	07/13/19 18:56	WI190630-4	.2		.193	mg/L	97	90	110			
L52994-02DUP	DUP	07/13/19 19:09			.036	.0359	mg/L				0	20	
L52994-03LFM	LFM	07/13/19 19:11	WI190630-4	.2	U	.1845	mg/L	92	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476999													
WG476999ICV	ICV	07/16/19 11:32	WC190715-1	2.004		2.15	mg/L	107	90	110			
WG476999ICB	ICB	07/16/19 11:40				U	mg/L		-0.3	0.3			
WG477050													
WG477050ICV	ICV	07/16/19 15:20	WC190715-1	2.004		2.04	mg/L	102	90	110			
WG477050ICB	ICB	07/16/19 15:25				U	mg/L		-0.3	0.3			
WG477050LFB1	LFB	07/16/19 15:32	WC190409-6	5.01		5	mg/L	100	90	110			
L53049-01AS	AS	07/16/19 17:21	WC190409-6	25.05	3.4	25	mg/L	86	90	110			M2
L53049-01ASD	ASD	07/16/19 17:28	WC190409-6	25.05	3.4	24.88	mg/L	86	90	110	0	20	M2
WG477050LFB2	LFB	07/16/19 19:04	WC190409-6	5.01		5.02	mg/L	100	90	110			
L53063-06AS	AS	07/16/19 19:12	WC190409-6	5.01	U	5.02	mg/L	100	90	110			
L53063-06ASD	ASD	07/16/19 19:18	WC190409-6	5.01	U	5	mg/L	100	90	110	0	20	

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		2	mg/L	100	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.3	0.3			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.9822		1.03	mg/L	105	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	19.644	U	20.7	mg/L	105	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	19.644	U	20.2	mg/L	103	85	115	2	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	.9822	U	1.02	mg/L	104	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.9822	U	1.02	mg/L	104	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L53063***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		1.959	mg/L	98	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.09	0.09			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	1.0018		1.047	mg/L	105	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	20.036	22.7	41.34	mg/L	93	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	20.036	22.7	41.62	mg/L	94	85	115	1	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	1.0018	U	1.024	mg/L	102	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	1.0018	U	1.016	mg/L	101	85	115	1	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477177													
WG477177ICV	ICV	07/17/19 18:27	MS190630-2	.05		.05061	mg/L	101	90	110			
WG477177ICB	ICB	07/17/19 18:30				U	mg/L		-0.00022	0.00022			
WG477177LFB	LFB	07/17/19 18:34	MS190606-3	.05005		.04923	mg/L	98	85	115			
L53063-04AS	AS	07/17/19 18:49	MS190606-3	.05005	.0011	.04982	mg/L	97	70	130			
L53063-04ASD	ASD	07/17/19 18:53	MS190606-3	.05005	.0011	.0504	mg/L	99	70	130	1	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477742													
WG477742ICV	ICV	07/24/19 13:24	II190715-2	2		1.9132	mg/L	96	95	105			
WG477742ICB	ICB	07/24/19 13:30				U	mg/L		-0.024	0.024			
WG477742LFB	LFB	07/24/19 13:43	II190722-2	1.002		.9738	mg/L	97	85	115			
L53049-02AS	AS	07/24/19 14:00	II190722-2	20.04	15.3	34.96	mg/L	98	85	115			
L53049-02ASD	ASD	07/24/19 14:03	II190722-2	20.04	15.3	35.36	mg/L	100	85	115	1	20	
L53063-06AS	AS	07/24/19 14:44	II190722-2	1.002	U	.9815	mg/L	98	85	115			
L53063-06ASD	ASD	07/24/19 14:47	II190722-2	1.002	U	.9947	mg/L	99	85	115	1	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	100		96.47	mg/L	96	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.6	0.6			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	50.31093		49.88	mg/L	99	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	1006.2186	78	1056.2	mg/L	97	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	1006.2186	78	1059.8	mg/L	98	85	115	0	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	50.31093	.3	50.8	mg/L	100	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	50.31093	.3	50.08	mg/L	99	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L53063***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		1.935	mg/L	97	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.03	0.03			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.5015		.506	mg/L	101	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	10.03	.5	10.27	mg/L	97	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	10.03	.5	10.35	mg/L	98	85	115	1	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	.5015	U	.515	mg/L	103	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.5015	U	.507	mg/L	101	85	115	2	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476573													
WG476573ICV	ICV	07/11/19 10:37	HG190528-3	.004995		.00499	mg/L	100	95	105			
WG476573ICB	ICB	07/11/19 10:38				U	mg/L		-0.0002	0.0002			
WG476630													
WG476630LRB	LRB	07/11/19 12:44				U	mg/L		-0.00044	0.00044			
WG476630LFB	LFB	07/11/19 12:45	HG190627-3	.002002		.00198	mg/L	99	85	115			
L52786-01LFM	LFM	07/11/19 12:47	HG190627-3	.002002	U	.00199	mg/L	99	85	115			
L52786-01LFMD	LFMD	07/11/19 12:48	HG190627-3	.002002	U	.002	mg/L	100	85	115	1	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		1.985	mg/L	99	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.06	0.06			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.4975		.515	mg/L	104	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	9.95	U	10.08	mg/L	101	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	9.95	U	10.12	mg/L	102	85	115	0	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	.4975	U	.512	mg/L	103	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.4975	U	.508	mg/L	102	85	115	1	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2.004		1.9672	mg/L	98	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.024	0.024			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.5		.5047	mg/L	101	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	10	U	9.75	mg/L	98	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	10	U	9.76	mg/L	98	85	115	0	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	.5	U	.5004	mg/L	100	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.5	U	.4921	mg/L	98	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L53063***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477211													
WG477211ICV	ICV	07/17/19 23:50	WI190508-3	2.416		2.327	mg/L	96	90	110			
WG477211ICB	ICB	07/17/19 23:51				U	mg/L		-0.02	0.02			
WG477211LFB	LFB	07/17/19 23:55	WI190405-9	2		1.97	mg/L	99	90	110			
L52959-01AS	AS	07/17/19 23:58	WI190405-9	2	.51	2.563	mg/L	103	90	110			
L53047-07DUP	DUP	07/18/19 0:00			.09	.094	mg/L				4	20	RA
L53063-04AS	AS	07/18/19 0:15	WI190405-9	2	U	2.006	mg/L	100	90	110			
L53063-05DUP	DUP	07/18/19 0:17			U	U	mg/L				0	20	RA

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476754													
WG476754ICV	ICV	07/12/19 10:19	WI190510-1	12		11.942	mg/L	100	90	110			
WG476754ICB	ICB	07/12/19 10:21				U	mg/L		-0.05	0.05			
WG476755													
WG476755LFB1	LFB	07/12/19 12:01	WI180918-3	10		10.369	mg/L	104	90	110			
L53063-01AS	AS	07/12/19 12:03	WI180918-3	10	U	10.517	mg/L	105	90	110			
L53063-02DUP	DUP	07/12/19 12:06			U	U	mg/L				0	20	RA
WG476755LFB2	LFB	07/12/19 12:43	WI180918-3	10		10.41	mg/L	104	90	110			

Nitrogen, total Kjeldahl M351.2 - TKN by Block Digester

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476833													
WG476833ICV	ICV	07/12/19 21:55	WI190628-6	4		4.19	mg/L	105	90	110			
WG476833ICB	ICB	07/12/19 21:56				U	mg/L		-0.1	0.1			
WG476835													
WG476776LRB	LRB	07/12/19 22:41				U	mg/L		-0.1	0.1			
WG476776LFB	LFB	07/12/19 22:42	WI190628-2	2.5		2.61	mg/L	104	90	110			
L53014-02DUP	DUP	07/12/19 23:00			U	U	mg/L				0	20	RA
L53047-07LFM	LFM	07/12/19 23:03	WI190628-2	2.5	.8	3.17	mg/L	95	90	110			
WG477329													
WG477329ICV	ICV	07/19/19 0:18	WI190628-6	4		3.99	mg/L	100	90	110			
WG477329ICB	ICB	07/19/19 0:19				U	mg/L		-0.1	0.1			
WG476989LRB	LRB	07/19/19 0:20				U	mg/L		-0.1	0.1			
WG476989LFB	LFB	07/19/19 0:21	WI190628-2	2.5		2.43	mg/L	97	90	110			
L53087-02LFM	LFM	07/19/19 0:29	WI190628-2	2.5	1.4	3.7	mg/L	92	90	110			
L53088-01DUP	DUP	07/19/19 1:18			9.8	9.68	mg/L				1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L53063***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476718													
WG476718LCSW1	LCSW	07/11/19 14:59	PCN58053	6		6	units	100	5.9	6.1			
WG476718LCSW4	LCSW	07/11/19 18:50	PCN58053	6		6	units	100	5.9	6.1			
WG476718LCSW7	LCSW	07/11/19 22:47	PCN58053	6		6	units	100	5.9	6.1			
L53063-01DUP	DUP	07/12/19 2:04			7.8	7.8	units				0	20	
WG476718LCSW10	LCSW	07/12/19 2:08	PCN58053	6		6	units	100	5.9	6.1			
L53068-01DUP	DUP	07/12/19 3:45			7.5	7.5	units				0	20	
WG476718LCSW13	LCSW	07/12/19 5:27	PCN58053	6		6	units	100	5.9	6.1			

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477040													
WG477040ICV	ICV	07/16/19 14:27	WI190706-4	.65228		.701	mg/L	107	90	110			
WG477040ICB	ICB	07/16/19 14:29				U	mg/L		-0.01	0.01			
WG476697LRB	LRB	07/16/19 14:30				U	mg/L		-0.01	0.01			
WG476697LFB	LFB	07/16/19 14:31	WI190709-2	.5		.551	mg/L	110	90	110			
L53063-01DUP	DUP	07/16/19 14:36			.13	.126	mg/L				3	20	
WG476697LFB	LFB	07/16/19 15:04	WI190709-2	.5		.51	mg/L	102	90	110			
L53052-01LFM	LFM	07/16/19 15:07	WI190709-2	.5	3.2	4.05	mg/L	170	90	110			M1

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	20		19.69	mg/L	98	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.6	0.6			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	99.96426		99.73	mg/L	100	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	1999.2852	91	2146	mg/L	103	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	1999.2852	91	2146	mg/L	103	85	115	0	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	99.96426	.6	102.8	mg/L	102	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	99.96426	.6	101.4	mg/L	101	85	115	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476511													
WG476511PBW	PBW	07/09/19 15:15				U	mg/L		-40	40			
WG476511LCSW	LCSW	07/09/19 15:16	PCN59105	1000		982	mg/L	98	80	120			
L53063-05DUP	DUP	07/09/19 15:38			34	36	mg/L				6	10	RA
L53068-05DUP	DUP	07/09/19 15:59			44	46	mg/L				4	10	RA
WG476727													
WG476727PBW	PBW	07/11/19 15:30				U	mg/L		-40	40			
WG476727LCSW	LCSW	07/11/19 15:31	PCN59104	1000		988	mg/L	99	80	120			
L53094-03DUP	DUP	07/11/19 15:52			1530	1520	mg/L				1	10	

McClelland Laboratories, Inc. ACZ Project ID: ***L53063***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		2	mg/L	100	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.3	0.3			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.9868		1.05	mg/L	106	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	19.736	U	20.7	mg/L	105	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	19.736	U	20.7	mg/L	105	85	115	0	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	.9868	U	1.05	mg/L	106	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.9868	U	1.03	mg/L	104	85	115	2	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477177													
WG477177ICV	ICV	07/17/19 18:27	MS190630-2	.05		.04906	mg/L	98	90	110			
WG477177ICB	ICB	07/17/19 18:30				U	mg/L		-0.00022	0.00022			
WG477177LFB	LFB	07/17/19 18:34	MS190606-3	.05005		.04848	mg/L	97	85	115			
L53063-04AS	AS	07/17/19 18:49	MS190606-3	.05005	.0005	.05646	mg/L	112	70	130			
L53063-04ASD	ASD	07/17/19 18:53	MS190606-3	.05005	.0005	.05696	mg/L	113	70	130	1	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	1.001		1.007	mg/L	101	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.03	0.03			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.502		.482	mg/L	96	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	10.04	U	8.76	mg/L	87	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	10.04	U	8.85	mg/L	88	85	115	1	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	.502	U	.305	mg/L	61	85	115			M2 ZA
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.502	U	.32	mg/L	64	85	115	5	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	100		101.3	mg/L	101	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.6	0.6			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	100.0471		103.6	mg/L	104	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	2000.942	9230	11110	mg/L	94	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	2000.942	9230	11268	mg/L	102	85	115	1	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	100.0471	.3	106	mg/L	106	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	100.0471	.3	104.8	mg/L	104	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L53063***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		1.9785	mg/L	99	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.027	0.027			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.5005		.5121	mg/L	102	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	10.01	156	165.76	mg/L	98	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	10.01	156	166.14	mg/L	101	85	115	0	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	.5005	.009	.524	mg/L	103	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.5005	.009	.5172	mg/L	102	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477220													
WG477220ICB	ICB	07/18/19 8:56				U	mg/L		-3	3			
WG477220ICV	ICV	07/18/19 8:57	WI190710-1	20		20	mg/L	100	90	110			
WG477220LFB	LFB	07/18/19 9:17	WI181024-4	10.03		9.3	mg/L	93	90	110			
L53063-01DUP	DUP	07/18/19 9:20			11.4	11.1	mg/L				3	20	
L53063-02AS	AS	07/18/19 9:20	WI181024-4	10.03	2.8	12.6	mg/L	98	90	110			
WG477222													
WG477222ICB	ICB	07/18/19 8:56				U	mg/L		-3	3			
WG477222ICV	ICV	07/18/19 8:57	WI190710-1	20		20	mg/L	100	90	110			
L53063-03DUP	DUP	07/18/19 9:47			3.3	3.3	mg/L				0	20	RA
L53063-04AS	AS	07/18/19 9:47	WI181024-4	10.03	U	10.1	mg/L	101	90	110			
WG477222LFB	LFB	07/18/19 10:14	WI181024-4	10.03		9.2	mg/L	92	90	110			

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477177													
WG477177ICV	ICV	07/17/19 18:27	MS190630-2	.05		.05053	mg/L	101	90	110			
WG477177ICB	ICB	07/17/19 18:30				U	mg/L		-0.00022	0.00022			
WG477177LFB	LFB	07/17/19 18:34	MS190606-3	.0501		.04842	mg/L	97	85	115			
L53063-04AS	AS	07/17/19 18:49	MS190606-3	.0501	.0001	.04782	mg/L	95	70	130			
L53063-04ASD	ASD	07/17/19 18:53	MS190606-3	.0501	.0001	.04898	mg/L	98	70	130	2	20	

Thiocyanate as SCN SM4500-CN M

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476622													
WG476622ICV	ICV	07/10/19 15:19	WC190405-9	2		2	mg/L	100	90	110			
WG476622ICB	ICB	07/10/19 15:21				U	mg/L		-0.3	0.3			
WG476622LFB1	LFB	07/10/19 15:23	WC190607-4	2.5		2.43	mg/L	97	80	120			
L53063-06AS	AS	07/10/19 16:26	WC190607-4	2.5	U	2.68	mg/L	107	80	120			
L53063-06DUP	DUP	07/10/19 16:28			U	U	mg/L				0	20	RA
WG476622LFB2	LFB	07/10/19 16:30	WC190607-4	2.5		2.51	mg/L	100	80	120			
L53063-08AS	AS	07/10/19 16:37	WC190607-4	2.5	.2	2.78	mg/L	103	80	120			
L53063-08DUP	DUP	07/10/19 16:40			.2	.23	mg/L				14	20	RA

McClelland Laboratories, Inc. ACZ Project ID: ***L53063***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		1.995	mg/L	100	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.12	0.12			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	1.002		1.002	mg/L	100	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	20.04	U	19.32	mg/L	96	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	20.04	U	19.58	mg/L	98	85	115	1	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	1.002	U	1.004	mg/L	100	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	1.002	U	.982	mg/L	98	85	115	2	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		1.9905	mg/L	100	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.015	0.015			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	1		1.021	mg/L	102	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	20	.2	20.36	mg/L	101	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	20	.2	20.42	mg/L	101	85	115	0	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	1	U	1.027	mg/L	103	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	1	U	1.018	mg/L	102	85	115	1	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477177													
WG477177ICV	ICV	07/17/19 18:27	MS190630-2	.05		.05085	mg/L	102	90	110			
WG477177ICB	ICB	07/17/19 18:30				U	mg/L		-0.00022	0.00022			
WG477177LFB	LFB	07/17/19 18:34	MS190606-3	.05		.04846	mg/L	97	85	115			
L53063-04AS	AS	07/17/19 18:49	MS190606-3	.05	U	.04753	mg/L	95	70	130			
L53063-04ASD	ASD	07/17/19 18:53	MS190606-3	.05	U	.04882	mg/L	98	70	130	3	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		1.9748	mg/L	99	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.015	0.015			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.5005		.5159	mg/L	103	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	10.01	U	10.09	mg/L	101	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	10.01	U	10.05	mg/L	100	85	115	0	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	.5005	.007	.5156	mg/L	102	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.5005	.007	.5136	mg/L	101	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L53063***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG477607													
WG477607ICV	ICV	07/23/19 18:15	II190715-2	2		1.908	mg/L	95	95	105			
WG477607ICB	ICB	07/23/19 18:21				U	mg/L		-0.03	0.03			
WG477607LFB	LFB	07/23/19 18:34	II190722-2	.50075		.528	mg/L	105	85	115			
L53049-02AS	AS	07/23/19 18:43	II190722-2	10.015	U	9.87	mg/L	99	85	115			
L53049-02ASD	ASD	07/23/19 18:46	II190722-2	10.015	U	9.96	mg/L	99	85	115	1	20	
L53063-06AS	AS	07/23/19 19:33	II190722-2	.50075	U	.524	mg/L	105	85	115			
L53063-06ASD	ASD	07/23/19 19:36	II190722-2	.50075	U	.508	mg/L	101	85	115	3	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L53063***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L53063-01	WG477607	Boron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG476841	Chloride	SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG476744	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476741	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477050	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG477211	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476755	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476835	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476718	pH (lab)	SM4500H+ B	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
	WG477040	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG476727	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
	WG476622	Thiocyanate as SCN	SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476718	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L53063-02	WG477607	Boron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG476841	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476744	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476741	Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477050	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG477211	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476755	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476835	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477040	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG476511	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476622	Thiocyanate as SCN	SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476718	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L53063-03	WG476841	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476744	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477050	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG477211	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476755	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476835	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477040	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG476511	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540C	Z3	Sample volume yielded a residue less than 2.5 mg
	WG477607	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG477222	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476622	Thiocyanate as SCN	SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476718	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L53063-04	WG476841	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477050	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG477211	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476755	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476835	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477040	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG476511	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540C	Z3	Sample volume yielded a residue less than 2.5 mg
	WG477607	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG477222	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476622	Thiocyanate as SCN	SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476718	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L53063-05	WG476980	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477050	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG477211	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476755	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477040	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG476511	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540C	Z3	Sample volume yielded a residue less than 2.5 mg
	WG477607	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG477222	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476622	Thiocyanate as SCN	SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476718	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L53063-06	WG476980	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477211	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476755	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477040	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG476511	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540C	Z3	Sample volume yielded a residue less than 2.5 mg
	WG477607	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG477222	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476622	Thiocyanate as SCN	SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476718	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L53063-07	WG476980	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477047	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477211	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476755	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477040	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG476511	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540C	Z3	Sample volume yielded a residue less than 2.5 mg
	WG477607	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG477222	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476622	Thiocyanate as SCN	SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476718	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L53063-08	WG476980	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477047	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477211	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476755	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG477040	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG476511	Residue, Filterable (TDS) @180C	SM2540C	QF	The aliquot for total dissolved solids was taken from a field-filtered sample.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540C	Z3	Sample volume yielded a residue less than 2.5 mg
	WG477607	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG477222	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476622	Thiocyanate as SCN	SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG476718	Total Alkalinity	SM2320B - Titration	Q12	A filtered sample was used for analysis because an unfiltered sample was not available.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Aluminum, dissolved	M200.7 ICP
Antimony, dissolved	M200.8 ICP-MS
Arsenic, dissolved	M200.8 ICP-MS
Barium, dissolved	M200.7 ICP
Beryllium, dissolved	M200.8 ICP-MS
Bismuth, dissolved	M200.7 ICP
Boron, dissolved	M200.7 ICP
Cadmium, dissolved	M200.8 ICP-MS
Calcium, dissolved	M200.7 ICP
Chromium, dissolved	M200.7 ICP
Cobalt, dissolved	M200.7 ICP
Copper, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Iron, dissolved	M200.7 ICP
Lead, dissolved	M200.8 ICP-MS
Lithium, dissolved	M200.7 ICP
Magnesium, dissolved	M200.7 ICP
Manganese, dissolved	M200.7 ICP
Mercury, dissolved	M245.1 CVAA
Molybdenum, dissolved	M200.7 ICP
Nickel, dissolved	M200.7 ICP
Potassium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Selenium, dissolved	M200.8 ICP-MS
Silver, dissolved	M200.7 ICP
Sodium, dissolved	M200.7 ICP
Strontium, dissolved	M200.7 ICP
Thallium, dissolved	M200.8 ICP-MS
Tin, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP
Uranium, dissolved	M200.8 ICP-MS
Vanadium, dissolved	M200.7 ICP
Zinc, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Aluminum, dissolved	M200.7 ICP
Antimony, dissolved	M200.8 ICP-MS
Arsenic, dissolved	M200.8 ICP-MS
Barium, dissolved	M200.7 ICP
Beryllium, dissolved	M200.8 ICP-MS
Bismuth, dissolved	M200.7 ICP
Boron, dissolved	M200.7 ICP
Cadmium, dissolved	M200.8 ICP-MS
Calcium, dissolved	M200.7 ICP
Chromium, dissolved	M200.7 ICP
Cobalt, dissolved	M200.7 ICP
Copper, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP

Iron, dissolved	M200.7 ICP
Lead, dissolved	M200.8 ICP-MS
Lithium, dissolved	M200.7 ICP
Magnesium, dissolved	M200.7 ICP
Manganese, dissolved	M200.7 ICP
Mercury, dissolved	M245.1 CVAA
Molybdenum, dissolved	M200.7 ICP
Nickel, dissolved	M200.7 ICP
Potassium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Selenium, dissolved	M200.8 ICP-MS
Silver, dissolved	M200.7 ICP
Sodium, dissolved	M200.7 ICP
Strontium, dissolved	M200.7 ICP
Thallium, dissolved	M200.8 ICP-MS
Tin, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP
Uranium, dissolved	M200.8 ICP-MS
Vanadium, dissolved	M200.7 ICP
Zinc, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bicarbonate as CaCO3	SM2320B - Titration
Carbonate as CaCO3	SM2320B - Titration
Chloride	SM4500Cl-E
Cyanide, total	M335.4 - Colorimetric w/ distillation
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation
Fluoride	SM4500F-C
Hydroxide as CaCO3	SM2320B - Titration
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester
pH (lab)	SM4500H+ B
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)
Residue, Filterable (TDS) @180C	SM2540C
Thiocyanate as SCN	SM4500-CN M
Total Alkalinity	SM2320B - Titration

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bicarbonate as CaCO3	SM2320B - Titration
Carbonate as CaCO3	SM2320B - Titration
Chloride	SM4500Cl-E
Cyanide, total	M335.4 - Colorimetric w/ distillation
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation
Fluoride	SM4500F-C
Hydroxide as CaCO3	SM2320B - Titration
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester
pH (lab)	SM4500H+ B
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)
Residue, Filterable (TDS) @180C	SM2540C

Thiocyanate as SCN	SM4500-CN M
Total Alkalinity	SM2320B - Titration

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
4303

ACZ Project ID: L53063
Date Received: 07/09/2019 11:37
Received By:
Date Printed: 7/10/2019

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA30923	3.4	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.
4303

ACZ Project ID:	L53063
Date Received:	07/09/2019 11:37
Received By:	
Date Printed:	7/10/2019

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L53063

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name:	Mike Medina	Address:	1016 Greg Street
Company:	McClelland Laboratories, Inc.		Sparks NV 89431
E-mail:	results@mettest.com	Telephone:	775-356-1300

Copy of Report to:

Name:		E-mail:	
Company:		Telephone:	

Invoice to:

Name:		Address:	
Company:			
E-mail:		Telephone:	

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ☐ NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:

Project/PO #: 4303

Reporting state for compliance testing:

Sampler's Name: Robert

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	see attached							
BASALT B1 115-121 1446345	7-4-19 : 9am	WW	1	X							
BASALT B2 109-114 1446352	7-4-19 : 9am	WW	1	X							
ERIONITE #2	7-4-19 : 9am	WW	1	X							
ERIONITE #3	7-4-19 : 9am	WW	1	X							
ERIONITE #4	7-4-19 : 9am	WW	1	X							
ERIONITE #5	7-4-19 : 9am	WW	1	X							
ERIONITE #6	7-4-19 : 9am	WW	1	X							
ERIONITE #7	7-4-19 : 9am	WW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Modified SPLP with 1:1 water to rock ratio and distilled water for lixiviant.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Nate Hammock	7-8-19 9A.	JJC	7-9-19 11:37

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

L53063 Chain of Custod

Parameter	Laboratory Method	Detection Limit	Reporting Limit	Fraction
Alkalinity	SM 2320B	2 mg/L	20 mg/L	dissolved
Bicarbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Carbonate	SM 2320	2 mg/L	20 mg/L	dissolved
Aluminum	EPA 200.7	0.03 mg/L	0.15 mg/L	dissolved
Antimony	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Arsenic	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Barium	EPA 200.7	0.003 mg/L	0.015 mg/L	dissolved
Beryllium	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Bismuth	EPA 200.7	0.04 mg/L	0.2 mg/L	dissolved
Boron	EPA 200.8	0.0005 mg/L	0.001 mg/L	dissolved
Cadmium	EPA 200.8	0.001 mg/L	0.0005 mg/L	dissolved
Calcium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Chloride	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Chromium	EPA 200.8	0.0005 mg/L	0.002 mg/L	dissolved
Cobalt	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Conductivity	SM 2510B	1 umhos/cm	10 umhos/cm	dissolved
Copper	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Cyanide, Total	EPA 335.4	0.003 mg/L	0.01 mg/L	dissolved
Cyanide, Weak Acid Digestion	SM 4500	0.003 mg/L	0.01 mg/L	dissolved
Thiocyanate				dissolved
TKN				dissolved
Fluoride	EPA 300.0	0.1 mg/L	0.5 mg/L	dissolved
Gallium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Hardness	SM 2340B	calc	calc	dissolved
Iron	EPA 200.7	0.02 mg/L	0.05 mg/L	dissolved
Lead	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Lithium	EPA 200.7	0.02 mg/L	0.1 mg/L	dissolved
Magnesium	EPA 200.7	0.2 mg/L	1 mg/L	dissolved
Manganese	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Mercury	Method 1631E (low level)	0.2 ng/L	0.5 ng/L	dissolved
Molybdenum	EPA 200.8	0.0005 mg/L	0.0025 mg/L	dissolved
Nickel	EPA 200.8	0.0006 mg/L	0.003 mg/L	dissolved
Nitrate as N				dissolved
Nitrite as N				dissolved
Ammonia Direct as N	EPA 350.1	0.05 mg/L	0.5 mg/L	dissolved
pH (s.u.)	SM 4500-H B	0.1 C	0.1 C	dissolved
Phosphorus	EPA 365.1	0.01 mg/L	0.05 mg/L	dissolved
Potassium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Scandium	EPA 200.7	0.1 mg/L	0.5 mg/L	dissolved
Selenium	EPA 200.8	0.0001 mg/L	0.00025 mg/L	dissolved
Silver	EPA 200.8	0.00005 mg/L	0.00025 mg/L	dissolved
Sodium	EPA 200.7	0.3 mg/L	1.5 mg/L	dissolved
Strontium	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved
Sulfate	EPA 300.0	0.5 mg/L	2.5 mg/L	dissolved
Thallium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Tin	EPA 200.8	0.0004 mg/L	0.002 mg/L	dissolved
Titanium	EPA 200.7	0.005 mg/L	0.025 mg/L	dissolved
Total Dissolved Solids	SM 2540C	10 mg/L	20 mg/L	dissolved
Uranium	EPA 200.8	0.0001 mg/L	0.0005 mg/L	dissolved
Vanadium	EPA 200.8	0.0002 mg/L	0.001 mg/L	dissolved
Zinc	EPA 200.7	0.01 mg/L	0.05 mg/L	dissolved

Appendix F2

McClelland Laboratory Reports

Table . - Multi Element ICP Analytical Results,
Grassy Mountain Samples

	Sample					
Analysis, mg/kg	BASALT B1 0-30 1446340	BASALT B1 40-55 1446341	BASALT B1 56-67 1446342	BASALT B1 70-85 1446343	BASALT B1 87-104 1446344	BASALT B1 115-121 1446345
Ag	0.02	0.02	0.04	0.04	0.04	0.10
Al	47,200	46,200	55,100	54,700	57,400	19,900
As	6.1	1.9	1.3	0.7	0.7	3.1
Au	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
B	<10	<10	<10	<10	<10	20
Ba	90	80	130	40	50	360
Be	0.28	0.19	0.18	0.22	0.28	0.73
Bi	0.01	0.01	0.01	0.01	0.01	0.15
Ca	59,500	36,100	51,800	36,400	37,500	6,500
Cd	0.10	0.06	0.04	0.03	0.03	0.20
Ce	19.50	19.75	15.95	17.45	17.55	33.2
Co	36.4	39.9	32.2	36.6	37.7	5.6
Cr	40	86	84	48	32	56
Cs	0.57	<0.05	<0.05	0.05	0.08	2.37
Cu	76.1	70.6	60.3	67.1	66.8	24.7
Fe	57,000	58,600	43,200	55,300	57,500	18,100
Ga	6.61	6.49	7.67	6.98	7.52	5.29
Ge	0.15	0.11	0.10	0.10	0.10	0.16
Hf	0.43	0.30	0.42	0.30	0.28	1.00
Hg	0.01	0.01	0.01	<0.01	<0.01	0.02
In	0.021	0.021	0.015	0.019	0.021	0.035
K	700	500	600	600	1,300	5,900
La	8.1	8.1	6.9	7.4	7.6	19.1
Li	17.8	6.5	8.5	6.1	4.7	18.4
Mg	27,700	33,800	8,600	36,500	37,700	6,500
Mn	894	1,010	895	802	834	442
Mo	0.75	2.00	0.93	0.99	0.50	1.64
Na	6,400	6,700	7,700	6,700	7,000	1,600
Nb	0.10	0.26	0.12	0.05	0.14	0.06
Ni	155.5	161.0	147.5	159.5	159.5	13.8
P	1,050	1,050	970	980	970	570
Pb	1.0	0.7	0.9	0.7	0.9	8.6
Rb	3.0	0.6	0.7	1.4	3.4	28.6
Re	0.001	0.001	0.001	<0.001	<0.001	0.001
S (Total)	100	100	100	<100	<100	100
Sb	0.38	0.10	0.25	0.06	0.05	0.59
Sc	3.2	3.8	3.8	3.3	3.6	4.3
Se	0.2	<0.2	0.4	<0.2	0.5	<0.2
Sn	0.3	0.2	0.3	0.2	0.2	0.9
Sr	150.5	139.5	147.0	143.0	214	109.5
Ta	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
Te	0.01	0.01	<0.01	<0.01	<0.01	0.02
Th	0.5	0.3	0.4	0.4	0.5	4.7
Ti	780	760	1,350	760	830	850
Tl	0.05	0.02	0.02	<0.02	<0.02	0.22
U	0.13	0.10	0.11	0.11	0.12	0.57
V	47	35	44	38	38	27
W	0.67	0.26	1.16	0.08	0.08	0.39
Y	14.35	15.60	12.25	13.55	14.10	13.45
Zn	67	68	44	57	62	47
Zr	20.4	13.0	18.3	13.8	12.3	42.4

ALS USA Inc. Report No. RE19046379

Table . - Multi Element ICP Analytical Results,
Grassy Mountain Samples

	Sample					
Analysis, mg/kg	BASALT B1 121-130 1446346	BASALT B2 0-30 1446347	BASALT B2 30-50 1446348	BASALT B2 56-81 1446349	BASALT B2 85-95 1446350	BASALT B2 101-104 1446351
Ag	0.03	0.02	0.04	0.04	0.02	0.02
Al	20,500	46,000	50,300	51,800	40,900	42,700
As	4.4	4.3	1.9	1.0	1.8	2.4
Au	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
B	30	<10	<10	<10	<10	10
Ba	310	90	90	90	190	150
Be	0.98	0.21	0.37	0.31	0.20	0.32
Bi	0.17	0.01	<0.01	0.01	0.01	0.03
Ca	5,600	37,400	36,200	32,700	33,600	102,500
Cd	0.27	0.06	0.05	0.04	0.19	0.10
Ce	44.3	19.85	20.6	20.4	13.00	15.95
Co	7.1	36.7	39.3	39.4	34.1	37.2
Cr	30	78	45	63	95	81
Cs	2.80	0.16	0.37	0.14	0.14	0.86
Cu	18.8	75.9	81.1	80.2	70.9	71.0
Fe	20,400	56,400	58,800	59,400	47,900	49,600
Ga	5.91	6.74	7.63	7.21	6.91	7.28
Ge	0.24	0.15	0.11	0.10	0.14	0.22
Hf	1.32	0.41	0.17	0.26	0.45	0.65
Hg	0.02	0.02	<0.01	<0.01	<0.01	0.01
In	0.041	0.012	0.021	0.019	0.017	0.025
K	4,400	600	900	700	800	1,600
La	22.3	8.5	8.6	8.5	5.8	6.6
Li	37.3	12.8	17.7	11.8	21.8	63.6
Mg	6,800	29,700	35,100	38,200	14,400	18,200
Mn	491	798	759	775	2,240	852
Mo	0.66	1.56	0.72	1.47	0.75	0.53
Na	700	6,700	6,900	6,700	6,000	5,600
Nb	0.08	0.26	0.19	0.15	0.06	<0.05
Ni	13.9	155.0	159.5	164.0	190.5	185.5
P	420	1,120	1,050	1,040	870	760
Pb	9.1	1.0	1.3	1.0	1.0	1.2
Rb	32.1	1.4	5.1	2.4	2.5	9.4
Re	<0.001	0.001	<0.001	0.001	<0.001	<0.001
S (Total)	100	100	<100	<100	<100	<100
Sb	0.61	0.31	0.08	<0.05	0.32	0.26
Sc	4.8	3.4	3.3	3.5	7.2	6.8
Se	<0.2	<0.2	0.6	0.7	<0.2	0.2
Sn	1.1	0.3	0.4	0.3	0.4	0.3
Sr	86.0	137.5	145.5	140.0	124.5	134.0
Ta	<0.01	0.01	0.01	0.01	<0.01	<0.01
Te	0.02	0.01	0.02	<0.01	<0.01	0.01
Th	5.9	0.5	0.5	0.5	0.5	0.8
Ti	1,100	1,040	1,090	900	1,970	1,430
Tl	0.31	0.04	<0.02	<0.02	0.18	0.06
U	0.78	0.15	0.14	0.11	0.37	0.27
V	34	48	46	31	65	94
W	0.47	0.37	0.18	0.09	1.67	0.78
Y	16.15	15.25	16.10	16.15	11.55	11.65
Zn	63	61	67	67	52	56
Zr	57.2	19.1	7.5	10.0	22.2	32.1

ALS USA Inc. Report No. RE19046379

Table . - Multi Element ICP Analytical Results,
Grassy Mountain Samples

	Sample					
Analysis, mg/kg	BASALT B2 109-114 1446352	BASALT B3 10-30 1446353	BASALT B3 41-61 1446354	BASALT B3 71-93 1446355	BASALT B3 96-110 1446356	BASALT B3 113-136 1446357
Ag	0.02	0.03	0.03	0.03	0.02	0.06
Al	22,400	47,300	48,200	45,500	50,400	31,900
As	3.6	2.4	0.8	0.6	2.6	5.4
Au	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
B	20	<10	<10	<10	<10	30
Ba	280	50	50	50	280	450
Be	1.10	0.26	0.32	0.28	0.26	1.78
Bi	0.18	0.01	<0.01	0.01	0.02	0.24
Ca	8,200	35,200	30,100	30,800	42,100	10,300
Cd	0.18	0.04	0.04	0.04	0.42	0.51
Ce	41.1	19.90	20.1	19.70	12.10	72.5
Co	10.0	38.5	37.6	36.6	34.0	9.4
Cr	17	23	21	25	67	17
Cs	2.63	0.70	0.08	0.06	0.20	2.79
Cu	23.9	74.6	79.7	78.6	63.9	26.2
Fe	21,000	58,900	57,900	56,000	42,500	28,900
Ga	6.53	6.83	6.83	6.40	7.28	9.16
Ge	0.23	0.12	0.12	0.09	0.17	0.37
Hf	0.34	0.31	0.29	0.17	0.42	0.22
Hg	0.01	<0.01	<0.01	0.01	<0.01	0.06
In	0.036	0.018	0.018	0.013	0.017	0.061
K	4,400	800	1,300	800	700	5,800
La	22.6	8.4	8.6	8.2	5.4	36.9
Li	40.1	13.7	7.8	6.5	35.2	68.7
Mg	9,600	34,700	37,000	34,100	11,700	12,500
Mn	322	784	906	782	1,260	935
Mo	0.38	0.38	0.36	0.35	0.78	0.38
Na	900	6,100	5,500	5,800	6,600	700
Nb	0.06	0.14	0.15	0.20	<0.05	0.10
Ni	20.1	156.5	150.0	157.0	168.0	16.1
P	960	1,080	1,070	1,050	700	980
Pb	9.8	0.8	1.0	0.9	1.2	14.3
Rb	33.7	4.0	4.2	2.1	3.1	44.0
Re	<0.001	<0.001	0.001	<0.001	0.001	0.001
S (Total)	<100	<100	<100	<100	<100	<100
Sb	0.52	0.07	<0.05	<0.05	0.58	0.70
Sc	4.9	3.3	3.3	3.1	5.3	7.8
Se	0.2	0.3	<0.2	0.3	0.2	0.3
Sn	1.1	0.2	0.4	0.2	0.3	2.0
Sr	88.8	135.0	150.5	133.0	113.5	70.8
Ta	<0.01	0.01	0.01	0.01	<0.01	<0.01
Te	0.02	0.01	0.01	<0.01	<0.01	0.04
Th	6.1	0.5	0.5	0.5	0.6	10.3
Ti	930	660	640	640	710	1,480
Tl	0.22	<0.02	<0.02	<0.02	0.15	0.52
U	0.77	0.12	0.14	0.13	0.32	1.06
V	29	32	21	26	44	47
W	0.30	0.23	0.05	<0.05	1.36	0.94
Y	16.50	15.90	15.75	15.85	11.25	32.5
Zn	65	65	65	61	45	81
Zr	25.0	15.2	13.1	7.8	24.8	25.0

ALS USA Inc. Report No. RE19046379

Table . - Multi Element ICP Analytical Results,
Grassy Mountain Samples

	Sample					
Analysis, mg/kg	BASALT B3 151-156 1446358	BASALT B3 166-170 1446359	ERIONITE #1	ERIONITE #2	ERIONITE #3	ERIONITE #4
Ag	0.06	0.05	0.02	0.02	0.03	0.03
Al	32,000	10,400	29,700	19,300	12,900	16,100
As	4.1	5.1	4.9	1.9	2.9	0.4
Au	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
B	30	10	<10	<10	<10	<10
Ba	200	210	40	80	50	40
Be	1.81	0.63	0.40	0.35	0.36	0.20
Bi	0.25	0.12	0.01	0.01	0.01	0.01
Ca	11,200	3,000	21,300	17,200	18,700	13,300
Cd	0.35	0.19	0.04	2.21	0.08	0.06
Ce	76.4	38.3	41.4	37.6	39.5	37.4
Co	7.7	5.8	34.6	26.3	27.1	35.2
Cr	21	46	84	61	66	67
Cs	2.87	2.32	0.24	<0.05	0.20	0.10
Cu	23.0	10.1	46.2	66.9	55.3	63.3
Fe	24,300	14,700	68,800	43,200	60,300	74,900
Ga	9.73	3.47	6.26	5.10	4.72	5.27
Ge	0.30	0.15	0.18	0.16	0.20	0.11
Hf	0.05	0.78	0.14	0.11	0.31	0.33
Hg	0.12	0.12	<0.01	0.05	<0.01	<0.01
In	0.066	0.030	0.022	0.026	0.027	0.027
K	5,000	2,000	500	600	900	800
La	38.2	21.9	19.6	19.6	18.3	16.9
Li	65.9	11.5	12.9	10.8	13.2	6.0
Mg	9,800	2,500	21,900	9,200	10,100	23,900
Mn	412	197	983	1,810	671	946
Mo	0.25	1.22	1.08	0.95	0.98	1.14
Na	400	500	2,500	2,900	2,200	2,600
Nb	0.08	0.11	0.06	0.61	0.32	0.33
Ni	16.7	10.2	76.6	48.4	52.8	69.6
P	1,710	200	2,290	2,040	2,290	2,300
Pb	13.5	7.0	2.3	2.7	1.9	1.4
Rb	44.8	22.1	1.7	1.7	3.5	1.2
Re	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
S (Total)	<100	100	<100	100	<100	100
Sb	0.47	0.52	0.23	0.30	0.36	<0.05
Sc	7.1	3.2	3.6	6.3	5.5	3.0
Se	<0.2	0.4	0.2	0.4	<0.2	<0.2
Sn	2.3	0.8	0.6	0.7	0.5	0.6
Sr	58.8	35.0	69.4	88.8	60.9	65.3
Ta	<0.01	<0.01	<0.01	0.01	0.01	0.01
Te	0.03	0.02	<0.01	0.01	0.01	0.01
Th	11.7	4.7	0.7	0.9	0.7	0.4
Ti	560	800	2,360	6,380	4,340	3,640
Tl	0.45	0.22	<0.02	0.05	0.02	<0.02
U	1.59	0.81	0.31	1.29	0.40	0.10
V	40	53	135	176	197	216
W	0.27	0.66	0.16	0.07	0.20	0.11
Y	33.3	14.35	26.0	34.2	26.1	23.5
Zn	85	49	99	110	85	106
Zr	7.9	31.3	10.1	15.6	19.2	11.9

ALS USA Inc. Report No. RE19046379

Table . - Multi Element ICP Analytical Results,
Grassy Mountain Samples

	Sample		
Analysis, mg/kg	ERIONITE #5	ERIONITE #6	ERIONITE #7
Ag	0.02	0.01	0.02
Al	19,400	17,000	17,400
As	0.9	11.2	1.1
Au	<0.02	<0.02	<0.02
B	<10	<10	<10
Ba	30	80	50
Be	0.33	0.27	0.19
Bi	0.01	0.01	0.01
Ca	12,500	13,700	13,300
Cd	0.04	0.06	0.08
Ce	37.2	37.3	35.3
Co	36.8	37.5	39.1
Cr	71	72	76
Cs	0.68	0.39	0.68
Cu	71.2	46.5	62.6
Fe	75,800	73,800	80,500
Ga	6.05	5.90	6.23
Ge	0.15	0.15	0.12
Hf	0.48	0.68	0.84
Hg	<0.01	<0.01	<0.01
In	0.028	0.031	0.033
K	600	700	900
La	17.0	17.4	16.4
Li	8.0	8.9	8.9
Mg	25,500	19,200	24,900
Mn	948	1,000	1,100
Mo	1.18	2.10	1.32
Na	2,500	2,400	2,500
Nb	0.42	0.57	1.17
Ni	71.5	70.2	82.4
P	2,120	2,340	2,300
Pb	1.9	1.6	1.5
Rb	1.6	1.6	1.8
Re	<0.001	<0.001	<0.001
S (Total)	100	100	<100
Sb	<0.05	0.09	<0.05
Sc	3.8	4.6	3.7
Se	0.4	0.7	0.4
Sn	0.7	0.8	0.8
Sr	63.7	75.8	65.3
Ta	0.01	0.01	0.04
Te	<0.01	<0.01	0.02
Th	0.5	0.6	0.5
Ti	6,740	7,010	7,430
Tl	<0.02	<0.02	<0.02
U	0.10	0.24	0.12
V	230	255	256
W	0.09	0.16	0.14
Y	24.5	23.8	21.7
Zn	109	109	111
Zr	25.2	30.8	30.7

ALS USA Inc. Report No. RE19046379

Table . - Profile II Analytical Results, MWMP Extracts,
Grassy Mountain Samples

	Sample					
Analysis, mg/L	BASALT B1 0-30 1446340	BASALT B1 56-67 1446342	BASALT B1 115-121 1446345	BASALT B2 30-50 1446348	BASALT B2 85-95 1446350	BASALT B2 109-114 1446352
Alkalinity, $CaCO_3$	45.8	33.1	33.0	27.3	37.3	36.6
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2
HCO_3	46.8	33.1	33.0	27.3	37.3	36.6
Aluminum	<0.05	<0.05	.06	<0.05	<0.05	<0.05
Antimony	<0.0004	<0.0004	.0004	<0.0004	<0.0004	<0.0004
Arsenic	0.0091	0.0023	.0078	0.0022	0.0045	.006
Barium	<0.007	<0.007	.011	<0.007	<0.007	.009
Beryllium	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.02	<0.02	.09	<0.02	<0.02	.04
Cadmium	<0.00005	<0.00005	<0.00005	<0.00005	<0.000005	<0.00005
Calcium	9.8	6.7	6.6	4.5	5.8	3.5
Chloride	0.8	<0.5	2.4	<0.5	<0.5	.7
Chromium	<0.0005	<0.0005	<0.01	<0.0005	<0.0005	<0.01
Cobalt	<0.00005	<0.00005	<0.01	<0.00005	<0.00005	<0.01
Copper	0.0026	0.0012	<0.01	0.0033	0.001	<0.01
Cyanide, Total	0.006	0.008	<0.003	0.007	0.007	<0.003
Cyanide, WAD	0.007	0.009	<0.003	0.007	0.007	<0.003
Fluoride	0.5	0.2	1.4	<0.4	0.2	1.1
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	32	22	31	15	22	15
Hydroxide	<2	<2	<2	<2	<2	<2
Iron	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Lead	0.0009	0.0002	.0006	0.0003	0.0004	.0006
Lithium	<0.008	<0.008	.022	<0.008	<0.008	.036
Magnesium	1.8	1.3	3.5	1.0	1.8	1.6
Manganese	<0.0004	<0.0004	<0.01	0.0008	0.0007	<0.01
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.001	0.0004	<0.02	0.0003	0.0004	<0.02
Nickel	<0.0004	<0.0004	<0.008	<0.0004	<0.0004	<0.008
Nitrate/Nitrite as N	0.04	<0.02	<0.02	<0.02	0.09	<0.02
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Total Kjeldahl	0.3	0.1	<0.1	<0.1	<0.1	<0.1
pH, stu	8.3	8.0	7.8	7.8	8.1	7.8
Phosphorus	0.09	0.09	.13	0.07	0.08	.24
Potassium	0.4	0.3	1.3	0.4	1.0	1.3
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	<0.0001	<0.0001	.0001	<0.0001	<0.0001	<0.0001
Silver	<0.0001	<0.0001	<0.01	<0.0001	<0.0001	<0.01
Sodium	6.9	2.5	6.8	1.2	5.6	10.8
Strontium	0.027	0.023	.060	0.014	0.024	.025
Sulfate	1.1	2.0	11.4	<1	1.1	2.8
Thallium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thiocyanate	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	106	44	53.7	22	54	44.2
Uranium	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Vanadium	0.0403	0.0123	.054	0.0038	0.0244	.042
Zinc	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cations, meq/L	0.952	0.6	.958	0.371	0.711	.816
Anions, meq/L	0.991	0.715	1.0	0.546	0.786	.869
Balance, %	-2.0	-8.7	-2.1	-19.1	-5.0	-3.1
ACZ Report No.	L52869	L52869	L53063	L52869	L52869	L53063

Table . - Profile II Analytical Results, MWMP Extracts,
Grassy Mountain Samples

	Sample					
Analysis, mg/L	BASALT B3 41-61 1446354	BASALT B3 96-110 1446356	BASALT B3 151-156 1446358	ERIONITE #2	ERIONITE #3	ERIONITE #4
Alkalinity, $CaCO_3$	21.8	38.9	33.4	18.0	22.2	10.1
CO_3, $CaCO_3$	<2	<2	<2	<2	<2	<2
HCO_3	21.8	38.9	33.4	18.0	22.2	10.1
Aluminum	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Antimony	<0.0004	<0.0004	0.0006	<0.0004	<0.0004	.001
Arsenic	0.0017	0.0069	0.0105	.0039	.0029	.0122
Barium	<0.007	<0.007	<0.007	.007	.008	.032
Beryllium	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Bismuth	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Boron	<0.02	<0.02	0.03	.04	.02	.03
Cadmium	<0.000005	<0.00005	<0.00005	<0.00005	.00009	<0.00005
Calcium	3.0	6.3	7.1	4.5	5.8	1.4
Chloride	<0.5	0.5	2.5	.5	<0.5	.7
Chromium	<0.0005	<0.0005	<0.0005	<0.01	<0.01	<0.01
Cobalt	<0.00005	<0.00005	<0.00005	<0.01	<0.01	<0.01
Copper	0.0028	<0.0008	0.001	<0.01	<0.01	.01
Cyanide, Total	0.005	<0.003	0.008	<0.003	.008	.005
Cyanide, WAD	0.005	<0.003	0.008	<0.003	.007	.005
Fluoride	<0.4	0.5	2.3	<0.1	<0.1	<0.1
Gallium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	11	26	29	13	19.0	6
Hydroxide	<2	<2	<2	<2	<2	<2
Iron	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Lead	0.001	0.0006	0.001	.0005	.0011	.0006
Lithium	<0.008	<0.008	<0.009	<0.008	<0.008	<0.008
Magnesium	0.8	2.6	2.7	.4	1.1	.6
Manganese	0.0012	0.0009	0.0008	<0.01	.04	.03
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.0005	0.0017	0.0013	<0.02	<0.02	<0.02
Nickel	<0.0004	<0.0004	0.0006	<0.008	<0.008	<0.008
Nitrate/Nitrite as N	<0.02	0.05	0.99	.18	<0.02	<0.02
Nitrogen, Ammonia	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05
Nitrogen, Total Kjeldahl	<0.1	0.1	0.3	<0.1	<0.1	.5
pH, stu	7.7	8.0	7.8	7.6	7.6	6.8
Phosphorus	0.09	0.10	0.14	.16	.27	.16
Potassium	0.3	1.5	3.2	.9	.9	1.6
Scandium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	<0.0001	<0.0001	<0.0001	.0001	.0005	.0001
Silver	<0.0001	<0.0001	0.0002	<0.01	<0.01	<0.01
Sodium	2.0	6.3	13.4	3.6	.8	.9
Strontium	0.009	<0.009	0.023	.020	.020	.014
Sulfate	<1	1.6	8.5	3.3	<1	<1
Thallium	<0.0001	<0.0001	<0.0001	<0.0001	.0001	<0.0001
Thiocyanate	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
Tin	<0.04	<0.04	<0.04	<0.04	<0.04	<0.00
Titanium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Dissolved Solids	<20	58	50	24.2	22.3	11.4
Uranium	<0.0001	0.0001	0.0002	.0001	<0.0001	<0.0001
Vanadium	0.0011	0.0271	0.0405	.068	.012	.005
Zinc	<0.01	<0.01	<0.01	<0.01	.09	.03
Cations, meq/L	0.312	0.844	1.3	.4	.445	.204
Anions, meq/L	0.436	0.856	1.1	.443	.444	.222
Balance, %	-16.6	-0.7	8.3	-5.1	0.1	-4.2
ACZ Report No.	L52869	L52869	L52869	L53063	L53063	L53063

Table . - Profile II Analytical Results, MWMP Extracts, Grassy Mountain Samples

	Sample		
Analysis, mg/L	ERIONITE #5	ERIONITE #6	ERIONITE #7
Alkalinity, $CaCO_3$	3.7	5.2	2.1
CO_3, $CaCO_3$	<2	<2	<2
HCO_3	3.7	5.2	2.1
Aluminum	<0.05	<0.05	<0.05
Antimony	<0.0004	<0.0004	<0.0004
Arsenic	.0009	.0045	.001
Barium	<0.007	.040	.061
Beryllium	<0.00008	<0.00008	<0.00008
Bismuth	<0.04	<0.04	<0.04
Boron	<0.02	.03	.06
Cadmium	<0.00005	<0.00005	<0.00005
Calcium	.7	1.0	.8
Chloride	<0.5	<0.5	.6
Chromium	<0.01	<0.01	<0.01
Cobalt	<0.01	<0.01	<0.01
Copper	<0.01	<0.01	<0.01
Cyanide, Total	.008	<0.003	.009
Cyanide, WAD	.007	<0.003	.009
Fluoride	<0.1	.1	<0.1
Gallium	<0.1	<0.1	<0.1
Hardness	3	4.1	2.8
Hydroxide	<2	<2	<2
Iron	<0.03	<0.03	<0.03
Lead	.0007	.0003	.0005
Lithium	<0.008	<0.008	<0.008
Magnesium	.3	.4	.2
Manganese	<0.01	<0.01	.02
Mercury	<0.0002	<0.0002	<0.0002
Molybdenum	<0.02	<0.02	<0.02
Nickel	<0.008	<0.008	<0.008
Nitrate/Nitrite as N	<0.02	.16	.04
Nitrogen, Ammonia	<0.05	<0.05	<0.05
Nitrogen, Total Kjeldahl	<0.1	<0.1	.7
pH, stu	6.8	7.1	6.8
Phosphorus	.15	.14	.12
Potassium	.6	1.2	1.0
Scandium	<0.1	<0.1	<0.1
Selenium	<0.0001	<0.0001	<0.0001
Silver	<0.01	<0.01	<0.01
Sodium	.3	1.0	1.1
Strontium	.009	.012	.011
Sulfate	<1	<1	<1
Thallium	<0.0001	<0.0001	<0.0001
Thiocyanate	<0.1	<0.1	0.2
Tin	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	<0.005
Total Dissolved Solids	4.17	6.91	5.08
Uranium	<0.0001	<0.0001	<0.0001
Vanadium	.007	.008	<0.0050
Zinc	<0.01	.03	.07
Cations, meq/L	N/A	.159	.135
Anions, meq/L	N/A	.109	N/A
Balance, %	N/A	N/A	N/A
ACZ Report No.	L53063	L53063	L53063

Appendix F3

ALS Laboratory Reports

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To: **MCCLELLAND LABS**
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Finalized Date: 6-MAR-2019
Account: EIM

CERTIFICATE RE19046379

Project: 4303

This report is for 27 Pulp samples submitted to our lab in Reno, NV, USA on 22-FEB-2019.

The following have access to data associated with this certificate:

MICHELLE BIBLE ACCOUNTS PAYABLE	METTEST DATA RESULTS	LAURE JOHNSON

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
SND-ALS	Send samples to internal laboratory
LOG-24	Pulp Login - Rcd w/o Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION
ME-MS41	Ultra Trace Aqua Regia ICP-MS

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim 'or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project. Statement required by Nevada State Law NRS 519

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:
Colin Ramshaw, Vancouver Laboratory Manager

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Finalized Date: 6-MAR-2019
Account: EIM

Project: 4303

CERTIFICATE OF ANALYSIS RE19046379

Sample Description	Method / Analyte / Units / LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS41 Ag ppm 0.01	ME-MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.02	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME-MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1	ME-MS41 Cs ppm 0.05
4303 BASALT B1 0-30 1446340 ICP		0.06	0.02	4.72	6.1	<0.02	<10	90	0.28	0.01	5.95	0.10	19.50	36.4	40	0.57
4303 BASALT B1 40-55 1446341 ICP		0.06	0.02	4.62	1.9	<0.02	<10	80	0.19	0.01	3.61	0.06	19.75	39.9	86	<0.05
4303 BASALT B1 56-67 1446342 ICP		0.06	0.04	5.51	1.3	<0.02	<10	130	0.18	0.01	5.18	0.04	15.95	32.2	84	<0.05
4303 BASALT B1 70-85 1446343 ICP		0.14	0.04	5.47	0.7	<0.02	<10	40	0.22	0.01	3.64	0.03	17.45	36.6	48	0.05
4303 BASALT B1 87-104 1446344 ICP		0.10	0.04	5.74	0.7	<0.02	<10	50	0.28	0.01	3.75	0.03	17.55	37.7	32	0.08
4303 BASALT B1 115-121 1446345 ICP		0.06	0.10	1.99	3.1	<0.02	20	360	0.73	0.15	0.65	0.20	33.2	5.6	56	2.37
4303 BASALT B1 121-130 1446346 ICP		0.04	0.03	2.05	4.4	<0.02	30	310	0.98	0.17	0.56	0.27	44.3	7.1	30	2.80
4303 BASALT B2 0-30 1446347 ICP		0.08	0.02	4.60	4.3	<0.02	<10	90	0.21	0.01	3.74	0.06	19.85	36.7	78	0.16
4303 BASALT B2 30-50 1446348 ICP		0.02	0.04	5.03	1.9	<0.02	<10	90	0.37	<0.01	3.62	0.05	20.6	39.3	45	0.37
4303 BASALT B2 56-81 1446349 ICP		0.04	0.04	5.18	1.0	<0.02	<10	90	0.31	0.01	3.27	0.04	20.4	39.4	63	0.14
4303 BASALT B2 85-95 1446350 ICP		0.04	0.02	4.09	1.8	<0.02	<10	190	0.20	0.01	3.36	0.19	13.00	34.1	95	0.14
4303 BASALT B2 101-104 1446351 ICP		0.04	0.02	4.27	2.4	<0.02	10	150	0.32	0.03	10.25	0.10	15.95	37.2	81	0.86
4303 BASALT B2 109-114 1446352 ICP		0.08	0.02	2.24	3.6	<0.02	20	280	1.10	0.18	0.82	0.18	41.1	10.0	17	2.63
4303 BASALT B3 10-30 1446353 ICP		0.06	0.03	4.73	2.4	<0.02	<10	50	0.26	0.01	3.52	0.04	19.90	38.5	23	0.70
4303 BASALT B3 41-61 1446354 ICP		0.04	0.03	4.82	0.8	<0.02	<10	50	0.32	<0.01	3.01	0.04	20.1	37.6	21	0.08
4303 BASALT B3 71-93 1446355 ICP		0.06	0.03	4.55	0.6	<0.02	<10	50	0.28	0.01	3.08	0.04	19.70	36.6	25	0.06
4303 BASALT B3 96-110 1446356 ICP		0.04	0.02	5.04	2.6	<0.02	<10	280	0.26	0.02	4.21	0.42	12.10	34.0	67	0.20
4303 BASALT B3 113-136 1446357 ICP		0.08	0.06	3.19	5.4	<0.02	30	450	1.78	0.24	1.03	0.51	72.5	9.4	17	2.79
4303 BASALT B3 151-156 1446358 ICP		0.06	0.06	3.20	4.1	<0.02	30	200	1.81	0.25	1.12	0.35	76.4	7.7	21	2.87
4303 BASALT B3 166-170 1446359 ICP		0.02	0.05	1.04	5.1	<0.02	10	210	0.63	0.12	0.30	0.19	38.3	5.8	46	2.32
4303 ERIONITE #1 ICP		0.02	0.02	2.97	4.9	<0.02	<10	40	0.40	0.01	2.13	0.04	41.4	34.6	84	0.24
4303 ERIONITE #2 ICP		0.02	0.02	1.93	1.9	<0.02	<10	80	0.35	0.01	1.72	2.21	37.6	26.3	61	<0.05
4303 ERIONITE #3 ICP		0.08	0.03	1.29	2.9	<0.02	<10	50	0.36	0.01	1.87	0.08	39.5	27.1	66	0.20
4303 ERIONITE #4 ICP		0.06	0.03	1.61	0.4	<0.02	<10	40	0.20	0.01	1.33	0.06	37.4	35.2	67	0.10
4303 ERIONITE #5 ICP		0.06	0.02	1.94	0.9	<0.02	<10	30	0.33	0.01	1.25	0.04	37.2	36.8	71	0.68
4303 ERIONITE #6 ICP		0.06	0.01	1.70	11.2	<0.02	<10	80	0.27	0.01	1.37	0.06	37.3	37.5	72	0.39
4303 ERIONITE #7 ICP		0.10	0.02	1.74	1.1	<0.02	<10	50	0.19	0.01	1.33	0.08	35.3	39.1	76	0.68

***** See Appendix Page for comments regarding this certificate *****

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To: **MCCLELLAND LABS**
1016 GREG ST
SPARKS NV 89431

Finalized Date: 6-MAR-2019
Account: EIM

Project: 4303

CERTIFICATE OF ANALYSIS RE19046379

Sample Description	Method / Analyte / Units / LOD	ME-MS41 Cu ppm 0.2	ME-MS41 Fe % 0.01	ME-MS41 Ga ppm 0.05	ME-MS41 Ge ppm 0.05	ME-MS41 Hf ppm 0.02	ME-MS41 Hg ppm 0.01	ME-MS41 In ppm 0.005	ME-MS41 K % 0.01	ME-MS41 La ppm 0.2	ME-MS41 Li ppm 0.1	ME-MS41 Mg % 0.01	ME-MS41 Mn ppm 5	ME-MS41 Mo ppm 0.05	ME-MS41 Na % 0.01	ME-MS41 Nb ppm 0.05
4303 BASALT B1 0-30 1446340 ICP		76.1	5.70	6.61	0.15	0.43	0.01	0.021	0.07	8.1	17.8	2.77	894	0.75	0.64	0.10
4303 BASALT B1 40-55 1446341 ICP		70.6	5.86	6.49	0.11	0.30	0.01	0.021	0.05	8.1	6.5	3.38	1010	2.00	0.67	0.26
4303 BASALT B1 56-67 1446342 ICP		60.3	4.32	7.67	0.10	0.42	0.01	0.015	0.06	6.9	8.5	0.86	895	0.93	0.77	0.12
4303 BASALT B1 70-85 1446343 ICP		67.1	5.53	6.98	0.10	0.30	<0.01	0.019	0.06	7.4	6.1	3.65	802	0.99	0.67	0.05
4303 BASALT B1 87-104 1446344 ICP		66.8	5.75	7.52	0.10	0.28	<0.01	0.021	0.13	7.6	4.7	3.77	834	0.50	0.70	0.14
4303 BASALT B1 115-121 1446345 ICP		24.7	1.81	5.29	0.16	1.00	0.02	0.035	0.59	19.1	18.4	0.65	442	1.64	0.16	0.06
4303 BASALT B1 121-130 1446346 ICP		18.8	2.04	5.91	0.24	1.32	0.02	0.041	0.44	22.3	37.3	0.68	491	0.66	0.07	0.08
4303 BASALT B2 0-30 1446347 ICP		75.9	5.64	6.74	0.15	0.41	0.02	0.012	0.06	8.5	12.8	2.97	798	1.56	0.67	0.26
4303 BASALT B2 30-50 1446348 ICP		81.1	5.88	7.63	0.11	0.17	<0.01	0.021	0.09	8.6	17.7	3.51	759	0.72	0.69	0.19
4303 BASALT B2 56-81 1446349 ICP		80.2	5.94	7.21	0.10	0.26	<0.01	0.019	0.07	8.5	11.8	3.82	775	1.47	0.67	0.15
4303 BASALT B2 85-95 1446350 ICP		70.9	4.79	6.91	0.14	0.45	<0.01	0.017	0.08	5.8	21.8	1.44	2240	0.75	0.60	0.06
4303 BASALT B2 101-104 1446351 ICP		71.0	4.96	7.28	0.22	0.65	0.01	0.025	0.16	6.6	63.6	1.82	852	0.53	0.56	<0.05
4303 BASALT B2 109-114 1446352 ICP		23.9	2.10	6.53	0.23	0.34	0.01	0.036	0.44	22.6	40.1	0.96	322	0.38	0.09	0.06
4303 BASALT B3 10-30 1446353 ICP		74.6	5.89	6.83	0.12	0.31	<0.01	0.018	0.08	8.4	13.7	3.47	784	0.38	0.61	0.14
4303 BASALT B3 41-61 1446354 ICP		79.7	5.79	6.83	0.12	0.29	<0.01	0.018	0.13	8.6	7.8	3.70	906	0.36	0.55	0.15
4303 BASALT B3 71-93 1446355 ICP		78.6	5.60	6.40	0.09	0.17	0.01	0.013	0.08	8.2	6.5	3.41	782	0.35	0.58	0.20
4303 BASALT B3 96-110 1446356 ICP		63.9	4.25	7.28	0.17	0.42	<0.01	0.017	0.07	5.4	35.2	1.17	1260	0.78	0.66	<0.05
4303 BASALT B3 113-136 1446357 ICP		26.2	2.89	9.16	0.37	0.22	0.06	0.061	0.58	36.9	68.7	1.25	935	0.38	0.07	0.10
4303 BASALT B3 151-156 1446358 ICP		23.0	2.43	9.73	0.30	0.05	0.12	0.066	0.50	38.2	65.9	0.98	412	0.25	0.04	0.08
4303 BASALT B3 166-170 1446359 ICP		10.1	1.47	3.47	0.15	0.78	0.12	0.030	0.20	21.9	11.5	0.25	197	1.22	0.05	0.11
4303 ERIONITE #1 ICP		46.2	6.88	6.26	0.18	0.14	<0.01	0.022	0.05	19.6	12.9	2.19	983	1.08	0.25	0.06
4303 ERIONITE #2 ICP		66.9	4.32	5.10	0.16	0.11	0.05	0.026	0.06	19.6	10.8	0.92	1810	0.95	0.29	0.61
4303 ERIONITE #3 ICP		55.3	6.03	4.72	0.20	0.31	<0.01	0.027	0.09	18.3	13.2	1.01	671	0.98	0.22	0.32
4303 ERIONITE #4 ICP		63.3	7.49	5.27	0.11	0.33	<0.01	0.027	0.08	16.9	6.0	2.39	946	1.14	0.26	0.33
4303 ERIONITE #5 ICP		71.2	7.58	6.05	0.15	0.48	<0.01	0.028	0.06	17.0	8.0	2.55	948	1.18	0.25	0.42
4303 ERIONITE #6 ICP		46.5	7.38	5.90	0.15	0.68	<0.01	0.031	0.07	17.4	8.9	1.92	1000	2.10	0.24	0.57
4303 ERIONITE #7 ICP		62.6	8.05	6.23	0.12	0.84	<0.01	0.033	0.09	16.4	8.9	2.49	1100	1.32	0.25	1.17

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Finalized Date: 6-MAR-2019
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CERTIFICATE OF ANALYSIS RE19046379

Sample Description	Method / Analyte / Units / LOD	ME-MS41 Ni ppm 0.2	ME-MS41 P ppm 10	ME-MS41 Pb ppm 0.2	ME-MS41 Rb ppm 0.1	ME-MS41 Re ppm 0.001	ME-MS41 S % 0.01	ME-MS41 Sb ppm 0.05	ME-MS41 Sc ppm 0.1	ME-MS41 Se ppm 0.2	ME-MS41 Sn ppm 0.2	ME-MS41 Sr ppm 0.2	ME-MS41 Ta ppm 0.01	ME-MS41 Te ppm 0.01	ME-MS41 Th ppm 0.2	ME-MS41 Ti % 0.005
4303 BASALT B1 0-30 1446340 ICP		155.5	1050	1.0	3.0	0.001	0.01	0.38	3.2	0.2	0.3	150.5	<0.01	0.01	0.5	0.078
4303 BASALT B1 40-55 1446341 ICP		161.0	1050	0.7	0.6	0.001	0.01	0.10	3.8	<0.2	0.2	139.5	0.01	0.01	0.3	0.076
4303 BASALT B1 56-67 1446342 ICP		147.5	970	0.9	0.7	0.001	0.01	0.25	3.8	0.4	0.3	147.0	<0.01	<0.01	0.4	0.135
4303 BASALT B1 70-85 1446343 ICP		159.5	980	0.7	1.4	<0.001	<0.01	0.06	3.3	<0.2	0.2	143.0	<0.01	<0.01	0.4	0.076
4303 BASALT B1 87-104 1446344 ICP		159.5	970	0.9	3.4	<0.001	<0.01	0.05	3.6	0.5	0.2	214	<0.01	<0.01	0.5	0.083
4303 BASALT B1 115-121 1446345 ICP		13.8	570	8.6	28.6	0.001	0.01	0.59	4.3	<0.2	0.9	109.5	<0.01	0.02	4.7	0.085
4303 BASALT B1 121-130 1446346 ICP		13.9	420	9.1	32.1	<0.001	0.01	0.61	4.8	<0.2	1.1	86.0	<0.01	0.02	5.9	0.110
4303 BASALT B2 0-30 1446347 ICP		155.0	1120	1.0	1.4	0.001	0.01	0.31	3.4	<0.2	0.3	137.5	0.01	0.01	0.5	0.104
4303 BASALT B2 30-50 1446348 ICP		159.5	1050	1.3	5.1	<0.001	<0.01	0.08	3.3	0.6	0.4	145.5	0.01	0.02	0.5	0.109
4303 BASALT B2 56-81 1446349 ICP		164.0	1040	1.0	2.4	0.001	<0.01	<0.05	3.5	0.7	0.3	140.0	0.01	<0.01	0.5	0.090
4303 BASALT B2 85-95 1446350 ICP		190.5	870	1.0	2.5	<0.001	<0.01	0.32	7.2	<0.2	0.4	124.5	<0.01	<0.01	0.5	0.197
4303 BASALT B2 101-104 1446351 ICP		185.5	760	1.2	9.4	<0.001	<0.01	0.26	6.8	0.2	0.3	134.0	<0.01	0.01	0.8	0.143
4303 BASALT B2 109-114 1446352 ICP		20.1	960	9.8	33.7	<0.001	<0.01	0.52	4.9	0.2	1.1	88.8	<0.01	0.02	6.1	0.093
4303 BASALT B3 10-30 1446353 ICP		156.5	1080	0.8	4.0	<0.001	<0.01	0.07	3.3	0.3	0.2	135.0	0.01	0.01	0.5	0.066
4303 BASALT B3 41-61 1446354 ICP		150.0	1070	1.0	4.2	0.001	<0.01	<0.05	3.3	<0.2	0.4	150.5	0.01	0.01	0.5	0.064
4303 BASALT B3 71-93 1446355 ICP		157.0	1050	0.9	2.1	<0.001	<0.01	<0.05	3.1	0.3	0.2	133.0	0.01	<0.01	0.5	0.064
4303 BASALT B3 96-110 1446356 ICP		168.0	700	1.2	3.1	0.001	<0.01	0.58	5.3	0.2	0.3	113.5	<0.01	<0.01	0.6	0.071
4303 BASALT B3 113-136 1446357 ICP		16.1	980	14.3	44.0	0.001	0.01	0.70	7.8	0.3	2.0	70.8	<0.01	0.04	10.3	0.148
4303 BASALT B3 151-156 1446358 ICP		16.7	1710	13.5	44.8	<0.001	<0.01	0.47	7.1	<0.2	2.3	58.8	<0.01	0.03	11.7	0.056
4303 BASALT B3 166-170 1446359 ICP		10.2	200	7.0	22.1	<0.001	0.01	0.52	3.2	0.4	0.8	35.0	<0.01	0.02	4.7	0.080
4303 ERIONITE #1 ICP		76.6	2290	2.3	1.7	0.001	<0.01	0.23	3.6	0.2	0.6	69.4	<0.01	<0.01	0.7	0.236
4303 ERIONITE #2 ICP		48.4	2040	2.7	1.7	<0.001	0.01	0.30	6.3	0.4	0.7	88.8	0.01	0.01	0.9	0.638
4303 ERIONITE #3 ICP		52.8	2290	1.9	3.5	<0.001	<0.01	0.36	5.5	<0.2	0.5	60.9	0.01	0.01	0.7	0.434
4303 ERIONITE #4 ICP		69.6	2300	1.4	1.2	<0.001	0.01	<0.05	3.0	<0.2	0.6	65.3	0.01	0.01	0.4	0.364
4303 ERIONITE #5 ICP		71.5	2120	1.9	1.6	<0.001	0.01	<0.05	3.8	0.4	0.7	63.7	0.01	<0.01	0.5	0.674
4303 ERIONITE #6 ICP		70.2	2340	1.6	1.6	<0.001	0.01	0.09	4.6	0.7	0.8	75.8	0.01	<0.01	0.6	0.701
4303 ERIONITE #7 ICP		82.4	2300	1.5	1.8	<0.001	<0.01	<0.05	3.7	0.4	0.8	65.3	0.04	0.02	0.5	0.743

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Finalized Date: 6-MAR-2019
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Project: 4303

CERTIFICATE OF ANALYSIS RE19046379

Sample Description	Method / Analyte / Units / LOD	ME-MS41 Tl ppm 0.02	ME-MS41 U ppm 0.05	ME-MS41 V ppm 1	ME-MS41 W ppm 0.05	ME-MS41 Y ppm 0.05	ME-MS41 Zn ppm 2	ME-MS41 Zr ppm 0.5
4303 BASALT B1 0-30 1446340 ICP		0.05	0.13	47	0.67	14.35	67	20.4
4303 BASALT B1 40-55 1446341 ICP		0.02	0.10	35	0.26	15.60	68	13.0
4303 BASALT B1 56-67 1446342 ICP		0.02	0.11	44	1.16	12.25	44	18.3
4303 BASALT B1 70-85 1446343 ICP		<0.02	0.11	38	0.08	13.55	57	13.8
4303 BASALT B1 87-104 1446344 ICP		<0.02	0.12	38	0.08	14.10	62	12.3
4303 BASALT B1 115-121 1446345 ICP		0.22	0.57	27	0.39	13.45	47	42.4
4303 BASALT B1 121-130 1446346 ICP		0.31	0.78	34	0.47	16.15	63	57.2
4303 BASALT B2 0-30 1446347 ICP		0.04	0.15	48	0.37	15.25	61	19.1
4303 BASALT B2 30-50 1446348 ICP		<0.02	0.14	46	0.18	16.10	67	7.5
4303 BASALT B2 56-81 1446349 ICP		<0.02	0.11	31	0.09	16.15	67	10.0
4303 BASALT B2 85-95 1446350 ICP		0.18	0.37	65	1.67	11.55	52	22.2
4303 BASALT B2 101-104 1446351 ICP		0.06	0.27	94	0.78	11.65	56	32.1
4303 BASALT B2 109-114 1446352 ICP		0.22	0.77	29	0.30	16.50	65	25.0
4303 BASALT B3 10-30 1446353 ICP		<0.02	0.12	32	0.23	15.90	65	15.2
4303 BASALT B3 41-61 1446354 ICP		<0.02	0.14	21	0.05	15.75	65	13.1
4303 BASALT B3 71-93 1446355 ICP		<0.02	0.13	26	<0.05	15.85	61	7.8
4303 BASALT B3 96-110 1446356 ICP		0.15	0.32	44	1.36	11.25	45	24.8
4303 BASALT B3 113-136 1446357 ICP		0.52	1.06	47	0.94	32.5	81	25.0
4303 BASALT B3 151-156 1446358 ICP		0.45	1.59	40	0.27	33.3	85	7.9
4303 BASALT B3 166-170 1446359 ICP		0.22	0.81	53	0.66	14.35	49	31.3
4303 ERIONITE #1 ICP		<0.02	0.31	135	0.16	26.0	99	10.1
4303 ERIONITE #2 ICP		0.05	1.29	176	0.07	34.2	110	15.6
4303 ERIONITE #3 ICP		0.02	0.40	197	0.20	26.1	85	19.2
4303 ERIONITE #4 ICP		<0.02	0.10	216	0.11	23.5	106	11.9
4303 ERIONITE #5 ICP		<0.02	0.10	230	0.09	24.5	109	25.2
4303 ERIONITE #6 ICP		<0.02	0.24	255	0.16	23.8	109	30.8
4303 ERIONITE #7 ICP		<0.02	0.12	256	0.14	21.7	111	30.7

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CERTIFICATE OF ANALYSIS RE19046379

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).
Applies to Method: ME-MS41

LABORATORY ADDRESSES

Processed at ALS Reno located at 4977 Energy Way, Reno, NV, USA.
Applies to Method: LOG-24 SND-ALS WEI-21

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.
Applies to Method: ME-MS41

Appendix F4

SVL Laboratory Reports

One Government Gulch - PO Box 929
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(208) 784-1258
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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
4303 BASALT B1 0-30 1446340 ABA	X9C0029-01	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B1 40-55 1446341 ABA	X9C0029-02	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B1 56-67 1446342 ABA	X9C0029-03	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B1 70-85 1446343 ABA	X9C0029-04	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B1 87-104 1446344 ABA	X9C0029-05	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B1 115-121 1446345 ABA	X9C0029-06	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B1 121-130 1446346 ABA	X9C0029-07	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B2 0-30 1446347 ABA	X9C0029-08	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B2 30-50 1446348 ABA	X9C0029-09	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B2 56-81 1446349 ABA	X9C0029-10	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B2 85-95 1446350 ABA	X9C0029-11	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B2 101-104 1446351 ABA	X9C0029-12	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B2 109-114 1446352 ABA	X9C0029-13	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B3 10-30 1446353 ABA	X9C0029-14	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B3 41-61 1446354 ABA	X9C0029-15	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B3 71-93 1446355 ABA	X9C0029-16	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B3 96-110 1446356 ABA	X9C0029-17	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B3 113-136 1446357 ABA	X9C0029-18	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B3 151-156 1446358 ABA	X9C0029-19	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 BASALT B3 166-170 1446359 ABA	X9C0029-20	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 ERIONITE#1 ABA	X9C0029-21	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 ERIONITE#2 ABA	X9C0029-22	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 ERIONITE#3 ABA	X9C0029-23	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 ERIONITE#4 ABA	X9C0029-24	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 ERIONITE#5 ABA	X9C0029-25	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 ERIONITE#6 ABA	X9C0029-26	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24
4303 ERIONITE#7 ABA	X9C0029-27	Sediment	22-Feb-19 10:30	04-Mar-2019	Q24

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
Analyses were performed in accordance with SVL standard operating procedures and calibrations were performed and met SVL internal QC criteria.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B1 0-30 1446340 ABA**
SVL Sample ID: **X9C0029-01 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	170	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 12:48	
Modified Sobek	**ANP**	170	TCaCO3/kT	0.3			X911119	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:48	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:48	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 12:48	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 12:48	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:48	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	170	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 12:48	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:48	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:48	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 12:48	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 12:48	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:48	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.7°C**	8.2	pH Units				X910209	PRM	03/07/19 11:40	
LECO	**Total Inorganic Carbon**	0.830	%	0.100	0.055		X910162	PRM	03/06/19 12:36	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @19.6°C**	10.08	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Sophie Milam
Project Manager

SVL holds the following certifications:
AZ:0538, **CA**:2080, **ID**:ID00019 & ID00965 (Microbiology), **NV**:ID000192007A, **UT**(**TNI**):ID000192015-1, **WA**:C573

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B1 40-55 1446341 ABA**
SVL Sample ID: **X9C0029-02 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	24.5	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 12:51	
Modified Sobek	**ANP**	24.5	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:51	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:51	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 12:51	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 12:51	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:51	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	24.5	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 12:51	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:51	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:51	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 12:51	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 12:51	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:51	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.7°C**	9.0	pH Units				X910209	PRM	03/07/19 11:40	
LECO	**Total Inorganic Carbon**	0.144	%	0.100	0.055		X910162	PRM	03/06/19 12:39	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @20.9°C**	8.33	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B1 56-67 1446342 ABA**
SVL Sample ID: **X9C0029-03 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	52.3	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 12:54	
Modified Sobek	**ANP**	52.3	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:54	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:54	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 12:54	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 12:54	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:54	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	52.3	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 12:54	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:54	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:54	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 12:54	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 12:54	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:54	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.7°C**	8.9	pH Units				X910209	PRM	03/07/19 11:40	
LECO	**Total Inorganic Carbon**	0.440	%	0.100	0.055		X910162	PRM	03/06/19 12:43	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @19.6°C**	10.03	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B1 70-85 1446343 ABA**
SVL Sample ID: **X9C0029-04 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	32.6	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 12:57	
Modified Sobek	**ANP**	32.6	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:57	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:57	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 12:57	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 12:57	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:57	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	32.6	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 12:57	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:57	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:57	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 12:57	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 12:57	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 12:57	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.7°C**	8.5	pH Units				X910209	PRM	03/07/19 11:40	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910162	PRM	03/06/19 12:45	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @20.9°C**	7.39	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B1 87-104 1446344 ABA**
SVL Sample ID: **X9C0029-05 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	26.5	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:00	
Modified Sobek	**ANP**	26.5	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:00	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:00	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:00	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:00	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:00	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	26.5	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:00	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:00	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:00	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:00	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:00	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.6°C**	8.7	pH Units				X910209	PRM	03/07/19 11:40	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910162	PRM	03/06/19 12:49	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @20.9°C**	6.93	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Sophie Milam
Project Manager

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B1 115-121 1446345 ABA**
SVL Sample ID: **X9C0029-06 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	12.1	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:03	
Modified Sobek	**ANP**	12.1	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:03	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:03	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:03	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:03	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:03	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	12.1	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:03	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:03	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:03	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:03	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:03	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:03	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.6°C**	8.3	pH Units				X910209	PRM	03/07/19 11:40	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910162	PRM	03/06/19 12:52	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @20.1°C**	6.17	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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Sophie Milam
Project Manager

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AZ:0538, **CA**:2080, **ID**:ID00019 & ID00965 (Microbiology), **NV**:ID000192007A, **UT**(**TNI**):ID000192015-1, **WA**:C573

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(208) 784-1258
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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B1 121-130 1446346 ABA**
SVL Sample ID: **X9C0029-07 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	8.8	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:06	
Modified Sobek	**ANP**	8.8	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:06	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:06	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:06	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:06	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:06	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	8.8	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:06	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:06	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:06	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:06	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:06	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:06	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.5°C**	8.0	pH Units				X910209	PRM	03/07/19 11:40	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910162	PRM	03/06/19 12:55	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @20.1°C**	6.11	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B2 0-30 1446347 ABA**
SVL Sample ID: **X9C0029-08 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	36.3	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:15	
Modified Sobek	**ANP**	36.3	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:15	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:15	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:15	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:15	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:15	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	36.3	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:15	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:15	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:15	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:15	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:15	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:15	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.5°C**	8.7	pH Units				X910209	PRM	03/07/19 11:40	
LECO	**Total Inorganic Carbon**	0.167	%	0.100	0.055		X910162	PRM	03/06/19 13:04	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @20.5°C**	7.39	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B2 30-50 1446348 ABA**
SVL Sample ID: **X9C0029-09 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	31.1	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:19	
Modified Sobek	**ANP**	31.1	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:19	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:19	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:19	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:19	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:19	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	31.1	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:19	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:19	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:19	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:19	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:19	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:19	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.5°C**	8.4	pH Units				X910209	PRM	03/07/19 11:40	
LECO	**Total Inorganic Carbon**	0.211	%	0.100	0.055		X910162	PRM	03/06/19 13:07	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @19.8°C**	8.14	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B2 56-81 1446349 ABA**
SVL Sample ID: **X9C0029-10 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	29.3	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:22	
Modified Sobek	**ANP**	29.3	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:22	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:22	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:22	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:22	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:22	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	29.3	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:22	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:22	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:22	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:22	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:22	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:22	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.5°C**	8.5	pH Units				X910209	PRM	03/07/19 11:40	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910162	PRM	03/06/19 13:10	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @20.4°C**	7.39	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B2 85-95 1446350 ABA**
SVL Sample ID: **X9C0029-11 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	19.7	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:25	
Modified Sobek	**ANP**	19.7	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:25	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:25	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:25	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:25	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:25	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	19.7	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:25	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:25	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:25	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:25	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:25	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:25	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.3°C**	8.3	pH Units				X910209	PRM	03/07/19 11:40	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910162	PRM	03/06/19 13:13	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @19.5°C**	8.94	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B2 101-104 1446351 ABA**
SVL Sample ID: **X9C0029-12 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	236	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:28	
Modified Sobek	**ANP**	236	TCaCO3/kT	0.3			X911119	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:28	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:28	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:28	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:28	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:28	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	236	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:28	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:28	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:28	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:28	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:28	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:28	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.4°C**	8.1	pH Units				X910209	PRM	03/07/19 11:40	
LECO	**Total Inorganic Carbon**	1.86	%	0.200	0.110	2	X910162	PRM	03/06/19 14:27	D2
Stewart, Miller, Smart, 7th ICARD	**NAG pH @19.3°C**	9.72	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Sophie Milam
Project Manager

SVL holds the following certifications:
AZ:0538, **CA**:2080, **ID**:ID00019 & ID00965 (Microbiology), **NV**:ID000192007A, **UT**(**TNI**):ID000192015-1, **WA**:C573

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B2 109-114 1446352 ABA**
SVL Sample ID: **X9C0029-13 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	13.6	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:31	
Modified Sobek	**ANP**	13.6	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:31	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:31	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:31	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:31	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:31	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	13.6	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:31	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:31	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:31	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:31	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:31	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:31	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.5°C**	8.0	pH Units				X910209	PRM	03/07/19 11:40	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910162	PRM	03/06/19 13:19	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @19.8°C**	5.96	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B3 10-30 1446353 ABA**
SVL Sample ID: **X9C0029-14 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	84.2	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:34	
Modified Sobek	**ANP**	84.2	TCaCO3/kT	0.3			X911119	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:34	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:34	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:34	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:34	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:34	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	84.2	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:34	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:34	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:34	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:34	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:34	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:34	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.4°C**	8.5	pH Units				X910209	PRM	03/07/19 11:40	
LECO	**Total Inorganic Carbon**	0.170	%	0.100	0.055		X910162	PRM	03/06/19 13:22	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @19.7°C**	8.68	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B3 41-61 1446354 ABA**
SVL Sample ID: **X9C0029-15 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	26.0	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:37	
Modified Sobek	**ANP**	26.0	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:37	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:37	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:37	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:37	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:37	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	26.0	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:37	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:37	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:37	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:37	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:37	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:37	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.6°C**	8.6	pH Units				X910209	PRM	03/07/19 11:40	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910162	PRM	03/06/19 13:25	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @20.1°C**	7.72	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B3 71-93 1446355 ABA**
SVL Sample ID: **X9C0029-16 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	25.5	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:40	
Modified Sobek	**ANP**	25.5	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:40	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:40	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:40	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:40	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:40	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	25.5	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:40	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:40	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:40	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:40	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:40	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:40	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.6°C**	8.5	pH Units				X910209	PRM	03/07/19 11:40	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910162	PRM	03/06/19 13:28	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @20.5°C**	7.25	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B3 96-110 1446356 ABA**
SVL Sample ID: **X9C0029-17 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	36.1	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:43	
Modified Sobek	**ANP**	36.1	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:43	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:43	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:43	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:43	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:43	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	36.1	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:43	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:43	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:43	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:43	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:43	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:43	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.4°C**	8.4	pH Units				X910209	PRM	03/07/19 11:40	
LECO	**Total Inorganic Carbon**	0.237	%	0.100	0.055		X910162	PRM	03/06/19 13:31	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @19.2°C**	9.50	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B3 113-136 1446357 ABA**
SVL Sample ID: **X9C0029-18 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	10.5	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:52	
Modified Sobek	**ANP**	10.5	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:52	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:52	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:52	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:52	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:52	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	10.5	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:52	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:52	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:52	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:52	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:52	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:52	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.6°C**	7.8	pH Units				X910209	PRM	03/07/19 11:40	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910162	PRM	03/06/19 13:40	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @19.8°C**	6.29	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B3 151-156 1446358 ABA**
SVL Sample ID: **X9C0029-19 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	11.8	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:55	
Modified Sobek	**ANP**	11.8	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:55	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:55	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:55	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:55	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:55	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	11.8	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:55	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:55	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:55	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:55	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:55	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:55	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.8°C**	7.4	pH Units				X910209	PRM	03/07/19 11:40	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910162	PRM	03/06/19 13:44	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @19.5°C**	5.76	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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Sophie Milam
Project Manager

SVL holds the following certifications:
AZ:0538, **CA**:2080, **ID**:ID00019 & ID00965 (Microbiology), **NV**:ID000192007A, **UT**(**TNI**):ID000192015-1, **WA**:C573

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Kellogg, ID 83837-0929
(208) 784-1258
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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 BASALT B3 166-170 1446359 ABA**
SVL Sample ID: **X9C0029-20 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	3.2	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:58	
Modified Sobek	**ANP**	3.2	TCaCO3/kT	0.3			X911117	PRM	03/15/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:58	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:58	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:58	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 13:58	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:58	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	3.2	TCaCO3/kT	0.3			N/A		03/15/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 13:58	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:58	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:58	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:58	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 13:58	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910090	PRM	03/05/19 13:58	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.5°C**	7.6	pH Units				X910209	PRM	03/07/19 11:40	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910162	PRM	03/06/19 13:46	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @19.4°C**	5.52	pH Units				X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910164	PRM	03/26/19 00:00	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 ERIONITE#1 ABA**
SVL Sample ID: **X9C0029-21 (Sediment)**

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	23.5	TCaCO3/kT	0.3			N/A		03/18/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 14:11	
Modified Sobek	**ANP**	23.5	TCaCO3/kT	0.3			X911118	prm	03/18/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:11	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:11	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 14:11	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 14:11	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:11	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	23.5	TCaCO3/kT	0.3			N/A		03/18/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 14:11	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:11	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:11	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 14:11	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 14:11	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:11	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @16.9°C**	8.1	pH Units				X910206	PRM	03/07/19 12:15	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910163	PRM	03/06/19 13:59	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @25.0°C**	7.85	pH Units				X910165	PRM	03/08/19 11:50	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910165	PRM	03/08/19 11:50	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910165	PRM	03/08/19 11:50	

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Sophie Milam
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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 ERIONITE#2 ABA**
SVL Sample ID: **X9C0029-22 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	21.2	TCaCO3/kT	0.3			N/A		03/18/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 14:14	
Modified Sobek	**ANP**	21.2	TCaCO3/kT	0.3			X911118	prm	03/18/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:14	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:14	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 14:14	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 14:14	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:14	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	21.2	TCaCO3/kT	0.3			N/A		03/18/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 14:14	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:14	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:14	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 14:14	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 14:14	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:14	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @16.7°C**	8.1	pH Units				X910206	PRM	03/07/19 12:15	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910163	PRM	03/06/19 14:03	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @23.5°C**	6.46	pH Units				X910165	PRM	03/08/19 11:50	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910165	PRM	03/08/19 11:50	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910165	PRM	03/08/19 11:50	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 ERIONITE#3 ABA**
SVL Sample ID: **X9C0029-23 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	31.0	TCaCO3/kT	0.3			N/A		03/18/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 14:17	
Modified Sobek	**ANP**	31.0	TCaCO3/kT	0.3			X911118	prm	03/18/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:17	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:17	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 14:17	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 14:17	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:17	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	31.0	TCaCO3/kT	0.3			N/A		03/18/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 14:17	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:17	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:17	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 14:17	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 14:17	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:17	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @16.8°C**	8.3	pH Units				X910206	PRM	03/07/19 12:15	
LECO	**Total Inorganic Carbon**	0.161	%	0.100	0.055		X910163	PRM	03/06/19 14:06	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @24.8°C**	7.68	pH Units				X910165	PRM	03/08/19 11:50	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910165	PRM	03/08/19 11:50	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910165	PRM	03/08/19 11:50	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 ERIONITE#4 ABA**
SVL Sample ID: **X9C0029-24 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	16.9	TCaCO3/kT	0.3			N/A		03/18/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 14:20	
Modified Sobek	**ANP**	16.9	TCaCO3/kT	0.3			X911118	prm	03/18/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:20	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:20	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 14:20	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 14:20	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:20	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	16.9	TCaCO3/kT	0.3			N/A		03/18/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 14:20	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:20	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:20	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 14:20	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 14:20	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:20	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @16.9°C**	8.4	pH Units				X910206	PRM	03/07/19 12:15	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910163	PRM	03/06/19 14:09	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @22.9°C**	6.36	pH Units				X910165	PRM	03/08/19 11:50	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910165	PRM	03/08/19 11:50	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910165	PRM	03/08/19 11:50	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 ERIONITE#5 ABA**
SVL Sample ID: **X9C0029-25 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	26.8	TCaCO3/kT	0.3			N/A		03/18/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 14:29	
Modified Sobek	**ANP**	26.8	TCaCO3/kT	0.3			X911118	prm	03/18/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:29	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:29	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 14:29	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 14:29	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:29	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	26.8	TCaCO3/kT	0.3			N/A		03/18/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 14:29	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:29	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:29	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 14:29	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 14:29	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:29	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @16.9°C**	8.2	pH Units				X910206	PRM	03/07/19 12:15	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910163	PRM	03/06/19 14:18	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @22.0°C**	6.76	pH Units				X910165	PRM	03/08/19 11:50	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910165	PRM	03/08/19 11:50	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910165	PRM	03/08/19 11:50	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Sophie Milam
Project Manager

SVL holds the following certifications:
AZ:0538, **CA**:2080, **ID**:ID00019 & ID00965 (Microbiology), **NV**:ID000192007A, **UT**(**TNI**):ID000192015-1, **WA**:C573

One Government Gulch - PO Box 929
Kellogg, ID 83837-0929
(208) 784-1258
www.svl.net

McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 ERIONITE#6 ABA**
SVL Sample ID: **X9C0029-26 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	15.1	TCaCO3/kT	0.3			N/A		03/18/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 14:32	
Modified Sobek	**ANP**	15.1	TCaCO3/kT	0.3			X911118	prm	03/18/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:32	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:32	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 14:32	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 14:32	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:32	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	15.1	TCaCO3/kT	0.3			N/A		03/18/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 14:32	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:32	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:32	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 14:32	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 14:32	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:32	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @17.0°C**	8.2	pH Units				X910206	PRM	03/07/19 12:15	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910163	PRM	03/06/19 14:21	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @22.5°C**	6.57	pH Units				X910165	PRM	03/08/19 11:50	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910165	PRM	03/08/19 11:50	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910165	PRM	03/08/19 11:50	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Sophie Milam
Project Manager

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Client Sample ID: **4303 ERIONITE#7 ABA**
SVL Sample ID: **X9C0029-27 (Sediment)**

Sample Report Page 1 of 1

Sampled: 22-Feb-19 10:30
Received: 04-Mar-19
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms										
Modified Sobek	**ABA**	17.4	TCaCO3/kT	0.3			N/A		03/18/19 09:00	
Modified Sobek	AGP	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 14:35	
Modified Sobek	**ANP**	17.4	TCaCO3/kT	0.3			X911118	prm	03/18/19 09:00	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:35	
Modified Sobek	Non-Sulfate Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:35	
Modified Sobek	Pyritic Sulfur	< 0.01	%	0.01			N/A		03/05/19 14:35	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		03/05/19 14:35	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:35	
Acid/Base Accounting & Sulfur Forms (HCl Wash)										
Modified Sobek	**ABA-HCl**	17.4	TCaCO3/kT	0.3			N/A		03/18/19 09:00	
Modified Sobek	AGP-HCl	< 0.3	TCaCO3/kT	0.3			N/A		03/05/19 14:35	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:35	
Modified Sobek	Non-Sulfate Sulfur-HCl	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:35	
Modified Sobek	Pyritic Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 14:35	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		03/05/19 14:35	
Modified Sobek	Total Sulfur	< 0.01	%	0.01	0.008		X910102	PRM	03/05/19 14:35	
Classical Chemistry Parameters										
EPA 600/2-78-054 mod	**Paste pH @16.9°C**	8.3	pH Units				X910206	PRM	03/07/19 12:15	
LECO	Total Inorganic Carbon	< 0.100	%	0.100	0.055		X910163	PRM	03/06/19 14:24	
Stewart, Miller, Smart, 7th ICARD	**NAG pH @22.1°C**	6.17	pH Units				X910165	PRM	03/08/19 11:50	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 4.5	0	kg H2SO4/T	0.1			X910165	PRM	03/08/19 11:50	
Stewart, Miller, Smart, 7th ICARD	NAG@pH 7	0	kg H2SO4/T	0.1			X910165	PRM	03/08/19 11:50	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Sophie Milam
Project Manager

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms								
Modified Sobek	ANP	TCaCO3/kT	<0.3		0.3	X911117	15-Mar-19	
Modified Sobek	ANP	TCaCO3/kT	<0.3		0.3	X911118	18-Mar-19	
Modified Sobek	ANP	TCaCO3/kT	<0.3		0.3	X911119	15-Mar-19	
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.008	0.01	X910090	05-Mar-19	
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.008	0.01	X910102	05-Mar-19	
Modified Sobek	Non-Sulfate Sulfur	%	<0.01	0.008	0.01	X910090	05-Mar-19	
Modified Sobek	Non-Sulfate Sulfur	%	<0.01	0.008	0.01	X910102	05-Mar-19	
Modified Sobek	Total Sulfur	%	<0.01	0.008	0.01	X910090	05-Mar-19	
Modified Sobek	Total Sulfur	%	<0.01	0.008	0.01	X910102	05-Mar-19	
Acid/Base Accounting & Sulfur Forms (HCl Wash)								
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.008	0.01	X910090	05-Mar-19	
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.008	0.01	X910102	05-Mar-19	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.01	0.008	0.01	X910090	05-Mar-19	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.01	0.008	0.01	X910102	05-Mar-19	
Modified Sobek	Total Sulfur	%	<0.01	0.008	0.01	X910090	05-Mar-19	
Modified Sobek	Total Sulfur	%	<0.01	0.008	0.01	X910102	05-Mar-19	
Classical Chemistry Parameters								
LECO	Total Inorganic Carbon	%	<0.100	0.055	0.100	X910162	06-Mar-19	
LECO	Total Inorganic Carbon	%	<0.100	0.055	0.100	X910163	06-Mar-19	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	1050	1000	105	80 - 120	X911117	15-Mar-19	
Modified Sobek	ANP	TCaCO3/kT	1050	1000	105	80 - 120	X911119	15-Mar-19	
Modified Sobek	ANP	TCaCO3/kT	1050	1000	105	80 - 120	X911118	18-Mar-19	
Modified Sobek	Total Sulfur	%	0.97	1.00	97.0	80 - 120	X910090	05-Mar-19	
Modified Sobek	Total Sulfur	%	0.87	1.00	86.6	80 - 120	X910102	05-Mar-19	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Total Sulfur	%	0.97	1.00	97.0	80 - 120	X910090	05-Mar-19	
Modified Sobek	Total Sulfur	%	0.87	1.00	86.6	80 - 120	X910102	05-Mar-19	
Classical Chemistry Parameters									
EPA 600/2-78-054 mod	Paste pH @18.1°C	pH Units	6.8	6.80	101	93.7 - 106.3	X910209	07-Mar-19	
EPA 600/2-78-054 mod	Paste pH @17.6°C	pH Units	6.9	6.80	101	93.7 - 106.3	X910206	07-Mar-19	
LECO	Total Inorganic Carbon	%	0.445	0.500	89.0	80 - 120	X910162	06-Mar-19	
LECO	Total Inorganic Carbon	%	0.441	0.500	88.2	80 - 120	X910163	06-Mar-19	
Stewart, Miller, Smart, 7NAG	pH @25.0°C	pH Units	7.10	7.93	89.5	80 - 120	X910165	08-Mar-19	
Stewart, Miller, Smart, 7NAG	pH @21.2°C	pH Units	7.23	7.93	91.2	80 - 120	X910164	26-Mar-19	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Acid/Base Accounting & Sulfur Forms									
Modified Sobek	ANP	TCaCO3/kT	24.8	24.5	1.0	20	X911117	15-Mar-19	
Modified Sobek	ANP	TCaCO3/kT	376	374	0.7	20	X911119	15-Mar-19	
Modified Sobek	ANP	TCaCO3/kT	<0.3	<0.3	UDL	20	X911118	18-Mar-19	A8
Modified Sobek	Non-extractable Sulfur	%	<0.01	<0.01	UDL	20	X910090	05-Mar-19	
Modified Sobek	Non-extractable Sulfur	%	<0.01	<0.01	UDL	20	X910102	05-Mar-19	
Modified Sobek	Non-Sulfate Sulfur	%	<0.01	<0.01	UDL	20	X910090	05-Mar-19	
Modified Sobek	Non-Sulfate Sulfur	%	<0.01	<0.01	UDL	20	X910102	05-Mar-19	
Modified Sobek	Total Sulfur	%	<0.01	<0.01	UDL	20	X910090	05-Mar-19	
Modified Sobek	Total Sulfur	%	<0.01	<0.01	UDL	20	X910102	05-Mar-19	
Acid/Base Accounting & Sulfur Forms (HCl Wash)									
Modified Sobek	Non-extractable Sulfur	%	<0.01	<0.01	UDL	20	X910090	05-Mar-19	
Modified Sobek	Non-extractable Sulfur	%	<0.01	<0.01	UDL	20	X910102	05-Mar-19	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.01	<0.01	UDL	20	X910090	05-Mar-19	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.01	<0.01	UDL	20	X910102	05-Mar-19	
Modified Sobek	Total Sulfur	%	<0.01	<0.01	UDL	20	X910090	05-Mar-19	
Modified Sobek	Total Sulfur	%	<0.01	<0.01	UDL	20	X910102	05-Mar-19	
Classical Chemistry Parameters									
EPA 600/2-78-054 mod	Paste pH @17.3°C	pH Units	7.2	7.2	0.0	20	X910206	07-Mar-19	
EPA 600/2-78-054 mod	Paste pH @17.8°C	pH Units	8.2	8.2	0.5	20	X910209	07-Mar-19	
LECO	Total Inorganic Carbon	%	0.805	0.830	3.1	20	X910162	06-Mar-19	
LECO	Total Inorganic Carbon	%	<0.100	<0.100	UDL	20	X910163	06-Mar-19	
Stewart, Miller, Smart, 7NAG	pH @19.7°C	pH Units	10.11	10.08	0.3	20	X910164	26-Mar-19	
Stewart, Miller, Smart, 7NAG	pH @25.0°C	pH Units	7.35	7.85	6.6	20	X910165	08-Mar-19	
Stewart, Miller, Smart, 7NAG	@pH 4.5	kg H2SO4/T	0	0	UDL	20	X910164	26-Mar-19	
Stewart, Miller, Smart, 7NAG	@pH 4.5	kg H2SO4/T	0	0	UDL	20	X910165	08-Mar-19	
Stewart, Miller, Smart, 7NAG	@pH 7	kg H2SO4/T	0	0	UDL	20	X910164	26-Mar-19	
Stewart, Miller, Smart, 7NAG	@pH 7	kg H2SO4/T	0	0	UDL	20	X910165	08-Mar-19	

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McClelland Laboratories Inc	**Project Name: MLI: 4303**
1016 Greg Street	Work Order: **X9C0029**
Sparks, NV 89431	Reported: 18-Mar-19 16:25

Notes and Definitions

A8	ANP result has been corrected for siderite.
D2	Sample required dilution due to high concentration of target analyte.
Q24	COC was not relinquished by the client or an agent of the client.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
0.30R>S	% recovery not applicable; spike level is less than 30% of the sample concentration
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

Appendix G

Tailings Laboratory Reports

Appendix G

Tailings Laboratory Reports

Appendix G1

ACZ Laboratory Reports

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

January 21, 2019

Report to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

cc: ReportsCC-Always Use

Bill to:
Mike Medina
McClelland Laboratories, Inc.
1016 Greg Street
Sparks, NV 89431

Project ID:
ACZ Project ID: L49228

Mike Medina:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 09, 2019. This project has been assigned to ACZ's project number, L49228. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L49228. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after February 20, 2019. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

McClelland Laboratories, Inc. January 21, 2019

Project ID:
ACZ Project ID: L49228

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 4 leachate samples from McClelland Laboratories, Inc. on January 9, 2019. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L49228. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

1. This project is a client requested modification to the Synthetic Precipitation Leaching Procedure (SW1312). Client specified a 1:1 water to rock ratio with distilled water as the lixiviant. The leacching process was performed under ACZ lab project L48669.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID:
Sample ID: ARKOSE (1 OF 2)

ACZ Sample ID: ***L49228-01***
Date Sampled: *01/08/19 12:00*
Date Received: *01/09/19*
Sample Matrix: *Leachate*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation				*				01/15/19 10:51	ttg
Cyanide, WAD	SM4500-CN I- distillation				*				01/16/19 9:17	ttg
Nitrogen, total Kjeldahl	M351.2 - Block Digestor				*				01/10/19 15:07	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				01/14/19 14:51	ttg

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.08	B	*	mg/L	0.03	0.2	01/11/19 2:46	dcm
Antimony, dissolved	M200.8 ICP-MS	2		U	*	mg/L	0.0008	0.004	01/14/19 16:00	mfm
Arsenic, dissolved	M200.8 ICP-MS	2	0.0053		*	mg/L	0.0004	0.002	01/14/19 16:00	mfm
Barium, dissolved	M200.7 ICP	1	0.277		*	mg/L	0.003	0.02	01/11/19 13:10	aeh
Beryllium, dissolved	M200.8 ICP-MS	2		U	*	mg/L	0.0001	0.0005	01/14/19 16:00	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/11/19 2:46	dcm
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	01/11/19 13:10	aeh
Cadmium, dissolved	M200.8 ICP-MS	2		U	*	mg/L	0.0001	0.0005	01/14/19 16:00	mfm
Calcium, dissolved	M200.7 ICP	1	686		*	mg/L	0.1	0.5	01/11/19 2:46	dcm
Chromium, dissolved	M200.7 ICP	1	0.05		*	mg/L	0.01	0.05	01/11/19 2:46	dcm
Cobalt, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.01	0.05	01/11/19 2:46	dcm
Copper, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.01	0.05	01/11/19 2:46	dcm
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/11/19 2:46	dcm
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.05	01/11/19 2:46	dcm
Lead, dissolved	M200.8 ICP-MS	2	0.0009	B	*	mg/L	0.0002	0.001	01/14/19 16:00	mfm
Lithium, dissolved	M200.7 ICP	1	0.009	B	*	mg/L	0.008	0.04	01/11/19 2:46	dcm
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	01/11/19 2:46	dcm
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/11/19 2:46	dcm
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	01/14/19 13:28	che
Molybdenum, dissolved	M200.7 ICP	1	0.18		*	mg/L	0.02	0.1	01/11/19 2:46	dcm
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	01/11/19 2:46	dcm
Potassium, dissolved	M200.7 ICP	1	90.2		*	mg/L	0.2	1	01/11/19 2:46	dcm
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/11/19 2:46	dcm
Selenium, dissolved	M200.8 ICP-MS	2	0.0244		*	mg/L	0.0002	0.0005	01/14/19 16:00	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/11/19 2:46	dcm
Sodium, dissolved	M200.7 ICP	1	230		*	mg/L	0.2	1	01/11/19 2:46	dcm
Strontium, dissolved	M200.7 ICP	1	2.53		*	mg/L	0.005	0.03	01/11/19 2:46	dcm
Thallium, dissolved	M200.8 ICP-MS	2	0.0016		*	mg/L	0.0002	0.001	01/14/19 16:00	mfm
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/11/19 2:46	dcm
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/11/19 2:46	dcm
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/11/19 2:46	dcm
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	01/11/19 2:46	dcm

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID:
Sample ID: ARKOSE (1 OF 2)

ACZ Sample ID: ***L49228-01***
Date Sampled: *01/08/19 12:00*
Date Received: *01/09/19*
Sample Matrix: *Leachate*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	01/14/19 0:00	kja
Carbonate as CaCO3		1	104		*	mg/L	2	20	01/14/19 0:00	kja
Hydroxide as CaCO3		1	1900		*	mg/L	2	20	01/14/19 0:00	kja
Total Alkalinity		1	2000		*	mg/L	2	20	01/14/19 0:00	kja
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			01/21/19 0:00	calc
Sum of Anions			47			meq/L			01/21/19 0:00	calc
Sum of Cations			47			meq/L			01/21/19 0:00	calc
Chloride	SM4500Cl-E	1	14.8		*	mg/L	0.5	2	01/15/19 16:46	wtc
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.039		*	mg/L	0.003	0.01	01/18/19 0:33	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	2.5	0.06		*	mg/L	0.02	0.05	01/18/19 14:57	mss2
Fluoride	SM4500F-C	20		U	*	mg/L	1	5	01/15/19 21:54	enb
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1710			mg/L	0.2	5	01/21/19 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.29		*	mg/L	0.02	0.1	01/18/19 0:16	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	5.83		*	mg/L	0.05	0.2	01/14/19 10:33	mss2
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	3	9.7		*	mg/L	0.3	2	01/16/19 23:36	pjb
pH (lab)	SM4500H+ B									
pH		1	12.1	H	*	units	0.1	0.1	01/18/19 0:00	kja
pH measured at		1	23.6		*	C	0.1	0.1	01/18/19 0:00	kja
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/15/19 23:12	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	2330		*	mg/L	10	20	01/10/19 10:18	mh
Sulfate	D516-02/-07 - Turbidimetric	10	286		*	mg/L	10	50	01/10/19 11:29	wtc
TDS (calculated)	Calculation		1700			mg/L			01/21/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.37						01/21/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1	0.7		*	mg/L	0.1	0.5	01/14/19 10:26	emk

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID:
Sample ID: MLDWT (1 OF 2)

ACZ Sample ID: ***L49228-02***
Date Sampled: *01/08/19 12:00*
Date Received: *01/09/19*
Sample Matrix: *Leachate*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation				*				01/15/19 11:02	ttg
Cyanide, WAD	SM4500-CN I- distillation				*				01/16/19 9:25	ttg
Nitrogen, total Kjeldahl	M351.2 - Block Digestor				*				01/10/19 15:25	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				01/17/19 10:40	ttg

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.08	B	*	mg/L	0.03	0.2	01/11/19 2:56	dcm
Antimony, dissolved	M200.8 ICP-MS	2		U	*	mg/L	0.0008	0.004	01/14/19 16:01	mfm
Arsenic, dissolved	M200.8 ICP-MS	2	0.0076		*	mg/L	0.0004	0.002	01/14/19 16:01	mfm
Barium, dissolved	M200.7 ICP	1	0.332		*	mg/L	0.003	0.02	01/11/19 13:13	aeh
Beryllium, dissolved	M200.8 ICP-MS	2		U	*	mg/L	0.0001	0.0005	01/14/19 16:01	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/11/19 2:56	dcm
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	01/11/19 13:13	aeh
Cadmium, dissolved	M200.8 ICP-MS	2		U	*	mg/L	0.0001	0.0005	01/14/19 16:01	mfm
Calcium, dissolved	M200.7 ICP	1	645		*	mg/L	0.1	0.5	01/11/19 2:56	dcm
Chromium, dissolved	M200.7 ICP	1	0.07		*	mg/L	0.01	0.05	01/11/19 2:56	dcm
Cobalt, dissolved	M200.7 ICP	1	0.01	B	*	mg/L	0.01	0.05	01/11/19 2:56	dcm
Copper, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.01	0.05	01/11/19 2:56	dcm
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/11/19 2:56	dcm
Iron, dissolved	M200.7 ICP	1	0.02	B	*	mg/L	0.02	0.05	01/11/19 2:56	dcm
Lead, dissolved	M200.8 ICP-MS	2	0.0009	B	*	mg/L	0.0002	0.001	01/14/19 16:01	mfm
Lithium, dissolved	M200.7 ICP	1	0.009	B	*	mg/L	0.008	0.04	01/11/19 2:56	dcm
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	01/11/19 2:56	dcm
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/11/19 2:56	dcm
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	01/14/19 13:29	che
Molybdenum, dissolved	M200.7 ICP	1	0.15		*	mg/L	0.02	0.1	01/11/19 2:56	dcm
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	01/11/19 2:56	dcm
Potassium, dissolved	M200.7 ICP	1	96.7		*	mg/L	0.2	1	01/11/19 2:56	dcm
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/11/19 2:56	dcm
Selenium, dissolved	M200.8 ICP-MS	2	0.033		*	mg/L	0.0002	0.0005	01/14/19 16:01	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/11/19 2:56	dcm
Sodium, dissolved	M200.7 ICP	1	229		*	mg/L	0.2	1	01/11/19 2:56	dcm
Strontium, dissolved	M200.7 ICP	1	2.44		*	mg/L	0.005	0.03	01/11/19 2:56	dcm
Thallium, dissolved	M200.8 ICP-MS	2	0.0013		*	mg/L	0.0002	0.001	01/14/19 16:01	mfm
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/11/19 2:56	dcm
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/11/19 2:56	dcm
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/11/19 2:56	dcm
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	01/11/19 2:56	dcm

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID:
Sample ID: MLDWT (1 OF 2)

ACZ Sample ID: ***L49228-02***
Date Sampled: *01/08/19 12:00*
Date Received: *01/09/19*
Sample Matrix: *Leachate*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	01/14/19 0:00	kja
Carbonate as CaCO3		1	114		*	mg/L	2	20	01/14/19 0:00	kja
Hydroxide as CaCO3		1	1850		*	mg/L	2	20	01/14/19 0:00	kja
Total Alkalinity		1	1970		*	mg/L	2	20	01/14/19 0:00	kja
Cation-Anion Balance	Calculation									
Cation-Anion Balance			1.1			%			01/21/19 0:00	calc
Sum of Anions			44			meq/L			01/21/19 0:00	calc
Sum of Cations			45			meq/L			01/21/19 0:00	calc
Chloride	SM4500Cl-E	1	44.8		*	mg/L	0.5	2	01/15/19 16:46	wtc
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.018		*	mg/L	0.003	0.01	01/18/19 0:34	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	2.5		U	*	mg/L	0.02	0.05	01/18/19 14:58	mss2
Fluoride	SM4500F-C	20		U	*	mg/L	1	5	01/15/19 22:02	enb
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1610			mg/L	0.2	5	01/21/19 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.37		*	mg/L	0.02	0.1	01/18/19 0:17	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	4.61		*	mg/L	0.05	0.2	01/14/19 10:37	mss2
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	3	7.9		*	mg/L	0.3	2	01/16/19 23:37	pjb
pH (lab)	SM4500H+ B									
pH		1	12.2	H	*	units	0.1	0.1	01/18/19 0:00	kja
pH measured at		1	22.0		*	C	0.1	0.1	01/18/19 0:00	kja
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	5		U	*	mg/L	0.1	0.3	01/17/19 14:39	ttg
Residue, Filterable (TDS) @180C	SM2540C	1	2190		*	mg/L	10	20	01/10/19 10:21	mh
Sulfate	D516-02/-07 - Turbidimetric	5	178		*	mg/L	5	25	01/10/19 11:15	wtc
TDS (calculated)	Calculation		1580			mg/L			01/21/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.39						01/21/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1	2.2		*	mg/L	0.1	0.5	01/14/19 10:31	emk

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID:
Sample ID: SLST (1 OF 2)

ACZ Sample ID: ***L49228-03***
Date Sampled: *01/08/19 12:00*
Date Received: *01/09/19*
Sample Matrix: *Leachate*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation				*				01/15/19 11:13	ttg
Cyanide, WAD	SM4500-CN I- distillation				*				01/16/19 9:34	ttg
Nitrogen, total Kjeldahl	M351.2 - Block Digestor				*				01/10/19 15:42	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				01/14/19 15:03	ttg

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.10	B	*	mg/L	0.03	0.2	01/11/19 3:06	dcm
Antimony, dissolved	M200.8 ICP-MS	2	0.0008	B	*	mg/L	0.0008	0.004	01/14/19 16:03	mfm
Arsenic, dissolved	M200.8 ICP-MS	2	0.0031		*	mg/L	0.0004	0.002	01/14/19 16:03	mfm
Barium, dissolved	M200.7 ICP	1	0.339		*	mg/L	0.003	0.02	01/11/19 13:28	aeh
Beryllium, dissolved	M200.8 ICP-MS	2		U	*	mg/L	0.0001	0.0005	01/14/19 16:03	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/11/19 3:06	dcm
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	01/11/19 13:28	aeh
Cadmium, dissolved	M200.8 ICP-MS	2		U	*	mg/L	0.0001	0.0005	01/14/19 16:03	mfm
Calcium, dissolved	M200.7 ICP	1	670		*	mg/L	0.1	0.5	01/11/19 3:06	dcm
Chromium, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.01	0.05	01/11/19 3:06	dcm
Cobalt, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.01	0.05	01/11/19 3:06	dcm
Copper, dissolved	M200.7 ICP	1	0.02	B	*	mg/L	0.01	0.05	01/11/19 3:06	dcm
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/11/19 3:06	dcm
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.05	01/11/19 3:06	dcm
Lead, dissolved	M200.8 ICP-MS	2	0.0025		*	mg/L	0.0002	0.001	01/14/19 16:03	mfm
Lithium, dissolved	M200.7 ICP	1	0.014	B	*	mg/L	0.008	0.04	01/11/19 3:06	dcm
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	01/11/19 3:06	dcm
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/11/19 3:06	dcm
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	01/14/19 13:30	che
Molybdenum, dissolved	M200.7 ICP	1	0.06	B	*	mg/L	0.02	0.1	01/11/19 3:06	dcm
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	01/11/19 3:06	dcm
Potassium, dissolved	M200.7 ICP	1	68.5		*	mg/L	0.2	1	01/11/19 3:06	dcm
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/11/19 3:06	dcm
Selenium, dissolved	M200.8 ICP-MS	2	0.0218		*	mg/L	0.0002	0.0005	01/14/19 16:03	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/11/19 3:06	dcm
Sodium, dissolved	M200.7 ICP	1	150		*	mg/L	0.2	1	01/11/19 3:06	dcm
Strontium, dissolved	M200.7 ICP	1	2.09		*	mg/L	0.005	0.03	01/11/19 3:06	dcm
Thallium, dissolved	M200.8 ICP-MS	2	0.0009	B	*	mg/L	0.0002	0.001	01/14/19 16:03	mfm
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/11/19 3:06	dcm
Titanium, dissolved	M200.7 ICP	1	0.005	B	*	mg/L	0.005	0.03	01/11/19 3:06	dcm
Vanadium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/11/19 3:06	dcm
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	01/11/19 3:06	dcm

** Please refer to Qualifier Reports for details.*

McClelland Laboratories, Inc.
Project ID:
Sample ID: SLST (1 OF 2)

ACZ Sample ID: ***L49228-03***
Date Sampled: *01/08/19 12:00*
Date Received: *01/09/19*
Sample Matrix: *Leachate*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1		U	*	mg/L	2	20	01/14/19 0:00	kja
Carbonate as CaCO3		1	95.2		*	mg/L	2	20	01/14/19 0:00	kja
Hydroxide as CaCO3		1	1890		*	mg/L	2	20	01/14/19 0:00	kja
Total Alkalinity		1	1990		*	mg/L	2	20	01/14/19 0:00	kja
Cation-Anion Balance	Calculation									
Cation-Anion Balance			2.4			%			01/21/19 0:00	calc
Sum of Anions			40			meq/L			01/21/19 0:00	calc
Sum of Cations			42			meq/L			01/21/19 0:00	calc
Chloride	SM4500Cl-E	1	20.6		*	mg/L	0.5	2	01/15/19 16:46	wtc
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	0.013		*	mg/L	0.003	0.01	01/18/19 0:35	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	2.5		U	*	mg/L	0.02	0.05	01/18/19 14:58	mss2
Fluoride	SM4500F-C	20		U	*	mg/L	1	5	01/15/19 22:09	enb
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		1670			mg/L	0.2	5	01/21/19 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.28		*	mg/L	0.02	0.1	01/18/19 0:23	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	6.85		*	mg/L	0.05	0.2	01/14/19 10:38	mss2
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	3	10.6		*	mg/L	0.3	2	01/16/19 23:38	pjb
pH (lab)	SM4500H+ B									
pH		1	12.2	H	*	units	0.1	0.1	01/18/19 0:00	kja
pH measured at		1	23.8		*	C	0.1	0.1	01/18/19 0:00	kja
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/15/19 23:17	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	2040		*	mg/L	10	20	01/10/19 10:23	mh
Sulfate	D516-02/-07 - Turbidimetric	1	3.6	B	*	mg/L	1	5	01/10/19 12:45	wtc
TDS (calculated)	Calculation		1300			mg/L			01/21/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		1.57						01/21/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1	3.2		*	mg/L	0.1	0.5	01/14/19 10:37	emk

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID:
Sample ID: PBS

ACZ Sample ID: ***L49228-04***
Date Sampled: *01/08/19 12:00*
Date Received: *01/09/19*
Sample Matrix: *Leachate*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation				*				01/15/19 11:24	ttg
Cyanide, WAD	SM4500-CN I- distillation				*				01/16/19 9:43	ttg
Nitrogen, total Kjeldahl	M351.2 - Block Digestor				*				01/10/19 16:00	mss2
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion				*				01/14/19 15:08	ttg

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.04	B	*	mg/L	0.03	0.2	01/11/19 3:09	dcm
Antimony, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0004	0.002	01/14/19 16:09	mfm
Arsenic, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0002	0.001	01/14/19 16:09	mfm
Barium, dissolved	M200.7 ICP	1	0.003	B	*	mg/L	0.003	0.02	01/11/19 13:31	aeh
Beryllium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	01/14/19 16:09	mfm
Bismuth, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/11/19 3:09	dcm
Boron, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	01/11/19 13:31	aeh
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	01/14/19 16:09	mfm
Calcium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/11/19 3:09	dcm
Chromium, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	01/11/19 3:09	dcm
Cobalt, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	01/11/19 3:09	dcm
Copper, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	01/11/19 3:09	dcm
Gallium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/11/19 3:09	dcm
Iron, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.05	01/11/19 3:09	dcm
Lead, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	01/14/19 16:09	mfm
Lithium, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	01/11/19 3:09	dcm
Magnesium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	01/11/19 3:09	dcm
Manganese, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/11/19 3:09	dcm
Mercury, dissolved	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	01/14/19 13:35	che
Molybdenum, dissolved	M200.7 ICP	1		U	*	mg/L	0.02	0.1	01/11/19 3:09	dcm
Nickel, dissolved	M200.7 ICP	1		U	*	mg/L	0.008	0.04	01/11/19 3:09	dcm
Potassium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	01/11/19 3:09	dcm
Scandium, dissolved	M200.7 ICP	1		U	*	mg/L	0.1	0.5	01/11/19 3:09	dcm
Selenium, dissolved	M200.8 ICP-MS	1	0.0001	B	*	mg/L	0.0001	0.0003	01/14/19 16:09	mfm
Silver, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.03	01/11/19 3:09	dcm
Sodium, dissolved	M200.7 ICP	1		U	*	mg/L	0.2	1	01/11/19 3:09	dcm
Strontium, dissolved	M200.7 ICP	1	0.005	B	*	mg/L	0.005	0.03	01/11/19 3:09	dcm
Thallium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	01/14/19 16:09	mfm
Tin, dissolved	M200.7 ICP	1		U	*	mg/L	0.04	0.2	01/11/19 3:09	dcm
Titanium, dissolved	M200.7 ICP	1		U	*	mg/L	0.005	0.03	01/11/19 3:09	dcm
Vanadium, dissolved	M200.7 ICP	1	0.006	B	*	mg/L	0.005	0.03	01/11/19 3:09	dcm
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	01/11/19 3:09	dcm

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

McClelland Laboratories, Inc.
Project ID:
Sample ID: PBS

ACZ Sample ID: ***L49228-04***
Date Sampled: *01/08/19 12:00*
Date Received: *01/09/19*
Sample Matrix: *Leachate*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	4.5	B	*	mg/L	2	20	01/14/19 0:00	kja
Carbonate as CaCO3		1	7.6	B	*	mg/L	2	20	01/14/19 0:00	kja
Hydroxide as CaCO3		1		U	*	mg/L	2	20	01/14/19 0:00	kja
Total Alkalinity		1	12.1	B	*	mg/L	2	20	01/14/19 0:00	kja
Cation-Anion Balance	Calculation									
Cation-Anion Balance			n/a			%			01/21/19 0:00	calc
Sum of Anions			0.263	B		meq/L			01/21/19 0:00	calc
Sum of Cations				U		meq/L			01/21/19 0:00	calc
Chloride	SM4500Cl-E	1		U	*	mg/L	0.5	2	01/15/19 16:46	wtc
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5		U	*	mg/L	0.003	0.01	01/18/19 0:36	pjb
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation	2.5		U	*	mg/L	0.02	0.05	01/18/19 14:59	mss2
Fluoride	SM4500F-C	1		U	*	mg/L	0.05	0.3	01/15/19 22:14	enb
Hardness as CaCO3 (dissolved)	SM2340B - Calculation			U		mg/L	0.2	5	01/21/19 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	01/18/19 0:24	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1		U	*	mg/L	0.05	0.2	01/14/19 10:40	mss2
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	1		U	*	mg/L	0.1	0.5	01/15/19 16:13	wtc
pH (lab)	SM4500H+ B									
pH		1	7.4	H	*	units	0.1	0.1	01/18/19 0:00	mh
pH measured at		1	24.5		*	C	0.1	0.1	01/18/19 0:00	mh
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1		U	*	mg/L	0.02	0.05	01/15/19 23:18	pjb
Residue, Filterable (TDS) @180C	SM2540C	1		U	*	mg/L	10	20	01/10/19 10:26	mh
Sulfate	D516-02/-07 - Turbidimetric	1	1.0	B	*	mg/L	1	5	01/10/19 11:09	wtc
TDS (calculated)	Calculation		8.35			mg/L			01/21/19 0:00	calc
TDS (ratio - measured/calculated)	Calculation		n/a						01/21/19 0:00	calc
Thiocyanate as SCN	SM4500-CN M	1		U	*	mg/L	0.1	0.5	01/14/19 10:42	emk

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

McClelland Laboratories, Inc. ACZ Project ID: ***L49228***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464377													
WG464377PBW1	PBW	01/14/19 11:35				14.4	mg/L		-20	20			
WG464377LCSW3	LCSW	01/14/19 11:53	WC181228-2	820.0001		801	mg/L	98	90	110			
WG464377LCSW6	LCSW	01/14/19 14:26	WC181228-2	820.0001		795	mg/L	97	90	110			
WG464377PBW2	PBW	01/14/19 14:33				2.6	mg/L		-20	20			
L49228-04DUP	DUP	01/14/19 17:54			12.1	2.3	mg/L				136	20	RA
WG464377LCSW9	LCSW	01/14/19 18:12	WC181228-2	820.0001		849	mg/L	104	90	110			
WG464377PBW3	PBW	01/14/19 18:19				2.3	mg/L		-20	20			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		2.01	mg/L	101	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.09	0.09			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	1.0006		1.092	mg/L	109	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	1.0006	.08	1.168	mg/L	109	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	1.0006	.08	1.174	mg/L	109	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464406													
WG464406ICV	ICV	01/14/19 15:54	MS181210-2	.02		.02001	mg/L	100	90	110			
WG464406ICB	ICB	01/14/19 15:56				.00056	mg/L		-0.00088	0.00088			
WG464406LFB	LFB	01/14/19 15:58	MS190110-2	.01		.00923	mg/L	92	85	115			
L49228-03AS	AS	01/14/19 16:05	MS190110-2	.02	.0008	.01849	mg/L	88	70	130			
L49228-03ASD	ASD	01/14/19 16:07	MS190110-2	.02	.0008	.01889	mg/L	90	70	130	2	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464406													
WG464406ICV	ICV	01/14/19 15:54	MS181210-2	.05		.04936	mg/L	99	90	110			
WG464406ICB	ICB	01/14/19 15:56				U	mg/L		-0.00044	0.00044			
WG464406LFB	LFB	01/14/19 15:58	MS190110-2	.05005		.04914	mg/L	98	85	115			
L49228-03AS	AS	01/14/19 16:05	MS190110-2	.1001	.0031	.09631	mg/L	93	70	130			
L49228-03ASD	ASD	01/14/19 16:07	MS190110-2	.1001	.0031	.09411	mg/L	91	70	130	2	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464306													
WG464306ICV	ICV	01/11/19 11:51	II181211-1	2		2.0442	mg/L	102	95	105			
WG464306ICB	ICB	01/11/19 11:57				.0041	mg/L		-0.009	0.009			
WG464306LFB	LFB	01/11/19 12:09	II181219-2	.4995		.505	mg/L	101	85	115			
L49228-02AS	AS	01/11/19 13:22	II181219-2	.4995	.332	.8397	mg/L	102	85	115			
L49228-02ASD	ASD	01/11/19 13:25	II181219-2	.4995	.332	.8451	mg/L	103	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L49228***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464406													
WG464406ICV	ICV	01/14/19 15:54	MS181210-2	.05		.047922	mg/L	96	90	110			
WG464406ICB	ICB	01/14/19 15:56				U	mg/L		-0.00011	0.00011			
WG464406LFB	LFB	01/14/19 15:58	MS190110-2	.05005		.047378	mg/L	95	85	115			
L49228-03AS	AS	01/14/19 16:05	MS190110-2	.1001	U	.09385	mg/L	94	70	130			
L49228-03ASD	ASD	01/14/19 16:07	MS190110-2	.1001	U	.09259	mg/L	92	70	130	1	20	

Bismuth, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		2.099	mg/L	105	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.12	0.12			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	.9993		1.113	mg/L	111	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	.9993	U	1.116	mg/L	112	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	.9993	U	1.117	mg/L	112	85	115	0	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464306													
WG464306ICV	ICV	01/11/19 11:51	II181211-1	2		2.058	mg/L	103	95	105			
WG464306ICB	ICB	01/11/19 11:57				.013	mg/L		-0.03	0.03			
WG464306LFB	LFB	01/11/19 12:09	II181219-2	.5005		.524	mg/L	105	85	115			
L49228-02AS	AS	01/11/19 13:22	II181219-2	.5005	U	.508	mg/L	101	85	115			
L49228-02ASD	ASD	01/11/19 13:25	II181219-2	.5005	U	.506	mg/L	101	85	115	0	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464406													
WG464406ICV	ICV	01/14/19 15:54	MS181210-2	.05		.049712	mg/L	99	90	110			
WG464406ICB	ICB	01/14/19 15:56				U	mg/L		-0.00011	0.00011			
WG464406LFB	LFB	01/14/19 15:58	MS190110-2	.05005		.048628	mg/L	97	85	115			
L49228-03AS	AS	01/14/19 16:05	MS190110-2	.1001	U	.09432	mg/L	94	70	130			
L49228-03ASD	ASD	01/14/19 16:07	MS190110-2	.1001	U	.09261	mg/L	93	70	130	2	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	100		98.4	mg/L	98	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.3	0.3			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	68.44277		72.5	mg/L	106	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	68.44277	645	677.6	mg/L	48	85	115			M3
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	68.44277	645	683.1	mg/L	56	85	115	1	20	M3

McClelland Laboratories, Inc. ACZ Project ID: ***L49228***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464478													
WG464478ICB	ICB	01/15/19 16:18				U	mg/L		-1.5	1.5			
WG464478ICV	ICV	01/15/19 16:18	WI180530-1	54.89		54.13	mg/L	99	90	110			
WG464478LFB	LFB	01/15/19 16:46	WI190111-6	30.03		30.43	mg/L	101	90	110			
L49226-02AS	AS	01/15/19 16:46	WI190111-6	30.03	60.4	86.43	mg/L	87	90	110			M2
L49226-01DUP	DUP	01/15/19 17:08			151	157.7	mg/L				4	20	

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		2.035	mg/L	102	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.03	0.03			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	.5025		.536	mg/L	107	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	.5025	.07	.573	mg/L	100	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	.5025	.07	.578	mg/L	101	85	115	1	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2.002		1.932	mg/L	97	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.03	0.03			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	.501		.517	mg/L	103	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	.501	.01	.502	mg/L	98	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	.501	.01	.504	mg/L	99	85	115	0	20	

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		1.95	mg/L	98	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.03	0.03			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	.5015		.512	mg/L	102	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	.5015	.03	.531	mg/L	100	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	.5015	.03	.539	mg/L	101	85	115	1	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464654													
WG464654ICV	ICV	01/17/19 23:46	WI190109-3	.3		.3029	mg/L	101	90	110			
WG464654ICB	ICB	01/17/19 23:47				U	mg/L		-0.003	0.003			
WG464656													
WG464419LRB	LRB	01/18/19 0:31				U	mg/L		-0.003	0.003			
WG464419LFB	LFB	01/18/19 0:32	WI190103-4	.2		.1966	mg/L	98	90	110			
L49247-02DUP	DUP	01/18/19 0:37			.03	U	mg/L				200	20	RA
L49289-02LFM	LFM	01/18/19 0:39	WI190103-4	.2	U	.1688	mg/L	84	90	110			M2

McClelland Laboratories, Inc. ACZ Project ID: ***L49228***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Cyanide, WAD SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464707													
WG464707ICV	ICV	01/18/19 14:53	WI190109-3	.3		.2904	mg/L	97	90	110			
WG464707ICB	ICB	01/18/19 14:54				U	mg/L		-0.003	0.003			
WG464496LRB	LRB	01/18/19 14:55				U	mg/L		-0.003	0.003			
WG464496LFB	LFB	01/18/19 14:56	WI190109-2	.2		.1793	mg/L	90	90	110			
L49269-01DUP	DUP	01/18/19 15:01			.019	.0197	mg/L				4	20	RA
L49269-02LFM	LFM	01/18/19 15:03	WI190109-2	.2	.017	.179	mg/L	81	90	110			M2

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464460													
WG464460ICV	ICV	01/15/19 13:56	WC190110-1	2.01		2.024	mg/L	101	90	110			
WG464460ICB	ICB	01/15/19 14:02				.05	mg/L		-0.15	0.15			
WG464472													
WG464472ICV	ICV	01/15/19 16:23	WC190110-1	2.01		2.09	mg/L	104	90	110			
WG464472ICB	ICB	01/15/19 16:26				.116	mg/L		-0.15	0.15			
WG464472LFB1	LFB	01/15/19 16:33	WC181119-2	5.015		5.142	mg/L	103	90	110			
WG464472LFB2	LFB	01/15/19 20:04	WC181119-2	5.015		5.071	mg/L	101	90	110			
L49225-03AS	AS	01/15/19 20:23	WC181119-2	50.15	2.6	47.74	mg/L	90	90	110			
L49225-03ASD	ASD	01/15/19 20:31	WC181119-2	50.15	2.6	47.1	mg/L	89	90	110	1	20	MA

Gallium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		2	mg/L	100	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.3	0.3			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	1		1.09	mg/L	109	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	1	U	1.04	mg/L	104	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	1	U	1.12	mg/L	112	85	115	7	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		1.99	mg/L	100	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.06	0.06			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	1.0018		1.065	mg/L	106	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	1.0018	.02	1.022	mg/L	100	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	1.0018	.02	1.04	mg/L	102	85	115	2	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464406													
WG464406ICV	ICV	01/14/19 15:54	MS181210-2	.05		.04931	mg/L	99	90	110			
WG464406ICB	ICB	01/14/19 15:56				U	mg/L		-0.00022	0.00022			
WG464406LFB	LFB	01/14/19 15:58	MS190110-2	.0496		.04823	mg/L	97	85	115			
L49228-03AS	AS	01/14/19 16:05	MS190110-2	.0992	.0025	.10353	mg/L	102	70	130			
L49228-03ASD	ASD	01/14/19 16:07	MS190110-2	.0992	.0025	.10039	mg/L	99	70	130	3	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L49228***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		1.9788	mg/L	99	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.024	0.024			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	1.003		1.013	mg/L	101	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	1.003	.009	1.024	mg/L	101	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	1.003	.009	1.044	mg/L	103	85	115	2	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	100		98.8	mg/L	99	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.6	0.6			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	51.06117		53.77	mg/L	105	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	51.06117	U	51.8	mg/L	101	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	51.06117	U	52.17	mg/L	102	85	115	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		1.9868	mg/L	99	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.015	0.015			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	.4995		.5245	mg/L	105	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	.4995	U	.5015	mg/L	100	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	.4995	U	.5127	mg/L	103	85	115	2	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464287													
WG464287ICV	ICV	01/14/19 10:48	HG181126-2	.004995		.00508	mg/L	102	95	105			
WG464287ICB	ICB	01/14/19 10:49				U	mg/L		-0.0002	0.0002			
WG464289													
WG464289LRB	LRB	01/14/19 13:13				U	mg/L		-0.00044	0.00044			
WG464289LFB	LFB	01/14/19 13:14	HG181231-3	.002002		.00189	mg/L	94	85	115			
L49228-03LFM	LFM	01/14/19 13:31	HG181231-3	.002002	U	.002	mg/L	100	85	115			
L49228-03LFMD	LFMD	01/14/19 13:32	HG181231-3	.002002	U	.002	mg/L	100	85	115	0	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		2.086	mg/L	104	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.06	0.06			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	.4975		.541	mg/L	109	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	.4975	.15	.656	mg/L	102	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	.4975	.15	.669	mg/L	104	85	115	2	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L49228***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2.004		1.9678	mg/L	98	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.024	0.024			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	.5		.5303	mg/L	106	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	.5	U	.491	mg/L	98	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	.5	U	.503	mg/L	101	85	115	2	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464653													
WG464653ICV	ICV	01/17/19 23:26	WI181206-5	2.416		2.468	mg/L	102	90	110			
WG464653ICB	ICB	01/17/19 23:28				U	mg/L		-0.02	0.02			
WG464655													
WG464655LFB	LFB	01/18/19 0:06	WI181204-13	2		2.067	mg/L	103	90	110			
L49180-02AS	AS	01/18/19 0:08	WI181204-13	2	.21	2.448	mg/L	112	90	110			M1
L49180-03DUP	DUP	01/18/19 0:11			U	U	mg/L				0	20	RA

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464371													
WG464371ICV	ICV	01/14/19 10:16	WI190102-1	12		11.651	mg/L	97	90	110			
WG464371ICB	ICB	01/14/19 10:18				U	mg/L		-0.05	0.05			
WG464371LFB1	LFB	01/14/19 10:19	WI180918-3	10		9.501	mg/L	95	90	110			
L49211-01DUP	DUP	01/14/19 10:22			.9	.912	mg/L				1	20	
L49211-02AS	AS	01/14/19 10:25	WI180918-3	10	.51	10.197	mg/L	97	90	110			
WG464371LFB2	LFB	01/14/19 11:02	WI180918-3	10		9.709	mg/L	97	90	110			

Nitrogen, total Kjeldahl M351.2 - TKN by Block Digester

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464471													
WG464471ICV	ICV	01/15/19 15:11	WI190110-7	4		3.9	mg/L	98	90	110			
WG464471ICB	ICB	01/15/19 15:12				U	mg/L		-0.1	0.1			
WG464475													
WG464206LRB	LRB	01/15/19 15:42				U	mg/L		-0.1	0.1			
WG464206LFB	LFB	01/15/19 15:43	WI181207-9	2.5		2.73	mg/L	109	90	110			
L49147-03LFM	LFM	01/15/19 16:01	WI181207-9	2.5	U	2.66	mg/L	106	90	110			
L49153-01DUP	DUP	01/15/19 16:03			U	U	mg/L				0	20	RA
WG464573													
WG464573ICV	ICV	01/16/19 23:19	WI190110-7	4		3.92	mg/L	98	90	110			
WG464573ICB	ICB	01/16/19 23:20				U	mg/L		-0.1	0.1			
WG464206LRB	LRB	01/16/19 23:21				U	mg/L		-0.1	0.1			
WG464206LFB	LFB	01/16/19 23:23	WI181207-9	2.5		2.58	mg/L	103	90	110			
L49147-03LFM	LFM	01/16/19 23:30	WI181207-9	2.5		2.81	mg/L	112	90	110			M1
L49153-01DUP	DUP	01/16/19 23:35				U	mg/L				0	20	RA

McClelland Laboratories, Inc. ACZ Project ID: ***L49228***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464679													
WG464679ICV	ICV	01/18/19 10:27	PCN56769	6		5.93	units	99	5.9	6.1			
L49228-04DUP	DUP	01/18/19 11:57			7.4	7.36	units				1	20	
WG464715													
WG464715ICV	ICV	01/18/19 16:01	PCN56769	6		6.03	units	101	5.9	6.1			
L49228-03DUP	DUP	01/18/19 16:44			12.2	12.1	units				1	20	

Phosphorus, total M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464484													
WG464484ICV	ICV	01/15/19 22:59	WI181220-7	.65228		.685	mg/L	105	90	110			
WG464484ICB	ICB	01/15/19 23:02				U	mg/L		-0.02	0.02			
WG464391LRB	LRB	01/15/19 23:03				.037	mg/L		-0.02	0.02			
WG464391LFB	LFB	01/15/19 23:04	WI181231-2	.5		.501	mg/L	100	90	110			
L49214-02LFM	LFM	01/15/19 23:09	WI181231-2	.5	.02	.52	mg/L	100	90	110			
L49214-03DUP	DUP	01/15/19 23:11			U	U	mg/L				0	20	RA
WG464628													
WG464628ICV	ICV	01/17/19 14:29	WI181220-7	.65228		.677	mg/L	104	90	110			
WG464628ICB	ICB	01/17/19 14:31				U	mg/L		-0.02	0.02			
WG464593LRB	LRB	01/17/19 14:32				U	mg/L		-0.02	0.02			
WG464593LFB	LFB	01/17/19 14:33	WI190117-4	.5		.48	mg/L	96	90	110			
L49214-02LFM	LFM	01/17/19 14:37	WI190117-4	.5	U	.489	mg/L	98	90	110			
L49228-02DUP	DUP	01/17/19 14:40			U	U	mg/L				0	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	20		20.04	mg/L	100	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.6	0.6			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	101.8983		107.8	mg/L	106	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	101.8983	96.7	202.2	mg/L	104	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	101.8983	96.7	204.8	mg/L	106	85	115	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464216													
WG464216PBW	PBW	01/10/19 9:22				U	mg/L		-20	20			
WG464216LCSW	LCSW	01/10/19 9:24	PCN57523	260		260	mg/L	100	80	120			
L49228-04DUP	DUP	01/10/19 10:29			U	U	mg/L				0	10	RA

McClelland Laboratories, Inc. ACZ Project ID: ***L49228***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Scandium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		2.02	mg/L	101	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.3	0.3			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	.9868		1.07	mg/L	108	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	.9868	U	1.04	mg/L	105	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	.9868	U	1.07	mg/L	108	85	115	3	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464406													
WG464406ICV	ICV	01/14/19 15:54	MS181210-2	.05		.0503	mg/L	101	90	110			
WG464406ICB	ICB	01/14/19 15:56				U	mg/L		-0.00022	0.00022			
WG464406LFB	LFB	01/14/19 15:58	MS190110-2	.05005		.05165	mg/L	103	85	115			
L49228-03AS	AS	01/14/19 16:05	MS190110-2	.1001	.0218	.11947	mg/L	98	70	130			
L49228-03ASD	ASD	01/14/19 16:07	MS190110-2	.1001	.0218	.11701	mg/L	95	70	130	2	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	1.001		1.005	mg/L	100	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.03	0.03			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	.5		.513	mg/L	103	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	.5	U	.462	mg/L	92	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	.5	U	.485	mg/L	97	85	115	5	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	100		99.71	mg/L	100	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.6	0.6			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	100.3634		106	mg/L	106	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	100.3634	229	326.8	mg/L	97	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	100.3634	229	327.8	mg/L	98	85	115	0	20	

Strontium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		2.0045	mg/L	100	95	105			
WG464248ICB	ICB	01/11/19 1:23				.0052	mg/L		-0.015	0.015			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	.5005		.5367	mg/L	107	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	.5005	2.44	2.84	mg/L	80	85	115			M3
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	.5005	2.44	2.873	mg/L	87	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L49228***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464220													
WG464220ICB	ICB	01/10/19 9:50				U	mg/L		-3	3			
WG464220ICV	ICV	01/10/19 9:50	WI190103-1	20		19.6	mg/L	98	90	110			
WG464220LFB	LFB	01/10/19 11:05	WI181024-4	10.03		9	mg/L	90	90	110			
L49228-04DUP	DUP	01/10/19 11:09			1	U	mg/L				200	20	RA
L49228-03AS	AS	01/10/19 12:45	WI181024-4	10.03	3.6	39.2	mg/L	355	90	110			M1

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464406													
WG464406ICV	ICV	01/14/19 15:54	MS181210-2	.05		.05158	mg/L	103	90	110			
WG464406ICB	ICB	01/14/19 15:56				U	mg/L		-0.00022	0.00022			
WG464406LFB	LFB	01/14/19 15:58	MS190110-2	.0501		.04778	mg/L	95	85	115			
L49228-03AS	AS	01/14/19 16:05	MS190110-2	.1002	.0009	.10255	mg/L	101	70	130			
L49228-03ASD	ASD	01/14/19 16:07	MS190110-2	.1002	.0009	.10033	mg/L	99	70	130	2	20	

Thiocyanate as SCN SM4500-CN M

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464372													
WG464372ICV	ICV	01/14/19 10:11	WC180521-5	2		2.03	mg/L	102	90	110			
WG464372ICB	ICB	01/14/19 10:16				U	mg/L		-0.3	0.3			
WG464372LFB	LFB	01/14/19 10:21	WC180521-7	2.5		2.5	mg/L	100	80	120			
L49228-04AS	AS	01/14/19 10:47	WC180521-7	2.5	U	2.59	mg/L	104	80	120			
L49228-04DUP	DUP	01/14/19 10:52			U	U	mg/L				0	20	RA

Tin, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		2.065	mg/L	103	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.12	0.12			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	.989		1.066	mg/L	108	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	.989	U	.99	mg/L	100	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	.989	U	1.001	mg/L	101	85	115	1	20	

Titanium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		2.042	mg/L	102	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.015	0.015			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	.995		1.059	mg/L	106	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	.995	U	1.039	mg/L	104	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	.995	U	1.053	mg/L	106	85	115	1	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L49228***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		2.0468	mg/L	102	95	105			
WG464248ICB	ICB	01/11/19 1:23				.0067	mg/L		-0.015	0.015			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	.502		.5507	mg/L	110	85	115			
L49228-02AS	AS	01/11/19 2:59	II181219-2	.502	U	.5347	mg/L	107	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	.502	U	.541	mg/L	108	85	115	1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG464248													
WG464248ICV	ICV	01/11/19 1:17	II181211-1	2		1.966	mg/L	98	95	105			
WG464248ICB	ICB	01/11/19 1:23				U	mg/L		-0.03	0.03			
WG464248LFB	LFB	01/11/19 1:37	II181219-2	.4942		.573	mg/L	116	85	115			LA
L49228-02AS	AS	01/11/19 2:59	II181219-2	.4942	U	.528	mg/L	107	85	115			
L49228-02ASD	ASD	01/11/19 3:03	II181219-2	.4942	U	.528	mg/L	107	85	115	0	20	

McClelland Laboratories, Inc. ACZ Project ID: ***L49228***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L49228-01	WG464248	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG464478	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG464656	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464496	Cyanide, WAD	SM4500-CN I- distillation	DJ	Sample dilution required due to insufficient sample.
	WG464707		SM4500-CN I,E-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464472	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
			SM4500F-C	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG464655	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464573	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464715	pH	SM4500H+ B	EB	A pH value outside the range of the probe standardization is estimated.
	WG464484	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464216	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464248	Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG464220	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464372	Thiocyanate as SCN	SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464377	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464248	Zinc, dissolved	M200.7 ICP	LA	Recovery for target analyte in the control sample (LCS or LFB) exceeded the acceptance criteria. Target analyte was not detected in the sample [< MDL].

McClelland Laboratories, Inc. ACZ Project ID: ***L49228***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L49228-02	WG464248	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG464478	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG464656	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464496	Cyanide, WAD	SM4500-CN I- distillation	DJ	Sample dilution required due to insufficient sample.
	WG464707		SM4500-CN I,E-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464472	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
			SM4500F-C	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG464655	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464573	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464715	pH	SM4500H+ B	EB	A pH value outside the range of the probe standardization is estimated.
	WG464593	Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion	DJ	Sample dilution required due to insufficient sample.
	WG464628		M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464216	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464248	Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG464220	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464372	Thiocyanate as SCN	SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464377	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464248	Zinc, dissolved	M200.7 ICP	LA	Recovery for target analyte in the control sample (LCS or LFB) exceeded the acceptance criteria. Target analyte was not detected in the sample [< MDL].

McClelland Laboratories, Inc. ACZ Project ID: ***L49228***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L49228-03	WG464248	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG464478	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG464656	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464496	Cyanide, WAD	SM4500-CN I- distillation	DJ	Sample dilution required due to insufficient sample.
	WG464707		SM4500-CN I,E-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464472	Fluoride	SM4500F-C	DJ	Sample dilution required due to insufficient sample.
			SM4500F-C	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG464655	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464573	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464715	pH	SM4500H+ B	EB	A pH value outside the range of the probe standardization is estimated.
	WG464484	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464216	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464248	Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG464220	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464372	Thiocyanate as SCN	SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464377	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464248	Zinc, dissolved	M200.7 ICP	LA	Recovery for target analyte in the control sample (LCS or LFB) exceeded the acceptance criteria. Target analyte was not detected in the sample [< MDL].

McClelland Laboratories, Inc. ACZ Project ID: ***L49228***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L49228-04	WG464248	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG464478	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG464656	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464496	Cyanide, WAD	SM4500-CN I- distillation	DJ	Sample dilution required due to insufficient sample.
	WG464707		SM4500-CN I,E-Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500-CN I,E-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464472	Fluoride	SM4500F-C	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG464655	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464475	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464484	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M365.1 - Auto Ascorbic Acid (digest)	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464216	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464248	Strontium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG464220	Sulfate	D516-02/-07 - Turbidimetric	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464372	Thiocyanate as SCN	SM4500-CN M	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464377	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG464248	Zinc, dissolved	M200.7 ICP	LA	Recovery for target analyte in the control sample (LCS or LFB) exceeded the acceptance criteria. Target analyte was not detected in the sample [< MDL].

Metals Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Aluminum, dissolved	M200.7 ICP
Antimony, dissolved	M200.8 ICP-MS
Arsenic, dissolved	M200.8 ICP-MS
Barium, dissolved	M200.7 ICP
Beryllium, dissolved	M200.8 ICP-MS
Bismuth, dissolved	M200.7 ICP
Boron, dissolved	M200.7 ICP
Cadmium, dissolved	M200.8 ICP-MS
Calcium, dissolved	M200.7 ICP
Chromium, dissolved	M200.7 ICP
Cobalt, dissolved	M200.7 ICP
Copper, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Iron, dissolved	M200.7 ICP
Lead, dissolved	M200.8 ICP-MS
Lithium, dissolved	M200.7 ICP
Magnesium, dissolved	M200.7 ICP
Manganese, dissolved	M200.7 ICP
Mercury, dissolved	M245.1 CVAA
Molybdenum, dissolved	M200.7 ICP
Nickel, dissolved	M200.7 ICP
Potassium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Selenium, dissolved	M200.8 ICP-MS
Silver, dissolved	M200.7 ICP
Sodium, dissolved	M200.7 ICP
Strontium, dissolved	M200.7 ICP
Thallium, dissolved	M200.8 ICP-MS
Tin, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP
Vanadium, dissolved	M200.7 ICP
Zinc, dissolved	M200.7 ICP

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Aluminum, dissolved	M200.7 ICP
Antimony, dissolved	M200.8 ICP-MS
Arsenic, dissolved	M200.8 ICP-MS
Barium, dissolved	M200.7 ICP
Beryllium, dissolved	M200.8 ICP-MS
Bismuth, dissolved	M200.7 ICP
Boron, dissolved	M200.7 ICP
Cadmium, dissolved	M200.8 ICP-MS
Calcium, dissolved	M200.7 ICP
Chromium, dissolved	M200.7 ICP
Cobalt, dissolved	M200.7 ICP
Copper, dissolved	M200.7 ICP
Gallium, dissolved	M200.7 ICP
Iron, dissolved	M200.7 ICP

Lead, dissolved	M200.8 ICP-MS
Lithium, dissolved	M200.7 ICP
Magnesium, dissolved	M200.7 ICP
Manganese, dissolved	M200.7 ICP
Mercury, dissolved	M245.1 CVAA
Molybdenum, dissolved	M200.7 ICP
Nickel, dissolved	M200.7 ICP
Potassium, dissolved	M200.7 ICP
Scandium, dissolved	M200.7 ICP
Selenium, dissolved	M200.8 ICP-MS
Silver, dissolved	M200.7 ICP
Sodium, dissolved	M200.7 ICP
Strontium, dissolved	M200.7 ICP
Thallium, dissolved	M200.8 ICP-MS
Tin, dissolved	M200.7 ICP
Titanium, dissolved	M200.7 ICP
Vanadium, dissolved	M200.7 ICP
Zinc, dissolved	M200.7 ICP

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Bicarbonate as CaCO3	SM2320B - Titration
Carbonate as CaCO3	SM2320B - Titration
Chloride	SM4500Cl-E
Cyanide, total	M335.4 - Colorimetric w/ distillation
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation
Fluoride	SM4500F-C
Hydroxide as CaCO3	SM2320B - Titration
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester
pH	SM4500H+ B
pH measured at	SM4500H+ B
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)
Residue, Filterable (TDS) @180C	SM2540C
Thiocyanate as SCN	SM4500-CN M
Total Alkalinity	SM2320B - Titration

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Bicarbonate as CaCO3	SM2320B - Titration
Carbonate as CaCO3	SM2320B - Titration
Chloride	SM4500Cl-E
Cyanide, total	M335.4 - Colorimetric w/ distillation
Cyanide, WAD	SM4500-CN I,E-Colorimetric w/ distillation
Fluoride	SM4500F-C
Hydroxide as CaCO3	SM2320B - Titration
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester
pH	SM4500H+ B
pH measured at	SM4500H+ B
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)
Residue, Filterable (TDS) @180C	SM2540C

Thiocyanate as SCN	SM4500-CN M
Total Alkalinity	SM2320B - Titration

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

McClelland Laboratories, Inc.

ACZ Project ID: L49228
Date Received: 01/09/2019 15:17
Received By:
Date Printed: 1/21/2019

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
UNKNOWN		<=6.0		

Was ice present in the shipment container(s)?

No - Wet or gel ice was not present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

McClelland Laboratories, Inc.

ACZ Project ID:	L49228
Date Received:	01/09/2019 15:17
Received By:	
Date Printed:	1/21/2019

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

Appendix G2

McClelland Laboratory Reports

Ms. Amy Prestia / **SRK Consulting (U.S.), Inc.**
MLI Job No. 4303

Table . - Modified Acid/Base Accounting (Mod ABA) Static ARD Potential Test Results,
Grassy Mountain Tailings Samples

Sample	Paste	Sulfur, weight percent (as S)									NAG	NAG pH, kg H_2SO_4/T		Sulfur, weight percent (as S) - HCl Wash			Total Inorganic
I.D.	pH	Total	SO_4	Pyritic $S^{=}$	Non-Ext S	Non Sulfate S	AGP[1)]	ANP	NNP	Ratio	pH	@ 4.5	@ 7	SO_4	Pyritic $S^{=}$	Non Sulfate S	Carbon
Arkose (1of 2)	8.0	0.36	0.26	0.09	<0.01	0.09	2.8	4.2	1.4	1.50	5.56	N/A	N/A	0.33	0.02	0.02	<0.100
MLDWT (1of 2)	8.1	0.43	0.24	0.19	<0.01	0.19	5.9	4.7	-1.2	0.80	5.76	N/A	N/A	0.30	0.13	0.13	<0.100
SLST (1of 2)	8.1	0.42	0.24	0.18	<0.01	0.18	5.6	4.5	-1.1	0.80	2.94	3.6	3.4	0.27	0.15	0.15	<0.100

1) AGP based on Pyritic $S^{=}$ content (%$S^{=}$ x 31.25). AGP, ANP and NNP in units of tons $CaCO_3$ equivalents per 1000 tons of solids.

Analytical Report # X8D0189

Table . - Profile II Analytical Results, SPLP Extracts, Grassy Mountain Tailings Samples

	Sample		
Analysis, mg/L	Arkose (1/2)	MLDWT (1/2)	SLST (1/2)
Alkalinity, $CaCO_3$	2,000	1,970	1,990
CO_3, $CaCO_3$	104	114	95.2
HCO_3	<2	<2	<2
Aluminum	0.08	0.08	0.10
Antimony	<0.0008	<0.0008	0.0008
Arsenic	0.0053	0.0076	0.0031
Barium	0.277	0.332	0.339
Beryllium	<0.0001	<0.0001	<0.0001
Bismuth	<0.04	<0.04	<0.04
Boron	<0.01	<0.01	<0.01
Cadmium	<0.0001	<0.0001	<0.0001
Calcium	686	645	670
Chloride	14.8	44.8	20.6
Chromium	0.05	0.07	0.04
Cobalt	0.03	0.01	0.04
Copper	0.04	0.03	0.02
Cyanide, WAD	0.06	<0.02	<0.02
Fluoride	<1	<1	<1
Gallium	<0.1	<0.1	<0.1
Hardness	1,710	1,610	1,670
Hydroxide	1,900	1,850	1,890
Iron	<0.02	0.02	<0.02
Lead	0.0009	0.0009	0.0025
Lithium	0.009	0.009	0.014
Magnesium	<0.2	<0.2	<0.2
Manganese	<0.005	<0.005	<0.005
Mercury	<0.0002	<0.0002	<0.0002
Molybdenum	0.18	0.15	0.06
Nickel	<0.008	<0.008	<0.008
Nitrate/Nitrite as N	0.29	0.37	0.28
Nitrogen, Ammonia	5.83	4.61	6.85
Nitrogen, Total Kjeldahl	9.7	7.9	10.6
pH, stu	12.1	12.2	12.2
Phosphorus	<0.02	<0.1	<0.02
Potassium	90.2	96.7	68.5
Scandium	<0.1	<0.1	<0.1
Selenium	0.0244	0.033	0.0218
Silver	<0.01	<0.01	<0.01
Sodium	230	229	150
Strontium	2.53	2.44	2.09
Sulfate	286	178	3.6
Thallium	0.0016	0.0013	0.0009
Thiocyanate	0.7	2.2	3.2
Tin	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	0.005
Total Dissolved Solids	2,330	2,190	2,040
Vanadium	<0.005	<0.005	<0.005
Zinc	<0.01	<0.01	<0.01
Cations, meq/L	47	45	42
Anions, meq/L	47	44	40
Balance, %	0.0	1.1	2.4

ACZ Report No. L49228

Table . - Modified Acid/Base Accounting (Mod ABA) Static ARD Potential Test Results,
Grassy Mountain HCHL Samples

Sample		Paste	Sulfur, weight percent (as S)									NAG	NAG pH, kg H_2SO_4/T		Sulfur, weight percent (as S) - HCl Wash		
I.D.	Lime Addition (g/kg)	pH	Total	SO_4	Pyritic $S^{=}$	Non-Ext S	Non Sulfate S	AGP[1)]	ANP	NNP	Ratio	pH	@ 4.5	@ 7	SO_4	Pyritic $S^{=}$	Non Sulfate S
Arkose (1of 2)	13.95	12.0	0.27	0.18	0.09	0.01	0.09	2.8	20.6	17.8	7.36	7.28	<0.1	<0.1	0.22	0.05	0.05
MLDWT (1of 2)	15.90	12.0	0.34	0.16	0.18	<0.01	0.18	5.6	25.7	20.1	4.59	7.40	<0.1	<0.1	0.26	0.08	0.08
SLST (1of 2)	15.83	12.0	0.33	0.18	0.16	<0.01	0.16	5.0	22.5	17.5	4.50	7.37	<0.1	<0.1	0.20	0.13	0.13

1) AGP based on Pyritic $S^{=}$ content (%$S^{=}$ x 31.25). AGP, ANP and NNP in units of tons $CaCO_3$ equivalents per 1000 tons of solids.

Analytical Report # X8G0403

Table . - Modified Acid/Base Accounting (Mod ABA) Static ARD Potential Test Results,
Grassy Mountain Samples

Sample		Paste	Sulfur, weight percent (as S)									NAG	NAG pH, kg H_2SO_4/T		Sulfur, weight percent (as S) - HCl Wash		
I.D.	Lime Addition (g/kg)	pH	Total	SO_4	Pyritic $S^{=}$	Non-Ext S	Non Sulfate S	AGP[1)]	ANP	NNP	Ratio	pH	@ 4.5	@ 7	SO_4	Pyritic $S^{=}$	Non Sulfate S
Arkose (1of 2)	15.35	12.1	0.28	0.20	0.10	<0.01	0.12	3.1	33.0	29.9	10.65	7.23	<0.1	<0.1	0.20	0.05	0.05
SLST (1of 2)	17.41	11.9	0.27	0.08	0.20	<0.01	0.18	6.3	23.1	16.8	3.67	7.24	<0.1	<0.1	0.10	0.10	0.14

1) AGP based on Pyritic $S^{=}$ content (%$S^{=}$ x 31.25). AGP, ANP and NNP in units of tons $CaCO_3$ equivalents per 1000 tons of solids.

Analytical Report # X8I0426

Table . - Modified Acid/Base Accounting (Mod ABA) Static ARD Potential Test Results, Grassy Mountain Samples

Sample		Paste	Sulfur, weight percent (as S)									NAG	NAG pH, kg H_2SO_4/T		Sulfur, weight percent (as S) - HCl Wash		
I.D.	Lime Addition (g/kg)	pH	Total	SO_4	Pyritic $S^{=}$	Non-Ext S	Non Sulfate S	AGP[1)]	ANP	NNP	Ratio	pH	@ 4.5	@ 7	SO_4	Pyritic $S^{=}$	Non Sulfate S
SLST (1of 2)	19.00	12.3	0.34	0.15	0.20	<0.01	0.20	6.3	26.7	20.4	4.24	7.05	<0.1	<0.1	0.19	0.16	0.16

1) AGP based on Pyritic $S^{=}$ content (%$S^{=}$ x 31.25). AGP, ANP and NNP in units of tons $CaCO_3$ equivalents per 1000 tons of solids.

Analytical Report # X8K0179

Table . - Modified Acid/Base Accounting (Mod ABA) Static ARD Potential Test Results,
Grassy Mountain Samples

Sample		Paste	Sulfur, weight percent (as S)									NAG	NAG pH, kg H_2SO_4/T		Sulfur, weight percent (as S) - HCl Wash		
I.D.	Lime Addition (g/kg)	pH	Total	SO_4	Pyritic $S^{=}$	Non-Ext S	Non Sulfate S	AGP[1)]	ANP	NNP	Ratio	pH	@ 4.5	@ 7	SO_4	Pyritic $S^{=}$	Non Sulfate S
SLST (1of 2)	20.58	12.1	0.36	0.20	0.20	<0.01	0.15	6.3	27.5	21.3	4.37	7.16	<0.1	<0.1	0.20	0.10	0.14

1) AGP based on Pyritic $S^{=}$ content (%$S^{=}$ x 31.25). AGP, ANP and NNP in units of tons $CaCO_3$ equivalents per 1000 tons of solids.

Analytical Report # X8K0276

Table . - Modified Acid/Base Accounting (Mod ABA) Static ARD Potential Test Results,
Grassy Mountain Samples

Sample		Paste	Sulfur, weight percent (as S)									NAG	NAG pH, kg H_2SO_4/T		Sulfur, weight percent (as S) - HCl Wash		
I.D.	Lime addition (g/kg)	pH	Total	SO_4	Pyritic $S^{=}$	Non-Ext S	Non Sulfate S	AGP[1)]	ANP	NNP	Ratio	pH	@ 4.5	@ 7	SO_4	Pyritic $S^{=}$	Non Sulfate S
Arkose (1of 2)	0.00	8.0	0.36	0.26	0.09	<0.01	0.09	2.8	4.2	1.4	1.50	5.56	N/A	N/A	0.33	0.02	0.02
Arkose (1of 2)	13.95	12.0	0.27	0.18	0.09	0.01	0.09	2.8	20.6	17.8	7.36	7.28	<0.1	<0.1	0.22	0.05	0.05
Arkose (1of 2)	15.35	12.1	0.28	0.20	0.10	<0.01	0.12	3.1	33.0	29.9	10.65	7.23	<0.1	<0.1	0.20	0.05	0.05
MLDWT (1of 2)	0.00	8.1	0.43	0.24	0.19	<0.01	0.19	5.9	4.7	-1.2	0.80	5.76	N/A	N/A	0.30	0.13	0.13
MLDWT (1of 2)	15.90	12.0	0.34	0.16	0.18	<0.01	0.18	5.6	25.7	20.1	4.59	7.40	<0.1	<0.1	0.26	0.08	0.08
SLST (1of 2)	0.00	8.1	0.42	0.24	0.18	<0.01	0.18	5.6	4.5	-1.1	0.80	2.94	3.6	3.4	0.27	0.15	0.15
SLST (1of 2)	15.83	12.0	0.33	0.18	0.16	<0.01	0.16	5.0	22.5	17.5	4.50	7.37	<0.1	<0.1	0.20	0.13	0.13
SLST (1of 2)	17.41	11.9	0.27	0.08	0.20	<0.01	0.18	6.3	23.1	16.8	3.67	7.24	<0.1	<0.1	0.10	0.10	0.14
SLST (1of 2)	19.00	12.3	0.34	0.15	0.20	<0.01	0.20	6.3	26.7	20.4	4.24	7.05	<0.1	<0.1	0.19	0.16	0.16
SLST (1of 2)	20.58	12.1	0.36	0.20	0.20	<0.01	0.15	6.3	27.5	21.3	4.37	7.16	<0.1	<0.1	0.20	0.10	0.14

1) AGP based on Pyritic $S^{=}$ content (%$S^{=}$ x 31.25). AGP, ANP and NNP in units of tons $CaCO_3$ equivalents per 1000 tons of solids.

Analytical Report # X8D0189, X8G0403, X8I0426, X8K0179, X8K0276

Table . - Profile Analytical Results,
Grassy Mountain Samples

	Samples					
Analysis, mg/L	Arkose (1/2)	Arkose (2/2)	MLDWT (1/2)	MLDWT (2/2)	SLST (1/2)	SLST (2/2)
Alkalinity, $CaCO_3$	80.2	83.6	94.5	74.8	132	125
CO_3, $CaCO_3$	<2	<2	<2	<2	5.2	5.8
HCO_3	80.2	83.6	94.5	74.8	127	120
OH	<2	<2	<2	<2	<2	<2
Aluminum	<0.03	0.05	0.06	<0.06	<0.03	<0.03
Antimony	0.112	0.112	0.0933	0.0891	0.102	0.098
Arsenic	0.244	0.213	0.455	0.314	0.690	0.643
Barium	0.052	0.057	0.065	0.059	0.054	0.055
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Bismuth	<0.04	<0.04	<0.08	<0.08	<0.04	<0.04
Boron	<0.02	0.03	0.04	<0.02	0.03	0.03
Cadmium	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium	238	239	236	275	197	201
Chloride	12.8	11.9	16.1	7.5	11.9	13.6
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Cobalt	0.199	0.212	0.0362	0.0347	0.116	0.109
Copper	0.0085	0.007	0.0076	0.0065	0.048	0.0468
Cyanide, total	0.040	0.048	0.012	0.015	0.027	0.026
Cyanide, WAD	0.058	0.069	0.013	0.010	0.061	0.042
Fluoride	0.24	<1	0.31	0.25	0.31	0.29
Gallium	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1
Hardness	610	612	607	703	502	513
Iron	<0.02	<0.02	<0.04	<0.04	<0.02	0.03
Lead	0.0007	0.001	0.0004	0.0005	0.0007	<0.0002
Lithium	0.181	0.187	0.07	0.05	0.038	0.040
Magnesium	3.7	3.7	4.3	3.9	2.5	2.6
Manganese	0.0398	0.0366	0.038	0.0258	0.0375	0.0369
Mercury	0.0066	0.0007	0.036	0.0009	0.028	0.0072
Molybdenum	0.067	0.070	0.097	0.092	0.097	0.089
Nickel	0.004	0.003	0.002	0.002	0.005	0.005
Nitrate/Nitrite as N	0.21	0.21	0.24	0.21	0.21	0.21
Nitrogen, Ammonia	10.9	11.1	6.75	4.88	12.7	12.3
pH, stu	8.1	8.1	8.2	8.1	8.4	8.4
Phosphorus	0.04	0.05	0.07	0.05	0.23	0.20
Potassium	38.2	38.6	41.0	41.4	41.8	41.3
Scandium	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1
Selenium	0.0625	0.0573	0.0527	0.0423	0.0277	0.0277
Silver	0.0003	<0.0001	0.0014	<0.0001	<0.0001	0.0001
Sodium	389	386	507	481	509	494
Strontium	0.607	0.617	0.73	0.80	0.581	0.586
Sulfate	1,370	1,400	1,640	1,590	1,450	1,330
Thallium	0.0018	0.0016	0.0017	0.0013	0.0023	0.0021
Tin	<0.04	<0.04	<0.08	<0.08	<0.04	<0.04
Titanium	0.005	0.007	0.01	0.01	0.008	0.006
Total Dissolved Solids	2,110	2,140	2,510	2,450	2,310	2,170
Uranium	0.0078	0.0079	0.0171	0.0108	0.0215	0.0205
Vanadium	<0.0004	<0.0004	<0.0004	<0.0004	0.0016	0.0014
Zinc	<0.01	<0.01	0.06	<0.02	<0.01	<0.01
Electrical Conductivity, µmhos/cm	2,720	2,790	3,320	3,080	2,960	2,900
Cations, meq/L	31	31	36.0	37	35	34.0
Anions, meq/L	31	31	37	35	34	31
Balance, %	0.0	0.0	-1.4	2.8	1.4	4.6

ACZ Laboratories Report No. L43468

Table . - Multi Element ICP Analytical Results, Grassy Mountain Samples

Analysis, mg/kg	Sample		
	Arkose (1of 2)	MLDWT (1of 2)	SLST (1of 2)
Ag	2.86	2.23	3.05
Al	2,300	2,900	1,800
As	132.5	193.0	128.5
Au	0.20	0.23	0.26
B	30	10	<10
Ba	60	70	50
Be	0.13	0.23	0.10
Bi	0.13	0.09	0.09
Ca	1,200	1,900	900
Cd	0.04	0.03	0.02
Ce	17.15	20.6	14.60
Co	5.4	5.7	4.9
Cr	499	631	457
Cs	0.96	1.38	0.94
Cu	49.8	64.6	32.8
Fe	9,100	11,100	8,300
Ga	0.94	1.52	0.99
Ge	0.06	0.07	0.06
Hf	0.08	0.08	0.06
Hg	1.49	1.21	0.83
In	0.018	0.017	0.012
K	2,300	2,300	1,800
La	8.4	10.6	7.6
Li	1.6	1.6	1.3
Mg	100	100	100
Mn	76	76	56
Mo	14.80	16.35	10.40
Na	500	500	300
Nb	0.20	0.37	0.27
Ni	184.5	244	162.0
P	80	100	60
Pb	7.2	6.2	6.8
Rb	7.5	8.3	6.6
Re	0.003	0.002	0.001
S (Total)	3,200	3,800	3,900
Sb	12.70	13.05	10.80
Sc	0.4	0.6	0.4
Se	1.9	3.5	2.6
Sn	0.9	1.1	0.8
Sr	29.6	27.8	13.9
Ta	<0.01	<0.01	<0.01
Te	0.01	0.01	<0.01
Th	1.1	2.3	1.9
Ti	50	80	60
Tl	0.59	0.48	0.35
U	0.69	0.71	0.46
V	6	10	6
W	1.64	2.72	3.39
Y	2.18	2.45	1.71
Zn	13	26	12
Zr	2.5	2.8	2.0

ALS USA Inc. Report # RE18075192

Table . - Profile II Analytical Results, SPLP Extracts, Grassy Mountain Tailings Samples

	Sample		
Analysis, mg/L	Arkose (1/2)	MLDWT (1/2)	SLST (1/2)
Alkalinity, $CaCO_3$	2,000	1,970	1,990
CO_3, $CaCO_3$	104	114	95.2
HCO_3	<2	<2	<2
Aluminum	0.08	0.08	0.10
Antimony	<0.0008	<0.0008	0.0008
Arsenic	0.0053	0.0076	0.0031
Barium	0.277	0.332	0.339
Beryllium	<0.0001	<0.0001	<0.0001
Bismuth	<0.04	<0.04	<0.04
Boron	<0.01	<0.01	<0.01
Cadmium	<0.0001	<0.0001	<0.0001
Calcium	686	645	670
Chloride	14.8	44.8	20.6
Chromium	0.05	0.07	0.04
Cobalt	0.03	0.01	0.04
Copper	0.04	0.03	0.02
Cyanide, WAD	0.06	<0.02	<0.02
Fluoride	<1	<1	<1
Gallium	<0.1	<0.1	<0.1
Hardness	1,710	1,610	1,670
Hydroxide	1,900	1,850	1,890
Iron	<0.02	0.02	<0.02
Lead	0.0009	0.0009	0.0025
Lithium	0.009	0.009	0.014
Magnesium	<0.2	<0.2	<0.2
Manganese	<0.005	<0.005	<0.005
Mercury	<0.0002	<0.0002	<0.0002
Molybdenum	0.18	0.15	0.06
Nickel	<0.008	<0.008	<0.008
Nitrate/Nitrite as N	0.29	0.37	0.28
Nitrogen, Ammonia	5.83	4.61	6.85
Nitrogen, Total Kjeldahl	9.7	7.9	10.6
pH, stu	12.1	12.2	12.2
Phosphorus	<0.02	<0.1	<0.02
Potassium	90.2	96.7	68.5
Scandium	<0.1	<0.1	<0.1
Selenium	0.0244	0.033	0.0218
Silver	<0.01	<0.01	<0.01
Sodium	230	229	150
Strontium	2.53	2.44	2.09
Sulfate	286	178	3.6
Thallium	0.0016	0.0013	0.0009
Thiocyanate	0.7	2.2	3.2
Tin	<0.04	<0.04	<0.04
Titanium	<0.005	<0.005	0.005
Total Dissolved Solids	2,330	2,190	2,040
Vanadium	<0.005	<0.005	<0.005
Zinc	<0.01	<0.01	<0.01
Cations, meq/L	47	45	42
Anions, meq/L	47	44	40
Balance, %	0.0	1.1	2.4

ACZ Report No. L49228