

3.0 Affected Environment and Environmental Consequences

3.1 Introduction and General Setting

This chapter describes the environment that would be affected by the development of the Proposed Action and alternatives. It includes a description of the past, present, and reasonably foreseeable future actions (RFFAs) that may result in cumulative impacts with the Proposed Action or alternatives.

The baseline information summarized in this chapter was obtained from published and unpublished materials; discussions with local, state, and federal agencies; field and laboratory studies conducted in the project area; and on-site experience with mining and reclamation. The affected environment for individual resources was delineated based on the area of potential direct and indirect environmental impacts for the proposed project. For resources such as soils and vegetation, the affected area was determined to be the physical location and immediate vicinity of the areas to be disturbed by the proposed project. For other resources such as water quality, air quality, wildlife, social and economic values, and the transport of hazardous materials, the environmental impact analysis spans a larger area, as described in each resource section (e.g., airshed, watershed, local communities, etc.).

This chapter also describes the anticipated direct and indirect impacts of the Proposed Action and the alternatives as well as potential cumulative impacts. The analysis of potential impacts from the Proposed Action assumed the implementation of the Applicant-committed environmental protection measures (Section 2.4.9) that would be implemented in association with the proposed project. Potential monitoring and mitigation developed in response to anticipated impacts are recommended for individual resources, and are discussed at the end of each resource section. This chapter also identifies residual impacts, which are the impacts that would remain after mitigation measures have been implemented.

The proposed project may result in cumulative effects associated with other past and present actions and RFFAs in the area. For resources where project-specific impacts are identified, the cumulative effects associated with the proposed project were evaluated together with other past and present actions and RFFAs. The period of potential cumulative impact is defined as the 20-year operational life of the project followed by up to 3 years for final reclamation and closure. The cumulative effects analysis for each resource addressed the potential cumulative effects within resource-specific cumulative effects study areas (CESAs).

The project area (Proposed Action) is the region encompassed by the project boundary and is defined by the Proposed Action (also referred to as the proposed project), which includes the core area for mining and exploration, electric power transmission line (transmission line) analysis area, and the Ivanhoe Road (**Figure 2-11**). The study area is the area assessed for direct and indirect impacts and is defined individually for each resource, and may or may not be the same as the project area. The study area is defined as the region where direct and indirect impacts would occur for a specific resource as a result of the Proposed Action. Direct and indirect impacts would occur within the project area for most affected resources; some indirect impacts may affect the adjacent or immediate area surrounding the project area.

The CESA also is defined individually for each resource, and typically includes a larger area than the study area assessed for direct and indirect impacts. Project region is defined as an area larger than the CESA and is a more generalized area without specific boundaries.

The ore produced from the proposed Hollister Mine would be processed off-site by third parties at the Esmeralda Mill and/or the Midas Mill (see Section 2.3, Third-party Processing Facilities, and Section 3.1.2, General Setting – Third-party Processing). The resources applicable to the mill sites are

different from the resources assessed for impacts at the proposed Hollister Mine. Because the additional ore processing would be within the permitted ore processing capacities of the facilities in the ordinary course of operation, and no additional facilities or new processes are contemplated as part of the Proposed Action, impacts associated with off-site milling are generally limited to impacts caused by transportation and the incremental impact of ores being processed at these facilities. These could include impacts to the following resources: Land Use and Access and Air Quality. Therefore, the ore processing impacts are only discussed in those sections.

This chapter is organized by environmental resource after Section 3.1, Introduction and General Setting, and Section 3.2, Past, Present, and Reasonably Foreseeable Future Actions. Sections 3.3 through 3.24 describe the existing conditions and potential environmental impacts associated with each resource. Subsections for each resource include:

- Affected Environment
- Environmental Consequences
- Cumulative Impacts
- Potential Monitoring and Mitigation Measures
- Residual Impacts

Energy requirements and climate change for the Proposed Action and alternatives are provided in Section 3.25. The short-term use of the environment relative to the long-term productivity of resources is discussed in Section 3.26. Short-term is defined as the life of the project operations or less (proposed plan is 20 years plus up to 3 years for final reclamation and closure); long-term impacts are defined as impacts that would continue post-reclamation. The irreversible or irretrievable commitment of resources is described in Section 3.27.

For the purpose of the environmental impact statement, the Hatter production shaft, ramp, or raise are collectively referred to as the HPS. Under the Proposed Action, the production shaft was quantitatively assessed for potential impacts because it is taller and would cause the most visual impact and greatest surface disturbance. Alternatively, the construction of either a raise or ramp would be less visible and would result in less surface disturbance.

3.1.1 General Setting – Hollister Mine

The Hollister Mine is located in northern Nevada in the northern portion of the Great Basin. The surrounding terrain consists of moderately dissected uplands immediately north and west of the junction of the Sheep Creek Range and the Santa Renia Mountains within the Rock Creek Valley Watershed Subbasin (**Figure 3.1-1**). This region is characterized by extensive valleys located between the Tuscarora Mountain Range to the east, Antelope Creek to the south, and the Sheep Creek Range to the southwest. Little Antelope Creek, an intermittent tributary of Antelope Creek, bisects the project area and drains a portion of the Rock Creek Valley Watershed. Elevations in the project area range from approximately 5,300 feet to 6,500 feet above mean sea level (amsl). The climate is marked by extreme weather conditions characterized as arid and accompanied by temperatures ranging from -20 degrees Fahrenheit (°F) to more than 100°F. Overall precipitation averages approximately 10 inches a year, with erratic rainfall patterns that tend to be localized.

3.1.2 General Setting – Third-party Processing

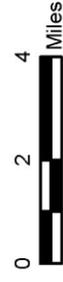
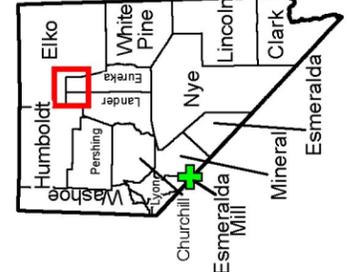
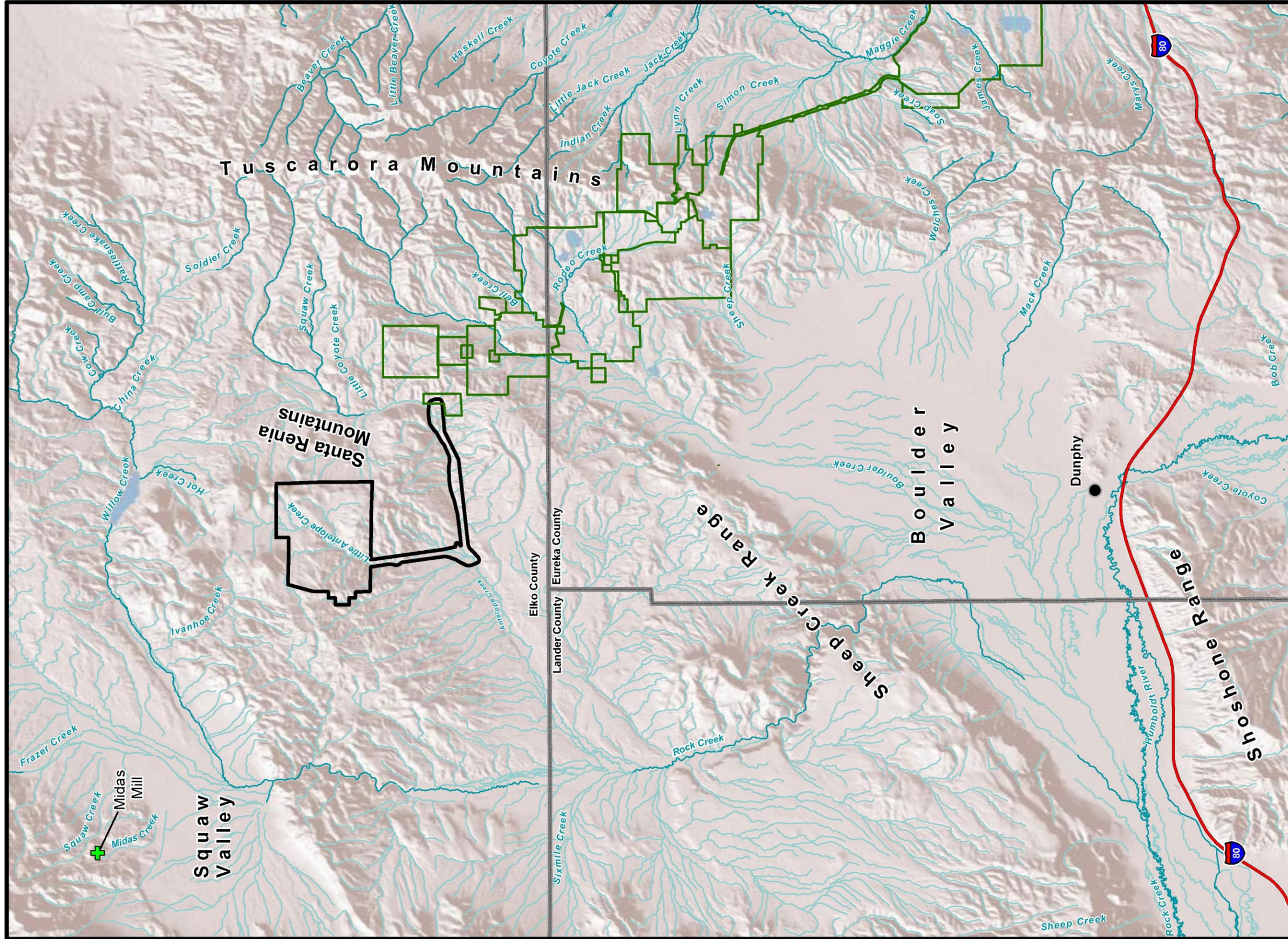
Esmeralda Mill

The Esmeralda Mill is located in Mineral County, Nevada, approximately 22 miles southwest of the Town of Hawthorne, in the historic Aurora Mining District (**Figure 3.1-1**). The Esmeralda Mill encompasses

both private and federal lands, with the federal land administered by the United States Forest Service, Humboldt-Toiyabe National Forest through the Bridgeport Ranger District. Elevations at the site range from 7,000 to 7,200 feet amsl. The Wassuk Mountain Range is on the west, and the Gillis Range is to the northwest of the site. These two mountain ranges, along with the Sierra Nevada and Garfield Hills, provide a temperate climate. Average temperatures typically range from 30 to 80°F; average yearly precipitation is 4.6 inches (Mineral County Chamber 2010).

Midas Mill

The Midas Mill is located 20 miles from the Hollister Mine, also in northern Nevada in the northern portion of the Great Basin (**Figure 3.1-1**). The mine site is bordered on the north by Squaw Creek and the south by Midas Creek. Elevations in the project area range from approximately 5,240 feet to 6,250 feet amsl. Like the Hollister Site, the climate is marked by extreme weather conditions characterized as arid and accompanied by temperatures ranging from -20°F to more than 100°F. Precipitation averages 10 inches a year, with erratic rainfall patterns that tend to be localized.



- Legend**
- Project Area Boundary
 - Other Mine Plan Boundaries
 - Midas Mill
 - Esmeralda Mill (see inset map)
 - Interstate 80
 - Perennial Stream
 - Intermittent Stream
 - County Line

Source: BLM 2010d,e.

Hollister Underground Mine Project EIS

Figure 3.1-1
General Setting