



Grassy Mountain Gold Project

Environmental Evaluation and Socioeconomics Assessment

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Cardno's Role on Grassy Mountain Gold

- Provide technical and communication support to DOGAMI and the Technical Review Team (TRT) throughout the permit application process.
- Assist DOGAMI and the TRT with the identification of feasible alternatives to the proposed project.
- Prepare the Environmental Evaluation (EE) to determine impacts of the proposed project and alternatives to environmental resources in the project vicinity.
- Prepare the Socioeconomics and Environmental Justice reports that identify and describe the positive and negative impacts of the proposed project and alternatives.

Environmental Evaluation (EE)

Compliance with Oregon regulatory requirements (ORS 517.979 and OAR 632-037-0085)

The purpose of an EE shall be to:

- *“...address specific impacts of a mining operation in order to allow affected agencies to make decisions on whether to issue or deny a permit and develop permit conditions.”*
- *“...provide full and fair discussion of significant environmental impacts and shall inform decision makers and the public of reasonable alternatives that would avoid or minimize adverse impacts and/or enhance the quality of the human and natural environment.”*
- *“...focus on significant environmental issues and alternatives.”*

EE - Scope

Scope of the EE to be determined by the TRT following consultation with the PCC and engagement with the Public.

The EE will contain:

- **Existing Conditions (or Affected Environment)**
 - Summary of baseline data reports
- **Alternatives Analysis**
 - Each alternative (Proposed Action, No Action, etc.) thoroughly evaluated for comparison
- **Impact Analysis**
 - Potential causes and impacts of proposed action and credible accidents on the environment (including social resources)
- **Cumulative Impact Analysis**
 - Total cumulative impact resulting from incremental impact of Proposed Action
- **Mitigation**

EE – Preliminary Draft Outline

Executive Summary

Chapter 1 - Introduction

- Project description
- EE purpose
- Regulatory framework
- Agency permits and decisions

Chapter 2 – Project Description and Alternatives

- Calico's proposed project
- Alternatives analysis:
 - Identification of project alternatives being considered
 - Consideration and elimination of infeasible alternatives
 - Identification of alternatives being carried through the impact analysis

EE – Preliminary Draft Outline

Chapter 3 – Impact Analysis

- Existing conditions for environmental resources listed in DOGAMI rules Division 37 Consolidated Permitting of Mining Operations
- Impacts from proposed action and alternatives

Chapter 4 – Cumulative Impact Analysis

- Identification of other mine claim projects and actions with TRT
- Potential cumulative effects

Chapter 5 – Mitigation

- Mitigation measures identified by the TRT in addition to regulatory standards and requirements and Calico-sponsored measures

Chapter 6 – References

EE – Preliminary Draft Outline

Technical Appendices

➤ Cyanide Chemistry

- General chemistry
- Application in gold mining and specific role for Proposed Action
- Fate and transport
- Human health and ecological toxicity and risk

➤ Credible Accidents

- Unanticipated releases of cyanide
- Natural events including earthquakes (exceed design standards)
- Human error
- Extreme weather, fire, etc.

Socioeconomics Report - Scope

Scope to be determined by the TRT following consultation with the PCC and engagement with the Public.

Socioeconomics and Environmental Justice report will contain:

Chapter 1 - Introduction

- Geographic and temporal scope, data sources, technical approach

Chapter 2 – Demographic and Economic Baseline Profile

- Population, race and ethnicity, housing, public safety, regional economy (economic setting, income and poverty, education and employment, etc.)
- Environmental Justice (race, ethnicity, minority communities, poverty and low income communities, tribal communities, traditionally underrepresented communities, other sensitive populations)

Socioeconomics Report - Scope

Chapter 3 – Impacts and Mitigation Measures

- Employment and income
- Population
- Housing
- Public revenue
- Public safety
- Community facilities services

Chapter 4 – References

Stakeholder Interviews

Purpose: solicit stakeholder input on issues to be included in scoping process for EE and Socioeconomic analysis. Note – information has not yet been integrated into EE and Socioeconomics scopes

- Stakeholders with knowledge of Malheur County and some awareness of Grassy Mountain proposal
- Local officials; legislative representatives; community leaders; conservation and economic interest groups; federal officials in area
- All interviews, which began in August, have been conducted
- Project familiarity varies considerably from general awareness to more informed knowledge of proposed operations

Stakeholder Interviews

Initial Environmental Issues raised by stakeholders:

- Water resources; quality, quantity, and management
- Cyanide management and technology (informs evaluation of *Best Available, Practicable, and Necessary Technology* standards)
- Wildlife impacts; particularly understanding of sage grouse habitat, location, protection, and mitigation
- Wildfire and air quality risks
- Mine restoration and long-term monitoring

Stakeholder Interviews

Initial Socioeconomic Issues raised by stakeholders:

- Project implications for local government services
- Direct and indirect economic benefits and effects (jobs, wages, local revenues, stimulation of secondary business activity, etc.)
- Transportation infrastructure and worker housing needs
- Potential for “boom and bust” cycle effects on local infrastructure and investment
- Emergency response plans (all kinds)

Thank you

For more information

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