

# Grassy Mountain Gold Project

## Environmental Evaluation - Draft Outline

### EXECUTIVE SUMMARY

Brief description of the Applicant's proposed project and concise presentation of the results of the environmental evaluation (EE) including the Alternatives Analysis, Impact Analysis, and Cumulative Impact Analysis. This section will highlight key issues evaluated including identified mitigation measures and remaining unresolved or ongoing subjects (e.g., consultation). A master table may also be included that allows for a comparison of effects by alternative. The section will conclude with a collective findings decision or findings document rather than a record of decision.

### CHAPTER 1 INTRODUCTION

Introduction to the proposed project, structure and content of the EE, and description of the role of the EE in the consolidated permitting process.

#### 1.1 Project Overview

Overview of the Applicant's proposed project including ownership, project location and access, proposed operations, infrastructure, and reclamation/closure plans.

#### 1.2 Purpose of the Environmental Evaluation

Explanation of the purpose of the EE and an overview of the consolidated permitting process. This section will also include a description of the Project Coordinating Committee (PCC) and Technical Review Team (TRT), as well as their roles in the permitting process.

#### 1.3 Regulatory Frameworks Considered

Description of the regulatory framework of the evaluation and permitting process.

#### 1.4 Permits/Decisions to be issued by Agencies

Description of the regulatory permitting process, including public and agency meetings that are held. Includes a list of permits that would be required for development, operation, and reclamation of the proposed project.

### CHAPTER 2 PROJECT DESCRIPTION AND ALTERNATIVES

Discussion of the systematic procedure used to arrive at the preferred alternative in sufficient detail to allow agencies and the public to evaluate the comparative merits of each alternative, and rationale for elimination of alternatives. A review of the Best Available, Practicable, and Necessary Technology will also be described in this section.

#### 2.1 Project Description

##### 2.1.1 Site Preparation and Construction of Surface Facilities

##### 2.1.1.1 Site Preparation

- 2.1.1.2 *Growth Media Storage*
- 2.1.1.3 *Invasive Species Control*
- 2.1.1.4 *Borrow Areas*
- 2.1.1.5 *Construction of Surface Facilities*
- 2.1.2 *Underground Mining Methods*
- 2.1.3 *Waste Rock Storage*
- 2.1.4 *Run-of-mine (ROM) Ore Stockpile*
- 2.1.5 *Ore Processing*
  - 2.1.5.1 *Crushing, Grinding, and Classification*
  - 2.1.5.2 *Gravity Separation*
  - 2.1.5.3 *Carbon-in-leach (CIL) cyanide circuit (Reference International Cyanide Code Sections as applicable)*
  - 2.1.5.4 *Electrowinning Recovery*
  - 2.1.5.5 *Cyanide Detoxification*
- 2.1.6 *Electrical Power*
- 2.1.7 *Tailings Disposal and Storage*
- 2.1.8 *TSF Reclaim Pond*
- 2.1.9 *Water Management and Supply*
  - 2.1.9.1 *Water Needs*
  - 2.1.9.2 *Process Water*
  - 2.1.9.3 *Potable Water*
  - 2.1.9.4 *Fire Suppression Water*
  - 2.1.9.5 *Storm Water and Sediment Control Structures*
- 2.1.10 *Process Materials and Waste*
- 2.1.11 *Access and Haul Roads*
- 2.1.12 *Ancillary Facilities*
  - 2.1.12.1 *Maintenance Shop*
  - 2.1.12.2 *Warehouse*
  - 2.1.12.3 *Administration Buildings*
  - 2.1.12.4 *Security and Fencing*

- 2.1.13 Equipment and Schedule
- 2.1.14 Workforce
- 2.1.15 Closure and Reclamation
- 2.1.16 Financial Assurances and Bonding
- 2.1.17 Monitoring and Applicant-proposed Mitigation
  - 2.1.17.1 *Operations Monitoring*
  - 2.1.17.2 *Post-closure Monitoring*

## **2.2 Alternatives**

### 2.2.1 Methods of Analysis

Description of the procedure used to identify and evaluate alternatives.

### 2.2.2 Alternatives Considered

Description of the No Action alternative, the Applicant's proposed project, and alternatives identified.

#### *2.2.2.1 Alternative Locations for mine facilities*

Including heap leach pads, roads, impoundments, ponds, ore storage areas, and waste disposal areas

#### *2.2.2.2 Alternative Designs, Processes, Operations and Scheduling*

For mine facilities and operations including, heap leach pads, roads, impoundments, ponds, ore storage areas, and waste disposal areas. Chemical processing alternatives including gravity flotation (initial ore separation and truck transport to Nevada gold extraction facility), froth flotation, and others, as identified.

#### *2.2.2.3 Alternative Water Supplies*

#### *2.2.2.4 Alternative Power Supplies*

#### *2.2.2.5 Alternative Reclamation Procedures*

### 2.2.3 Alternatives Eliminated

Discussion of the alternatives that would not be feasible along with rationale for elimination based on previously described procedure.

### 2.2.4 Alternatives to Be Carried Through the Environmental Evaluation

Discussion of feasible alternatives that will be carried through the analysis of impacts to environmental resources in the EE.

## **CHAPTER 3 IMPACT ANALYSIS**

Description of the affected environment (existing conditions) for environmental resources, impacts from the proposed project, and alternatives focused on significant effects ("significant" will also be defined). This chapter will also analyze the causes and impacts of potential accidents supported by credible scientific evidence, including catastrophic consequences (even if the probability of occurrence is low). Each resource discussion would include the following sub-sections:

### **3.1 Environmental Resources**

The resources (Division 37) that will be analyzed in the EE include, but may not be limited to: Vegetation; Soil/overburden; Climate/air quality; Fish, fish habitat and aquatic biology; Wildlife and wildlife habitat; State or federally listed threatened or endangered species and habitat and state sensitive species and habitat; Surface and groundwater; Seismicity; Geology and geologic hazards; Mineralogy and chemistry; Noise; Existing land use and land use designations; Cultural/historical resources; Archaeological resources; Socioeconomic conditions; State scenic waterways, and federal wild, scenic or recreational rivers; Special natural areas including areas designated as areas of critical environmental , research natural areas, outstanding natural areas, and areas designated by the Oregon Natural Heritage Plan. Potential effects on climate change will also be evaluated.

For each resource, the following sub-sections would be provided.

3.1.1 Regulatory Context

3.1.2 Method of Analysis

3.1.3 Affected Environment

3.1.4 Impact Analysis

3.1.4.1 *No Action Alternative*

3.1.4.2 *Preferred Action Alternative*

3.1.4.3 *Alternative A*

## CHAPTER 4 CUMULATIVE IMPACT ANALYSIS

The scope of the cumulative impact analysis will be determined by the TRT in consideration of the alternatives developed, the environmental impacts from the proposed project, and the physical dimension of the proposed mining operation.

### 4.1 Introduction

Explanation of a cumulative impact analysis and the types of actions that are considered in the analysis, including similar actions, connected actions, and separate actions.

### 4.2 Scope of Cumulative Impact Analysis

Description of the area studied and timing considerations of potential effects.

### 4.3 Identification of Cumulative Actions and Projects

Identification of projects and actions to be assessed in the cumulative impacts analysis.

### 4.4 Cumulative Impacts Assessment

Presentation of the results of the cumulative impact assessment including discussion of potential cumulative effects to the same environmental resources evaluated in Chapter 3 in table format.

## CHAPTER 5 MITIGATION

Discussion of mitigation measures identified by the TRT in addition to regulatory standards and requirements (e.g., wildlife mitigation), and in addition to Applicant-proposed measures (e.g., BMPs) that are part of the proposed project. A discussion of financial assurance requirements will also be

included in this section.

## **CHAPTER 6 REFERENCES**

Includes a list of all documents used in the development of the EE. All references will be provided as part of the project administrative record in PDF format.

## **APPENDIX A CYANIDE CHEMISTRY**

Review of general cyanide chemistry, application in gold mining, specific role for Project, fate and transport, ecological and human health risk, toxicity, standards and practices required by Nevada and Arizona for use in chemical process mining. This material will be presented exclusively in this technical appendix or also provided as a brief summary in the body of the EE report.

## **Appendix B ANALYSIS OF CREDIBLE ACCIDENTS**

Potential Accidents would include discussion of potential releases of contaminants into the environment as a result of the mine operation or closure; precipitation events and other natural events such as earthquakes that exceed the design standards of the mine facilities; human error; fire; unplanned detonation of explosives; and equipment failures. Address unintentional inhalation of potentially contaminated air at TSF. Incorporate Tetra Tech's findings regarding review of the TSF design or include as separate appendix.