

CALICO RESOURCES USA CORP.
GRASSY MOUNTAIN MINE PROJECT
MALHEUR COUNTY, OREGON

**ENVIRONMENTAL JUSTICE
BASELINE REPORT**

FEBRUARY 2018

Prepared for:

Calico Resources USA Corp.
665 Anderson Street
Winnemucca, Nevada 89445

Prepared by:



Reno:
1650 Meadow Wood Lane
Reno, Nevada 89502
Phone: (775) 826-8822 | Fax: (775) 826-8857

Elko:
835 Railroad Street
Elko, Nevada 89801
Phone: (775) 753-9496 | Fax: (775) 826-8857

**CALICO RESOURCES USA CORP.
GRASSY MOUNTAIN MINE PROJECT
ENVIRONMENTAL JUSTICE BASELINE REPORT**

TABLE OF CONTENTS

1	INTRODUCTION	1
2	RESOURCE STUDY AREA	1
3	REGULATORY FRAMEWORK.....	4
3.1	Federal Requirements and Guidance.....	4
3.1.1	Executive Order 12898	4
3.1.2	Council on Environmental Quality Guidance.....	6
3.1.3	Bureau of Land Management Guidance.....	7
3.2	Oregon Law and Guidance.....	8
3.2.1	Oregon Senate Bill 420	8
3.2.2	Oregon Department of Environmental Quality Guidelines.....	9
4	STUDY METHODOLOGY	9
4.1	Literature Review.....	9
4.2	Identifying Potential Environmental Justice Populations.....	10
4.2.1	Low-Income Populations.....	10
4.2.2	Minority Populations.....	11
5	BASELINE CHARACTERIZATION.....	11
5.1	General Description of Malheur County and Census Tracts in the Study Area....	11
5.1.1	Malheur County	12
5.2	Race and Ethnicity of Populations in the Study Area.....	13
5.2.1	U.S. Census Bureau Data	13
5.2.2	Other Information	14
5.2.3	Summary for Minority Populations.....	14
5.3	Income of Populations in the Study Area.....	14
5.3.1	U.S. Census Bureau Data	16
5.3.2	Other Information about Low-Income Populations.....	18
5.3.3	Low-Income Summary	18
5.4	Public Involvement to Date	20
6	BIBLIOGRAPHY	20
7	CONTACTS.....	22
8	LIST OF PREPARERS	22

LIST OF TABLES

Table 1: U.S. Census Bureau Poverty Thresholds for December 2016 (dollars) 10
Table 2: U.S. Department of Health and Human Services Poverty Guidelines..... 11
Table 3: Race and Ethnicity for Oregon, Malheur County, and the Study Area 13
Table 4: Income Summary for Oregon, Malheur County, and the Study Area 16
Table 5: Poverty Summary for Oregon, Malheur County, and the Study Area 16
Table 6: Employment Summary for People Living in Poverty in Oregon, Malheur County, and the Study Area..... 17

LIST OF FIGURES

Figure 1: Location Map 2
Figure 2: Permit Area Map 3
Figure 3: Environmental Justice Study Area 5
Figure 4: Diversity and Population in the Study Area..... 15
Figure 5: High Poverty Hotspots in the Study Area 19

LIST OF ABBREVIATIONS AND ACRONYMS

BLM	Bureau of Land Management
CEQ	Council on Environmental Quality
DHS	Department of Human Services
EJTF	Environmental Justice Task Force
EO	Executive Order
EPA	U.S. Environmental Protection Agency
HDR	HDR Engineering, Inc.
HHS	U.S. Department of Health and Human Services
NEPA	National Environmental Policy Act of 1969
ODEQ	Oregon Department of Environmental Quality
OEI	Office of Equity and Inclusion
OHA	Oregon Health Authority
ORS	Oregon Revised Statutes
OR 201	Oregon Route 201
P & I	Principles and Implementations
PCC	Project Coordinating Committee
Project	Grassy Mountain Mine Project
PSU	Portland State University
SB	Senate Bill
SSI	Supplemental Security Income
Study Area	Environmental Justice Study Area
TRT	Technical Review Team
U.S.	United States
US 20	U.S. Highway 20

**CALICO RESOURCES USA CORP.
GRASSY MOUNTAIN MINE PROJECT
ENVIRONMENTAL JUSTICE BASELINE REPORT**

1 INTRODUCTION

The purpose of this baseline study is to characterize the existing environmental justice conditions in the vicinity of the Grassy Mountain Mine Project (Project) in Malheur County, Oregon. The baseline study will be used to support future mine permitting activities. Oregon public agency actions must be in compliance with the 2008 Oregon environmental justice law, which applies to permitting, cleanup, policy and planning outreach and education, and compliance and enforcement.

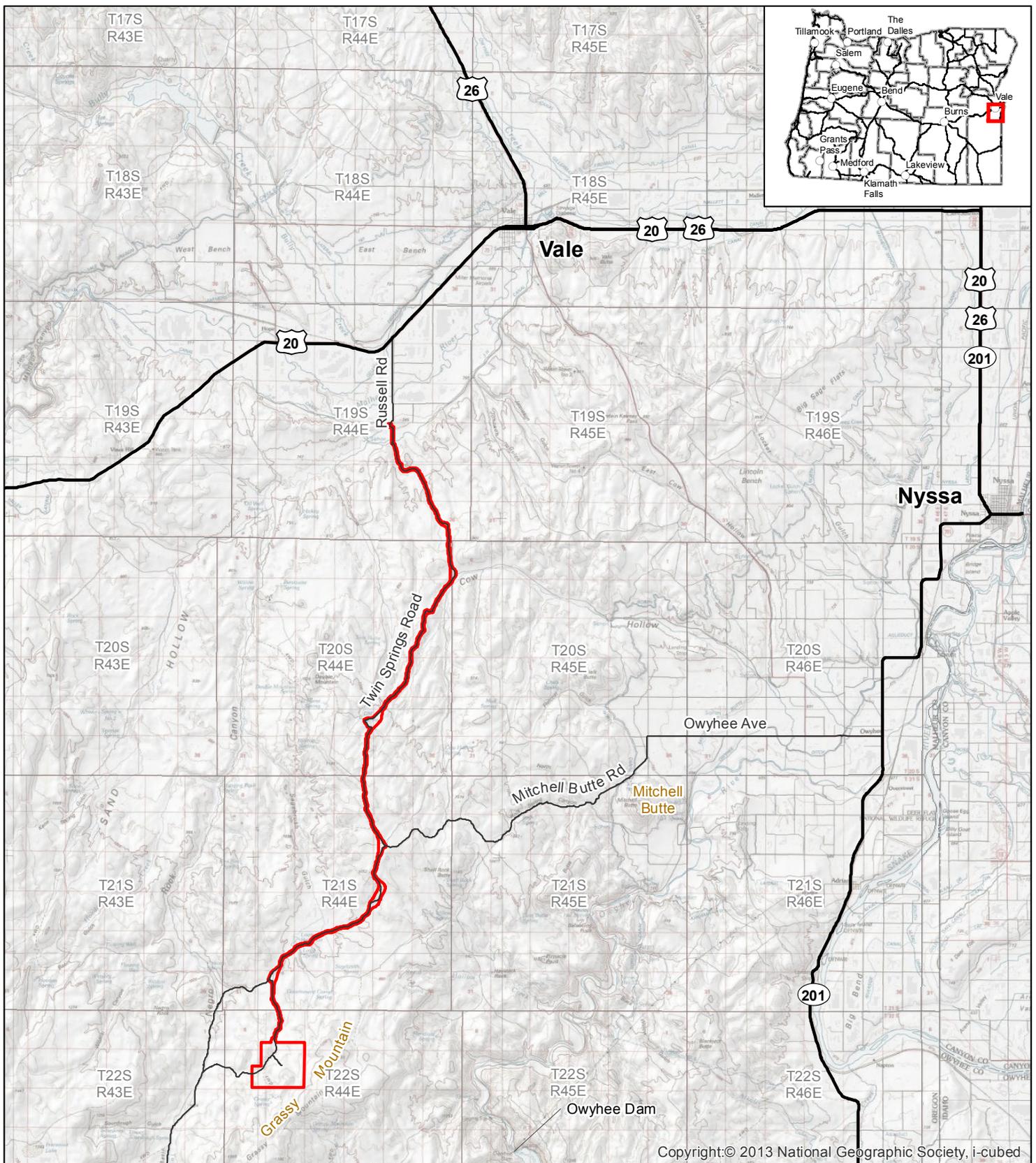
The format of this report follows the format of the June 2015 *Environmental Justice Baseline Study* prepared for the Project by HDR Engineering, Inc. (HDR 2015). The study area is different in this report than in the June 2015 HDR Report; therefore, some of the background information is different and is presented differently. Where the reports are similar, updated information has been added where necessary. The updated information includes: 1) different study area boundary; 2) expansion/description of the permit area; 3) updates of environmental justice data with different or more recent available data; and 4) Contacts and Preparers.

2 RESOURCE STUDY AREA

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

The Mine and Process Area is located on three patented lode mining claims and unpatented lode mining claims that cover an estimated 886 acres. These patented and unpatented lode mining claims are part of a larger land position that includes 419 unpatented lode mining claims and nine mill site claims on lands administered by the Bureau of Land Management (BLM) (Figure 2). All proposed mining would occur on the patented claims, with some mine facilities on unpatented mining claims. The Mine and Process Area is in all or portions of Sections 5 through 8, Township 22 South, Range 44 East (T22S, R44E) (Willamette Meridian).

The Access Road Area is located on public land administered by the BLM, and private land controlled by others (Figure 2). A portion of the Access Road Area is a Malheur County Road named Twin Springs Road. The Access Road Area extends north from the Mine and Process Area to Russell Road, a paved Malheur County Road. The Access Road Area is in portions of Section 5, T22S, R44E, Sections 3, 10, 11, 14, 15, 21 through 23, 28, 29, and 32, T21S, R44E, Sections 1, 12 through 14, 23, 26, 27, and 34, T20S, R44E, Sections 6 and 7, T20S, R45E, and Sections 22, 23, 26, 35, and 36, T19S, R44E (Willamette Meridian). The width of the Access Road Area is 300 feet (150 feet on either side of the access road centerline) to accommodate possible minor widening or re-routing, and a potential powerline adjacent to the access road. There are several areas shown that are significantly wider than 300 feet on the Permit Area Map (Figure 2), which are areas where the final alignment has not yet been determined. The final engineering of the road will be consistent throughout, and within the Permit Area. The Access Road Area also includes a buffer on either side of the proposed road width for the collection of environmental baseline data. The road corridor will be 40 feet wide, which includes a 24-foot wide road travel width (12 feet on either side of the road centerline), four-foot wide shoulders on each side of the road, minimum



Copyright:© 2013 National Geographic Society, i-cubed

Explanation

- Permit Area
- Existing Road

Projection: UTM Zone 11 North, NAD83, meters



CALICO RESOURCES USA CORP.

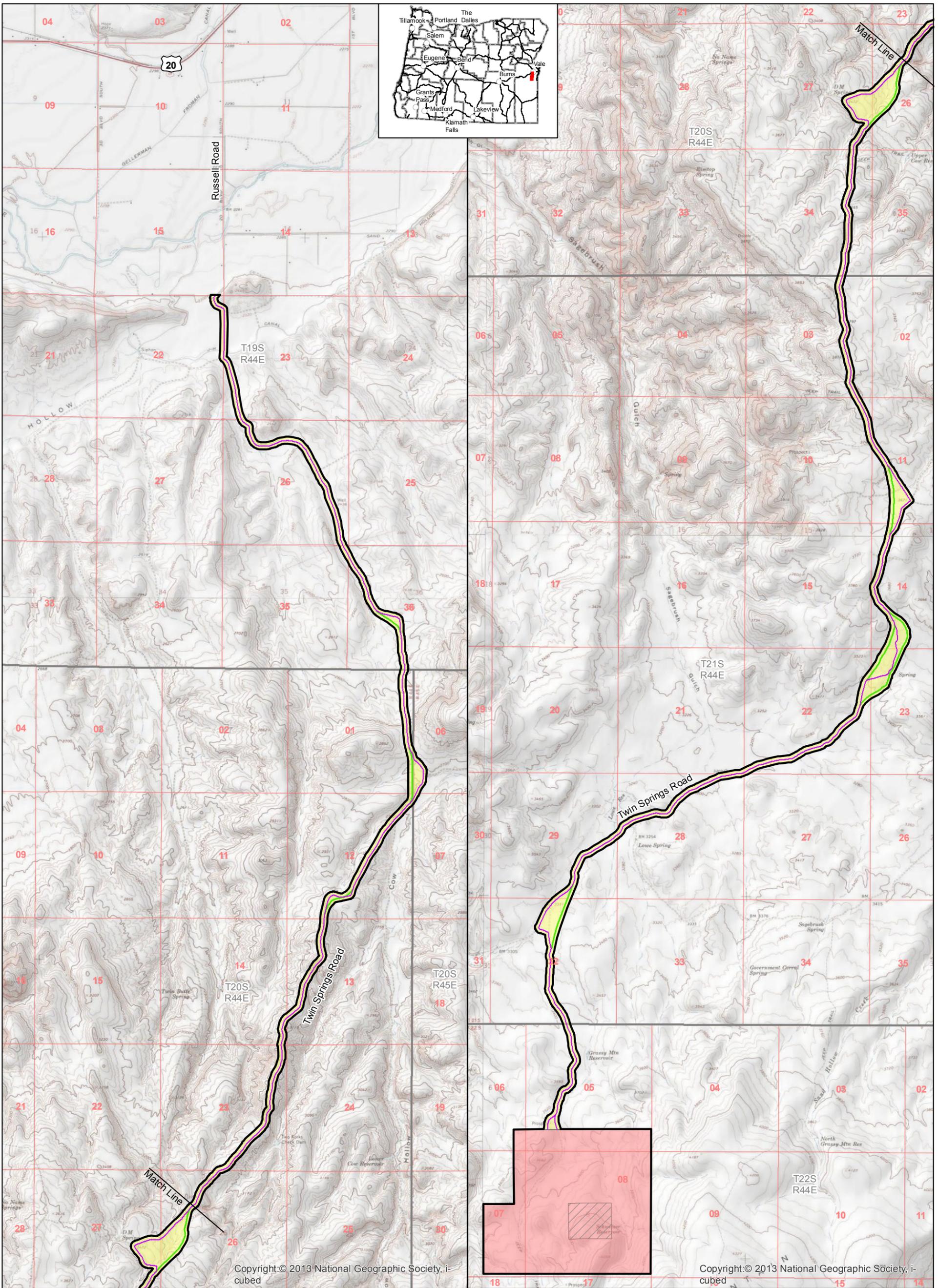
GRASSY MOUNTAIN MINE PROJECT

Location Map

Figure 1

Date: 12/19/2017	Drawn By: JDB
Revised:	Project No.: 3672
Base Map: USGS 100K quads: Boise, Brogan, Vale, Weiser	
File Name: 3672G_GrassyMtn_BL_Fig01_Location.mxd	

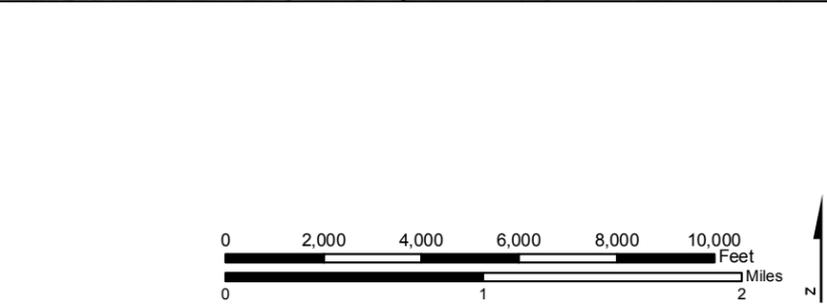




Explanation

- Permit Area
- Mine and Process Area
- Access Road Area
- Patented Lode Claims
- Proposed Access Road
- Possible Road Realignment

Projection: UTM Zone 11 North, NAD83, meters



CALICO RESOURCES USA CORP.
GRASSY MOUNTAIN MINE PROJECT

Permit Area Map

Figure 2

Date: 12/19/2017	Drawn By: JDB
Revised:	Project No.: 3672
Base Map: USGS 7.5 Minute Topographic Map, Grassy Mountain, Kane Spring, Oregon	
File Name: 3672G_GrassyMtn_BL_Fig02_PermitArea.mxd	

one-foot wide ditches on each side of the road, and appropriate cut and fill. The Access Road Area totals approximately 876 acres.

The Environmental Justice Study Area (Study Area) is shown on Figure 3. The Study Area for environmental justice conditions is Malheur County, broken up by census tracts.

3 REGULATORY FRAMEWORK

Environmental justice entails the fair treatment and meaningful involvement of all people regardless of race, age, gender, national origin, education, or income level in the development, implementation, and enforcement of environmental laws, regulations, and policies. Enforcement includes complying with state and federal permitting programs that are authorized through regulations and policies.

This section reviews the environmental justice regulations and guidance that apply to the Project. Environmental justice considerations for the Study Area include a federal executive order, federal guidance for environmental justice analyses, and state law and policy.

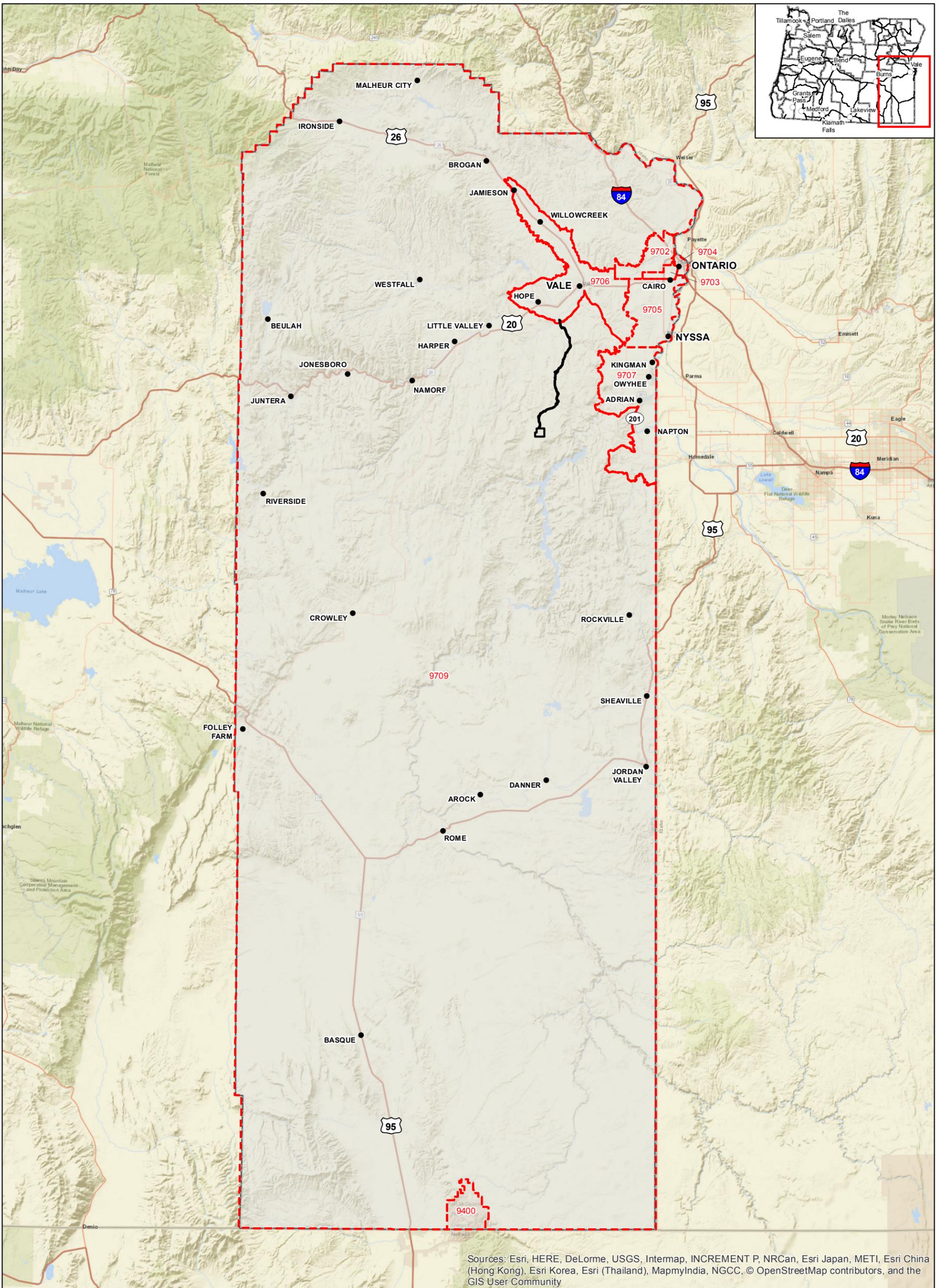
3.1 Federal Requirements and Guidance

3.1.1 Executive Order 12898

A portion of the Permit Area is located on land administered by the BLM and activity on BLM-administered land must comply with applicable federal regulations and policies that govern use of this public (federally-owned) land. Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires federal agencies to consider disproportionate adverse human health and environmental effects on minority and low-income populations.

The text of EO 12898 defines minority populations and provides guidance on how to identify a minority population. The text of the EO states the following:

Minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. In identifying minority communities, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a geographically dispersed/transient set of individuals (such as migrant workers or Native American), where either type of group experiences common conditions of environmental exposure or effect. The selection of the appropriate unit of geographic analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as to not artificially dilute or inflate the affected minority population. A minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above-stated thresholds.

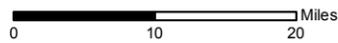


Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

- Explanation**
- Permit Area
 - Census Tracts
 - Malheur County (Study Area)

CALICO RESOURCES USA CORP.
 GRASSY MOUNTAIN MINE PROJECT
 Environmental Justice Study Area

Projection: UTM Zone 11 North, NAD83, meters



Date: 01/18/2018	Drawn By: JDB
Revised:	Project No.: 3672
Base Map:	
File Name: 3672G_GrassyMtn_BL_EJ_Fig03_StudyArea.mxd	



Figure 3

Regarding low-income populations, the text of the EO states the following:

Low-income populations in an affected area should be identified with the annual statistical poverty thresholds from the Bureau of the Census' Current Population Reports, Series P-60 on Income and Poverty. In identifying low-income populations, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.

Federal agencies use supplemental guidelines to implement EO 12898. The Council on Environmental Quality (CEQ) oversees the federal government's compliance with the order and the National Environmental Policy Act of 1969 (NEPA). Other agencies have developed environmental justice guidelines for rulemaking and decisions that the agencies need to make (such as permitting decisions).

3.1.2 Council on Environmental Quality Guidance

CEQ has published guidance on how to consider environmental justice concerns during a NEPA analysis (CEQ 1997). CEQ recognizes that there is not a standard formula for how environmental justice issues should be identified or addressed but does identify six principles that provide general guidance. These principles include the following:

- Agencies should consider the composition of the affected area, to determine whether minority populations, low-income populations, or Indian tribes are present in the area affected by the proposed action, and if so, whether there may be disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, or Indian tribes.
- Agencies should consider relevant public health data and industry data concerning the potential for multiple or cumulative exposure to human health or environmental hazards in the affected population and historical patterns of exposure to environmental hazards, to the extent such information is reasonably available.
- Agencies should consider these multiple, or cumulative effects, even if certain effects are not within the control or subject to the discretion of the agency proposing the action.
- Agencies should recognize the interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed agency action. These factors should include the physical sensitivity of the community or population to particular impacts; the effect of any disruption on the community structure associated with the proposed action; and the nature and degree of impact on the physical and social structure of the community.
- Agencies should develop effective public participation strategies. Agencies should, as appropriate, acknowledge and seek to overcome linguistic, cultural, institutional, geographic, and other barriers to meaningful participation, and should incorporate active outreach to affected groups.

- Agencies should assure meaningful community representation in the process. Agencies should be aware of the diverse constituencies within any particular community when they seek community representation and should endeavor to have complete representation of the community as a whole. Agencies also should be aware that community participation must occur as early as possible if it is to be meaningful.
- Agencies should seek tribal representation in the process in a manner that is consistent with the government-to-government relationship between the United States (U.S.) and tribal governments, the federal government's trust responsibility to federally-recognized tribes, and any treaty rights.

CEQ gives general guidance for identifying an "affected environment." In order to determine whether a proposed action is likely to have disproportionately high and adverse human health or environmental effects on low-income populations, minority populations, or Indian tribes, agencies should identify a geographic scale for which they will obtain demographic information on the potential impact area. CEQ says that agencies may use demographic data available from the U.S. Census Bureau to identify the composition of the potentially affected population. Geographic distribution by race, ethnicity, and income, as well as a delineation of tribal lands and resources, should be examined. U.S. Census Bureau data are often the best available comprehensive data about the demographic composition of an area.

3.1.3 Bureau of Land Management Guidance

The BLM would need to comply with the provisions of EO 12898 prior to taking action on any project-related authorization for activity that occurs on BLM-administered land. Agency guidance for environmental justice is contained in the BLM's *Land Use Planning Manual* (MS-1601). The BLM's environmental justice principles are as follows:

1. BLM will determine if its proposed actions will adversely and disproportionately impact minority populations, low-income communities, and tribes (reference EO 12898, Environmental Justice) and consider aggregate, cumulative, and synergistic effects, including results of actions taken by other parties. While environmental justice analysis is specifically concerned with disproportionate effects on the three populations, the social and economic analysis produced in accord with NEPA considers all potential social and economic effects, positive and negative, on any distinct group.
2. BLM will promote and provide opportunities for full involvement of minority populations, low-income communities, and tribes in BLM decisions that affect their lives, livelihoods, and health.
3. BLM will incorporate environmental justice considerations in land use planning alternatives to adequately respond to environmental justice issues and problems facing minority populations, low-income communities, and tribes living near public lands, working with, and/or using public land resources.
4. Where disproportionately high adverse impacts are anticipated, BLM will work with local community groups/associations, governments, and tribal leaders to determine if land

disposition and/or acquisition policies affect real estate values and real income of minority and low-income communities, and tribes.

5. BLM state and field offices will continue to make environmental justice a mandatory critical element for consideration in all land use planning and NEPA documents (BLM 2005).

3.2 Oregon Law and Guidance

3.2.1 Oregon Senate Bill 420

Oregon Senate Bill (SB) 420, which the governor signed into law in 2007 and which became effective on January 1, 2008, as Oregon Revised Statutes (ORS) 182.535 through 182.550, created an Environmental Justice Task Force (EJTF) (Legislative Administration Committee Services 2007). The intent of creating the EJTF was to provide a means to ensure that all persons affected by decisions of the state's natural resource agencies have a voice in those decisions. The 12-member EJTF advises the governor and natural resources agencies on environmental justice issues, cooperates with natural resource agencies to identify minority and low-income communities that may be affected by the agencies' environmental decisions, and defines environmental justice issues in Oregon. SB 420 requires state natural resource agencies to follow prescribed steps to provide greater public participation and ensure involvement of people who may be affected by agency actions.

SB 420 does not define an environmental justice population. A recent EJTF annual report describes environmental justice communities as "minority and low-income communities, tribal communities, and other communities traditionally underrepresented in public processes" (EJTF 2014).

SB 420 requires that agencies follow each of the following specific requirements:

1. In making a determination whether and how to act, consider the effects of the action on environmental justice issues.
2. Hold hearings at times and in locations that are convenient for people in the communities that will be affected by the decisions stemming from the hearings.
3. Engage in public outreach activities in the communities that will be affected by the agency's decisions.
4. Create a citizen advocate position that is responsible for the following:
 - a. Encouraging public participation;
 - b. Ensuring that the agency considers environmental justice issues; and
 - c. Informing the agency of the effect of its decisions on communities traditionally underrepresented in public processes.

SB 420 requires each agency to report annually to the EJTF and the Governor. The annual report must describe on the results of the agencies' efforts to comply with the following:

1. Address environmental justice issues;
2. Increase public participation of individuals and communities affected by agencies' decisions;
3. Determine the effect of the agencies' decisions on traditionally underrepresented communities; and
4. Improve plans to further the progress of environmental justice in Oregon.

3.2.2 Oregon Department of Environmental Quality Guidelines

The Oregon Department of Environmental Quality (ODEQ) uses *Environmental Justice – Principles and Implementation* (P&I) guidelines (ODEQ 1997) for projects it reviews and permits. ODEQ is involved in the proposed Project pursuant to Oregon Administrative Rule 340 Division 43, which applies to chemical mining and water quality.

The P&I identifies specific steps that ODEQ is to apply during project review. These steps address the following specific principles:

- Ensuring the determination of the affected public (including potential environmental justice populations);
- Disseminating information to the affected public (including environmental justice populations);
- Providing opportunities for participation;
- Fostering community partnerships; and
- Pursuing innovative responses to problems.

The steps applied to meet these principles include actions such as ensuring and targeting all agency outreach and education efforts to reach low-income and minority interests, ensuring that permit writers identify and address low-income and minority issues in the permitting process, and scheduling meetings in facilities that meet American Disability Act requirements.

4 STUDY METHODOLOGY

4.1 Literature Review

The literature reviewed, and data sources used for this baseline report are primarily the same as those used for the June 2015 *Environmental Justice Baseline Study* prepared by HDR. Some of these data sources include the U.S. Census Bureau, U.S. Department of Health and Human Services (HHS) data about poverty, and information available from the State of Oregon (i.e., Oregon Department of Human Services, Oregon Health Authority [OHA], and Oregon Office of

Equity and Inclusion [OEI]). To provide a more adequate breakdown of the environmental justice populations in the Study Area, the Study Area was divided by census tract (Figure 3).

4.2 Identifying Potential Environmental Justice Populations

This section describes methods to identify environmental justice populations. ORS 182.535-550 does not define what an environmental justice population is and does not provide guidance on how to identify an environmental justice population. The U.S. Environmental Protection Agency’s (EPA’s) *Guidance on Considering Environmental Justice During the Development of Regulatory Actions* (EPA 2015) does not provide methods to identify environmental justice populations. CEQ guidance provides guidance on how to identify minority populations, but not low-income populations.

4.2.1 Low-Income Populations

For the purpose of this study, a *low-income person* is defined as a person whose household income is at or below the U.S. Census Bureau’s annual statistical poverty thresholds. If a family’s total income is less than the poverty threshold for a family, then that family is considered to live in poverty. The U.S. Census Bureau also calculates individuals living in poverty. The method used compares the person’s total family income in the last 12 months with the poverty threshold appropriate for that person's family size and composition. If the total income of that person's family is less than the threshold appropriate for that family, then the person is considered to live in poverty, together with every member of his or her family. If a person is not living with anyone related by birth, marriage, or adoption, then the person's own income is compared with his or her poverty threshold. The total number of people below the poverty level is the sum of people in families and the number of unrelated individuals with incomes in the last 12 months below the poverty threshold.

This study uses the U.S. Census Bureau’s *2011-2015 5-Year American Community Survey*. The U.S. Census Bureau’s methods for determining poverty are available in its *American Community Survey and Puerto Rico Community Survey 2013 Subject Definitions* (U.S. Census Bureau 2013). Table 1 summarizes the U.S. Census Bureau’s 2016 poverty thresholds (U.S. Census Bureau 2016a).

Table 1: U.S. Census Bureau Poverty Thresholds for December 2016 (dollars)

Size of Family Unit	Related Children Under 18 Years								
	None	One	Two	Three	Four	Five	Six	Seven	Eight or more
One person									
<i>Under age 65</i>	12,486	--	--	--	--	--	--	--	--
<i>Aged 65 and older</i>	11,511	--	--	--	--	--	--	--	--
Two people									
<i>Householder under age 65</i>	16,072	16,543	--	--	--	--	--	--	--
<i>Householder aged 65 and older</i>	14,507	16,480	--	--	--	--	--	--	--

Size of Family Unit	Related Children Under 18 Years								
	None	One	Two	Three	Four	Five	Six	Seven	Eight or more
Three people	18,774	19,318	19,337	--	--	--	--	--	--
Four people	24,755	25,160	24,339	24,424	--	--	--	--	--
Five people	29,854	30,288	29,360	28,643	28,205	--	--	--	--
Six people	34,337	34,473	33,763	33,082	32,070	31,470	--	--	--
Seven people	39,509	39,756	38,905	38,313	37,208	35,920	34,507	--	--
Eight people	44,188	44,578	43,776	43,072	42,075	40,809	39,491	39,156	--
Nine people or more	53,155	53,413	52,702	52,106	51,127	49,779	48,561	48,259	46,400

Source: U.S. Census Bureau 2016a

This study also considers poverty guidelines established by the federal HHS. Where the U.S. Census Bureau uses its *poverty thresholds* primarily for statistical purposes, the HHS uses *poverty guidelines* to determine eligibility for specific federal aid programs. For consistency, this study uses the HHS 2016 poverty guidelines, which are shown in Table 2.

Table 2: U.S. Department of Health and Human Services Poverty Guidelines

Number of People in Household	Poverty Guideline
1	\$11,880
2	\$16,020
3	\$20,160
4	\$24,300
5	\$28,440
6	\$32,580
7	\$36,730
8	\$40,890

Source: HHS 2016

4.2.2 Minority Populations

For the purpose of this study, a *minority person* is any person who is a member of any of the following population groups: American Indian, Alaska Native, Asian, Pacific Islander, Black, or Hispanic. Although the U.S. Census Bureau considers Hispanic (Latino) an ethnicity, not a race, a person of Hispanic or Latino descent is considered to be a minority.

This report generally uses the EO 12898 guidelines for identifying minority (see Section 3.1.1).

The potential Project-related effects on any identified environmental justice populations will be studied at a later date as part of an environmental review process.

5 BASELINE CHARACTERIZATION

5.1 General Description of Malheur County and Census Tracts in the Study Area

The Study Area includes Malheur County and incorporates census tracts 9702, 9703, 9704, 9705, 9706, 9707, 9709, and 9400. Census tracts 9702, 9703, and 9704 include portions of the City of Ontario. Census Tract 9705 includes the City of Nyssa and community of Cairo. Census

Tract 9706 includes the City of Vale and smaller communities of Willowcreek and Jamieson. The City of Adrian, and the communities of Kingman and Owyhee are included in Census Tract 9707. Census Tract 9709 encompasses the majority of the remainder of Malheur County, except for a small portion of the Fort McDermitt Indian Reservation (Census Tract 9400) at the southern border of the County that is shared with Nevada.

5.1.1 Malheur County

Malheur County is Oregon's second largest county in size at 9,930 square miles. The County is located in the southeastern corner of the State of Oregon and is crossed by two major rivers, the Snake River and the Malheur River. Ninety-four percent of the County is undeveloped rangeland, most of which is federally-owned and administered by the BLM. Developed areas along the Snake and Malheur rivers support agricultural production areas and agriculture-focused communities. In 2016, the population of Malheur County was approximately 31,705 (Portland State University [PSU] 2016).

5.1.1.1 Census Tracts 9702, 9703, and 9704

Census tracts 9702, 9703, and 9704 encompass the City of Ontario and outlying areas. Ontario is the most populous city in the Study Area with a 2016 estimated population of 11,027. Interstate 84 and U.S. Highway 20 (US 20) intersect in Ontario.

5.1.1.2 Census Tract 9705

Census Tract 9705 encompasses the City of Nyssa and the community of Cairo. Nyssa is an incorporated area that is approximately 23 miles northeast of the Mine and Process Area. Nyssa is located along the Snake River on the Oregon-Idaho border. Nyssa is located where Oregon Route 201 (OR 201), a north-south route that connects communities along the Snake River in this part of Oregon, and US 20 intersect. The City's proximity to the Snake River enables irrigated agricultural uses that surround the City. In 2016, the population of Nyssa was approximately 3,285 (PSU 2016). Cairo is a small unincorporated agricultural community along OR 201 that is just north of the intersection of US 20 on OR 201.

5.1.1.3 Census Tract 9706

The City of Vale is approximately 22 miles northeast of the Mine and Process Area and is the main access to the Access Road portion of the Permit Area. The City is surrounded by irrigated agricultural uses that are developed along the Malheur River. In 2016, the population of Vale was approximately 1,885 (PSU 2016). The Project's primary access route includes the sections of US 20 and US 26 that pass through Vale. Willowcreek and Jamieson are very small unincorporated agricultural communities along US 26.

5.1.1.4 Census Tract 9707

Adrian is a small incorporated city located on OR 201 approximately 15 miles east of the Mine and Process Area. This city's proximity to the Snake River enables irrigated agricultural development. In 2016, the population of Adrian was approximately 180 (PSU 2016). Adrian does

not have a direct road connection to the Study Area. Kingman and Owyhee are very small unincorporated agricultural communities along OR 201.

5.1.1.5 Census Tract 9709

Census tract 9709 includes the remainder of the County which includes primarily BLM-administered land and very small agricultural communities. Jordan Valley is the only incorporated city in this census tract. In 2016, the population of Jordan Valley was approximately 175.

5.1.1.6 Census Tract 9400

Census tract 9400 includes a portion of the Fort McDermitt Indian Reservation. This area is primarily rural. The majority of the tribal residents live in Fort McDermitt in Nevada. Census data are not taken within tribal boundaries; therefore, Census Tract 9400 data are not included in this report.

5.2 Race and Ethnicity of Populations in the Study Area

5.2.1 U.S. Census Bureau Data

Table 3 summarizes the information about race and ethnicity for the Study Area from the U.S. Census Bureau. The table includes data for Malheur County and Oregon as a whole for comparison. Malheur County is a very large geographic area and its statistics do not necessarily provide good measures of income and poverty for the Study Area.

Table 3: Race and Ethnicity for Oregon, Malheur County, and the Study Area

Race or Ethnicity	Percent of Population								
	Oregon	Malheur County	9702	9703	9704	9705	9706	9707	9709
Race									
White Alone	85.1	85.7	80.9	89.8	78.9	89.1	91.5	90.5	82.6
Black or African American Alone	1.8	1.2	0.4	0.8	0.6	1.4	0.2	0	3.7
American Indian and Alaska Native Alone	1.2	0.8	0.7	0.6	0.2	0.2	0.7	1.5	1.8
Asian Alone	4.0	1.6	2.5	1.7	1.5	1.2	0.9	2.3	1.8
Native Hawaiian and Other Pacific Islander Alone	0.4	0	0.2	0	0	0	0	0	0
Some other race alone	3.4	6.6	9.2	3.7	14.2	5.6	5.6	3.1	4.0
Two or more races	4.1	4.0	6	3.4	4.7	2.6	1.3	2.5	6.0
Ethnicity									
Hispanic or Latino (of any race)	12.3	32.7	37.1	30.8	49.9	48.3	20.9	14.4	18.0
Not Hispanic or Latino	87.7	67.3	62.9	69.2	50.1	51.7	79.1	85.6	82.0

Source: U.S. Census Bureau 2016b

The American Community Survey (U.S. Census Bureau 2016b) data show that people living in all geographies are predominantly white alone. The U.S. Census Bureau collects information about

Hispanic and Latino ethnicity separately from information about race. People of Hispanic or Latino origin might not feel like they belong in any of the race categories and thus identify with *some other race alone* or *two or more races*. Together these other categories comprise most of the racial minorities in the Study Area.

All the communities in the Study Area, except for Jordan Valley, have higher proportions of Hispanic or Latino residents when compared to the state as a whole. The cities of Vale and Adrian have lower proportions of Hispanic or Latino residents when compared to the entire County.

5.2.2 Other Information

The Oregon Department of Human Services (DHS), OHA, and OEI's jointly-prepared state of equity reports do not address Malheur County or the cities and towns within it specifically, but the State does publish information about diversity in Malheur County. DHS classifies areas for diversity and population based on U.S. Census Bureau information (Figure 4).

DHS considers the area around the more populated areas as having medium to high diversity. The undeveloped part around the Permit Area that is dominated by BLM-administered land does not support populations that could be affected by the Project (low diversity/low population).

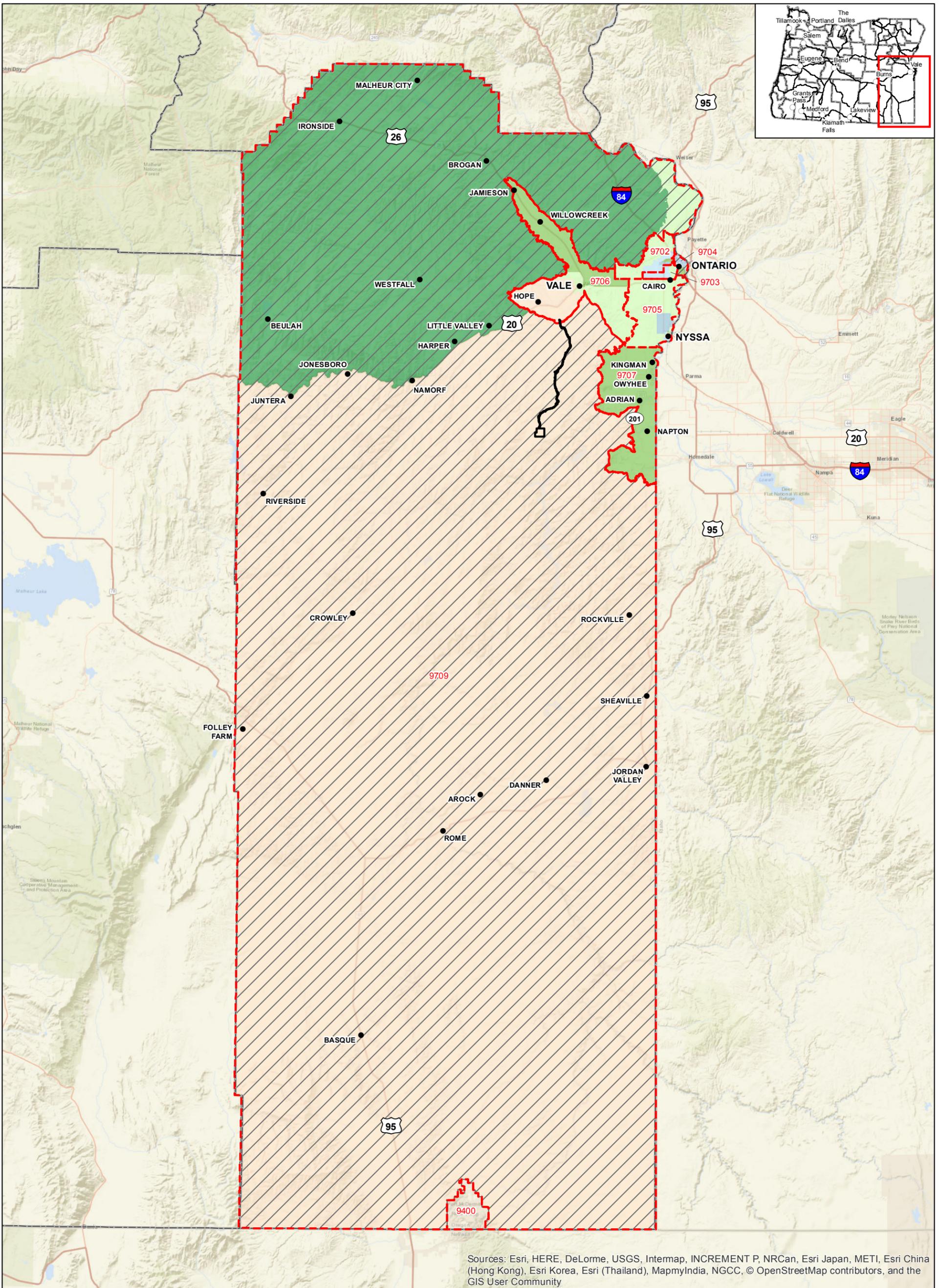
5.2.3 Summary for Minority Populations

Census data and information available from the state of Oregon indicate that there are minority populations living in Census Tract 9709, the tract that contains the Project, as well as in adjacent census tracts. Census Tract 9709 contains the largest percentage of Black or African American persons; however, Census Tract 9709 is also the largest tract by size in the Study Area, so the minority population could be spread throughout the Census Tract. The largest percentage of Asian persons live near the City of Ontario. Project outreach will need to ensure that minorities living in the Study Area are given appropriate opportunities to participate throughout the remainder of the Project development process.

5.3 Income of Populations in the Study Area

Table 4 summarizes the information about household income for the Study Area from the U.S. Census Bureau. The table includes data for Malheur County and Oregon as a whole for comparison.

Using the mean and median incomes for the Study Area shown in Table 4, the U.S. Census Bureau income data suggest that the mean and median incomes for the Study Area are above the U.S. Census Bureau poverty threshold for a five-person household (Table 1) and primarily above the HHS poverty guidelines (Table 2); however, the mean income in Census Tract 9704 is above the threshold for a six-person household, the median income in Census Tract 9703 is above the threshold for a six-person household, and the median income in Census Tract 9706 is above the threshold for a seven-person household.



- Explanation**
- Permit Area
 - Census Tracts
 - Malheur County (Study Area)
 - >25% of Census Tract Population at or below 100% FPL

- Low Diversity/Low Population
- Medium Diversity/Low Population
- Medium Diversity/Medium Population
- Medium Diversity/High Population
- High Diversity/Low Population
- High Diversity/Medium Population
- No Data

	Diversity Categories	Population Categories
Low	0.03 - 0.23	0 - 1,207
Medium	0.24 - 0.46	1,208 - 2,936
High	0.47 - 0.75	2,937 - 5,414

Projection: UTM Zone 11 North, NAD83, meters



CALICO RESOURCES USA CORP.
GRASSY MOUNTAIN MINE PROJECT
Diversity and Population
in the Study Area

Figure 4

Date: 02/20/2018	Drawn By: JDB
Revised:	Project No.: 3672
Base Map:	
File Name: 3672G_GrassyMtn_BL_EJ_Fig04_Diversity.mxd	



5.3.1 U.S. Census Bureau Data

Table 4: Income Summary for Oregon, Malheur County, and the Study Area

Income Type	Oregon	Malheur County	9702	9703	9704	9705	9706	9707	9709
Mean Income (dollars)	69,040	48,070	51,620	45,779	35,172	51,738	47,130	62,615	54,382
Median Income (dollars)	51,243	35,418	42,132	28,831	26,399	44,597	37,033	42,434	42,826
People with Earnings (percent of population)	75.6	71.6	67.4	61.7	70.7	78.3	72.9	73.6	81.7

Source: U.S. Census Bureau 2016c

Table 5 summarizes poverty information for the Study Area from the U.S. Census Bureau. The table includes data for Malheur County and Oregon as a whole for comparison. The average family size is from the U.S. 2010 Census, as there are no current data available.

Table 5: Poverty Summary for Oregon, Malheur County, and the Study Area

Income Type	Oregon	Malheur County	9702	9703	9704	9705	9706	9707	9709
Families									
Average Family Size (number of people)	3.0	3.24	3.13	3.03	3.60	3.52	3.17	3.09	2.93
Families Living in Poverty in the Last 12 Months (percent of population)	11.2	18.1	12.4	29.2	27.0	17.7	13.5	8.4	13.0
Individuals									
Average Household Size (number of people)	2.51	2.62	2.63	2.46	2.43	2.99	2.70	2.57	2.51
Individuals living in poverty in the last 12 months (percent of population)	16.5	25.5	25.2	31.9	36.2	24.4	21.4	11.8	15.4
People receiving Supplemental Security Income (SSI) (percent of population)	4.6	8.4	7.4	11.6	12.1	4.1	8.4	3.9	8.0
People Receiving Food Stamps in Last 12 Months (percent of population)	19.2	27.6	15.0	42.6	43.3	33.5	18.1	17.0	8.7

Source: U.S. Census Bureau 2010, 2016c, 2016d, 2016e

Table 6 summarizes employment information for the Study Area for persons living in poverty from the U.S. Census Bureau. The table includes data for Malheur County and Oregon as a whole for comparison.

Table 6: Employment Summary for People Living in Poverty in Oregon, Malheur County, and the Study Area

Employment Type	Oregon	Malheur County	9702	9703	9704	9705	9706	9707	9709
Individuals living in poverty in the last 12 months (percent of population for whom poverty status is determined)	16.5	25.5	25.2	31.9	36.2	24.4	21.4	11.8	15.4
Individuals who worked full time in last 12 months (percent of population in poverty)	3.1	7.6	10.3	6.3	7.8	8.5	2.9	4.3	11.5
Individuals who did not work in last 12 months (percent of population in poverty)	22.5	30.6	31.8	36.2	41.8	27.1	26.5	16.5	21.0

Source: U.S. Census Bureau 2016d

When compared to the State and County statistics, the Study Area shows the following:

- Mean and median incomes are lower than the State, and mean and median incomes are generally higher than the County, except for Census Tracts 9703 and 9704, and the mean income is lower in Census Tract 9706 than in the County;
- Fewer people have earnings in the Study Area versus the State, except for Census Tracts 9705 and 9709, and more people have earnings in the Study Area versus the County, except for Census Tracts 9702, 9703, and 9704;
- More people receive SSI when compared to the State, except for Census Tracts 9705 and 9707, and more people receive SSI when compared to the County except for Census Tracts 9702, 9705, and 9707;
- Fewer people received food stamps in the last 12 months than the State and County, except for Census Tracts 9703, 9704, and 9705;
- The rate for families living in poverty in the last 12 months is higher than the State except for Census Tract 9707, and the rate for families living in poverty in the last 12 months is lower than the County except for Census Tracts 9703 and 9704;

- The rate for individuals living in poverty in the last 12 months is higher than the State except Census Tracts 9707 and 9709, and the rate for individuals living in poverty in the last 12 months is lower than the County except for Census Tracts 9703 and 9704;
- The percentage of people who were in poverty but worked full time in the last 12 months is higher for the Study Area than the State except for Census Tract 9706, and the percentage of people who were in poverty and did not work in the last 12 months is also higher for the Study Area than the State except for Census Tracts 9707 and 9709.

5.3.2 Other Information about Low-Income Populations

In *High Poverty Hotspots –Malheur County*, the DHS identifies high poverty hotspots in Malheur County (DHS 2015). The state defines a high poverty hotspot as a Census tract or contiguous group of tracts with poverty rates of 20 percent or more for two consecutive measurements. The 2015 report measured poverty by evaluating the results of the U.S. Census Bureau’s American Community Surveys for 2009-2013 and 2008-2012 (DHS 2015).

The 2015 report considers U.S. Census Bureau, DHS, and Oregon Employment Department data. Two of the identified hotspots are located in and around Ontario, while the third hotspot is located in Vale. The three hotspots include Census Tracts 9703 (Southwest Ontario), 9704 (East Ontario), and 9706 (Vale) (Figure 5).

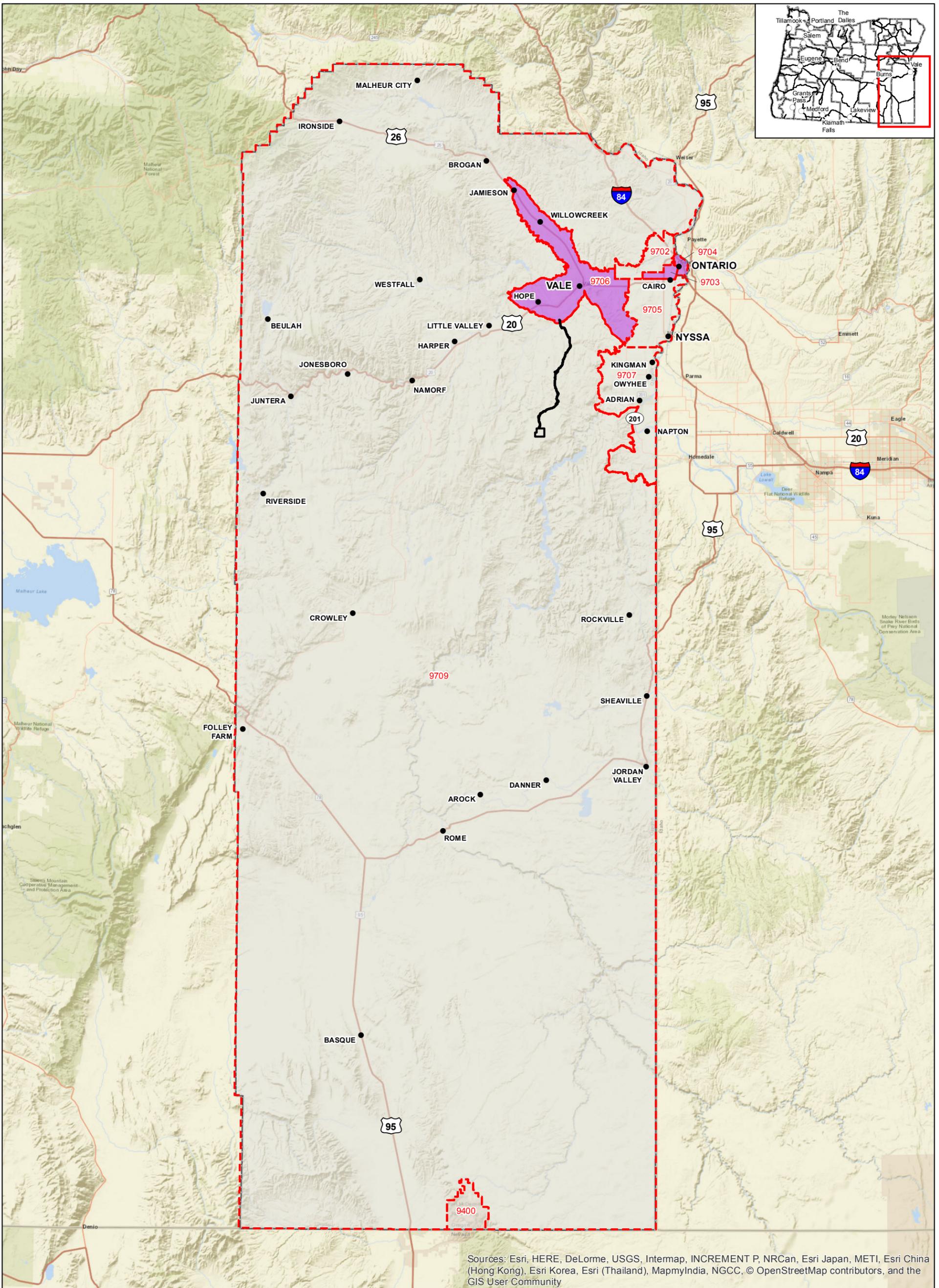
Medicaid and Children’s Health Insurance Program provide free or low-cost health coverage to Americans, including some low-income people, families and children, pregnant women, the elderly, and people with disabilities. Both programs are run jointly by federal and state governments. In Oregon, the programs are overseen by the OHA. OHA data for 2017 indicate a low Medicare/Medicaid participation rate in Malheur County. As of October 2017, 650 people were enrolled in the programs (OHA 2017). This equates to approximately two percent of the County’s population.

Figure 4 shows DHS information for populations living at or below 100 percent of the federal poverty level, based on population numbers from the 2010 U.S. Census.

The figure indicates that the area immediately surrounding Vale (which is in Census Tract 9706) does not have more than 25 percent of the population at or below 100 percent of the federal poverty level. The Census Tract to the south, 9709, covers a very large, mostly uninhabited area in the County. Due to the scale of Census Tract 9709, the poverty indication for that area is not a good measure of local poverty. Figure 4 also indicates that the towns of Owyhee and Kingman and the City of Nyssa do not have a large proportion of the Census tract populations for that area (Census Tracts 9705 and 9707) living at or below 100 percent of the federal poverty level.

5.3.3 Low-Income Summary

In general, the Census data suggest that the Study Area could support low-income populations. Mean and median incomes in the Study Area are the lowest in Census Tract 9704, which mainly encompasses the urban center of the City of Ontario. The proportions of families and individuals living in poverty are higher in the Census Tracts surrounding the City of Ontario than the rest of

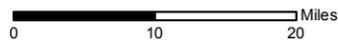


Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

- Explanation**
- Permit Area
 - Census Tracts
 - High Poverty Hotspot
 - Malheur County (Study Area)

CALICO RESOURCES USA CORP.
 GRASSY MOUNTAIN MINE PROJECT
 High Poverty Hotspots
 in the Study Area

Projection: UTM Zone 11 North, NAD83, meters



Date: 02/19/2018	Drawn By: JDB
Revised:	Project No.: 3672
Base Map:	
File Name: 3672G_GrassyMtn_BL_EJ_Fig05_Poverty.mxd	



Figure 5

the Study Area. The rate of individuals that did not work in the last 12 months is also highest in the City of Ontario.

5.4 Public Involvement to Date

Since the Project is in the pre-development stage, very little public outreach and involvement has occurred. Once Project details are more developed, the proponent will work with state and federal authorizing agencies to ensure that complete Project information is available to all residents regardless of race, ethnicity, or income, and to provide meaningful opportunities to comment.

As part of the state-led permitting process, the Grassy Mountain Project Coordinating Committee (PCC) and Technical Review Team (TRT) have held numerous public meetings on this Project since 2012. Based on the most recent Notice of Intent filed in February 2017 with a revised Permit Area, there have been two public TRT meetings held: June 8, 2017, in Ontario, Oregon; and June 14, 2017, in Bend, Oregon. There is another public TRT meeting scheduled for February 5, 2018. The PCC is comprised of federal, state, and local agencies, and Tribal nations, and the TRT is an interdisciplinary team of state agencies. The public is invited to attend the TRT meetings; however, public comments are not accepted.

6 BIBLIOGRAPHY

Bureau of Land Management (BLM). 2005. *Land Use Planning*. Manual MS-1601.

Council on Environmental Quality (CEQ). 1997. *Environmental Justice: Guidance Under the National Environmental Policy Act*. <https://ceq.doe.gov/docs/ceq-regulations-and-guidance/regs/ej/justice.pdf>. Accessed November 27, 2017.

Environmental Justice Task Force (EJTF). 2014. *2014 Annual Report*. <http://www.oregon.gov/gov/Documents/EJTF%20Meetings%20and%20Reports/2014%20EJTF%20Annual%20Report.pdf>. Accessed November 27, 2017.

HDR Engineering, Inc. (HDR). 2015. *Environmental Justice Baseline Study*. June 2015.

Legislative Administration Committee Services. 2007. *74th Oregon Legislative Assembly: 2007 Summary of Legislation*. December 2007. <https://www.oregonlegislature.gov/lpro/summleg/2007SummaryOfLegislation.pdf>. Accessed November 27, 2017.

Oregon Department of Environmental Quality (ODEQ). 1997. *Environmental Justice – Principles and Implementation*. <http://www.oregon.gov/deq/FilterDocs/DEQeJpolicy.pdf>. Accessed November 27, 2017.

Oregon Department of Health Services (DHS). 2015. Office of Forecasting, Research & Analysis. *High Poverty Hotspots – Malheur County*. <http://www.oregon.gov/dhs/business-services/ofra/Documents/High%20Poverty%20Hotspots%20Malheur.pdf>. Accessed November 29, 2017.

- Oregon Health Authority (OHA). 2017. *Medicare-Medicaid Enrollment, October 2017*. <http://www.oregon.gov/OHA/HSD/OHP/Pages/Reports.aspx>. Accessed November 29, 2017.
- Portland State University (PSU). 2016. *Certified Population Estimates 2016*. https://www.pdx.edu/prc/sites/www.pdx.edu.prc/files/2016_Cert_Pop_Est_Web_rev.xls. Accessed November 29, 2017.
- U.S. Census Bureau. 2010. *Households and Families: 2010*. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_SF1_QTP11&prodType=table. Accessed January 4, 2018.
- _____. 2013. *American Community Survey and Puerto Rico Community Survey 2013 Subject Definitions*. https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2013_ACSSubjectDefinitions.pdf. Accessed November 27, 2017.
- _____. 2016a. *Poverty Thresholds for 2016 by Size of Family and Number of Related Children Under 18 Years*. <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html>. Accessed November 27, 2017.
- _____. 2016b. *2011-2015 American Community Survey 5-Year Estimates: ACS Demographic and Housing Estimates*. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_DP05&prodType=table. Accessed November 28, 2017.
- _____. 2016c. *2011-2015 American Community Survey 5-Year Estimates: Selected Economic Characteristics*. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_DP03&prodType=table. Accessed November 28, 2017.
- _____. 2016d. *2011-2015 American Community Survey 5-Year Estimates: Poverty Status in the Past 12 Months*. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_S1701&prodType=table. Accessed November 29, 2017.
- _____. 2016e. *2011-2015 American Community Survey 5-Year Estimates: Average Household Size of Occupied Housing Units by Tenure*. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_B25010&prodType=table. Accessed November 29, 2017.
- U.S. Department of Health & Human Services (HHS). 2016. *Computations for the 2016 Poverty Guidelines*. <https://aspe.hhs.gov/computations-2016-poverty-guidelines>. Accessed November 27, 2017.
- U.S. Environmental Protection Agency (EPA). *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*. <https://www.epa.gov/sites/production/files/2015-06/documents/considering-ej-in-rulemaking-guide-final.pdf>. Accessed November 27, 2017.

7 CONTACTS

Richard DeLong
EM Strategies, Inc.
1650 Meadow Wood Lane
Reno, Nevada 89502
(775) 826-8822
rich@emstrats.com

8 LIST OF PREPARERS

EM Strategies, Inc.
Catherine Lee – Report Preparation
Jim Branch – GIS Figure Creation
Rich DeLong – Technical Review
Ellen Farley – Editorial Review