3.22 Visual Resources

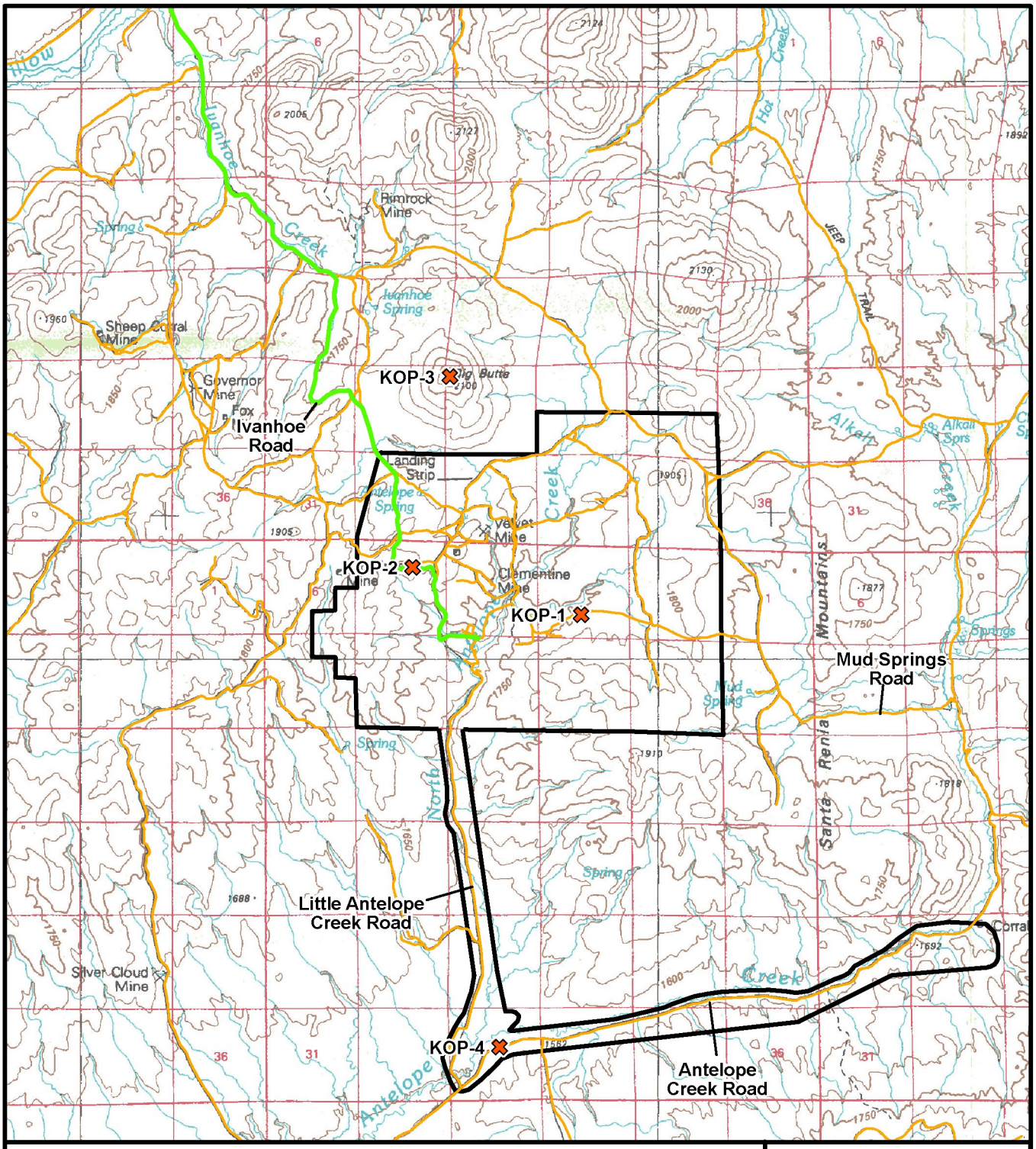
The visual resources study area for direct and indirect impacts encompasses the project area as seen from the four key observation points (KOPs) identified for the proposed project (**Figure 3.22-1**). KOP selection is based on the standard Visual Resource Management (VRM) system requirements for public viewing locations with immediate visibility of the project. The study area and cumulative effects study area (CESA) are based upon the viewshed of the proposed project (**Figure 3.22-2**). Past, present, and reasonably foreseeable future actions (RFFAs) are summarized in Section 3.2.

The Bureau of Land Management (BLM) is responsible for identifying and protecting scenic values on public lands under several provisions of the Federal Land Policy and Management Act of 1976 and the National Environmental Policy Act. The BLM VRM system was developed to facilitate that responsibility in a systematic interdisciplinary manner. The VRM system includes an inventory process based on scenic quality, viewer sensitivity to visual change, and viewing distances, which leads to classification of public lands and assignment of visual management objectives. The four VRM classes serve to document the relative value of existing visual resources, to describe visual management objectives for land use planning, and establish thresholds for allowable change to the visual environment. The management objectives of the VRM classes are described in **Table 3.22-1**.

Table 3.22-1 BLM Visual Resource Management Class Objectives

Class I Objective	The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.
Class II Objective	The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic (design) elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
Class III Objective	The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
Class IV Objective	The objective of this class is to provide for management activities, which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic (design) elements.

Source: BLM 1986b.



Legend

- Project Area Boundary
- Key Observation Point
- Existing Roads
- Ivanhoe Road

Note: Entire map area is designated Class IV for Visual Resource Modeling.

Source: BLM 2010k.

N

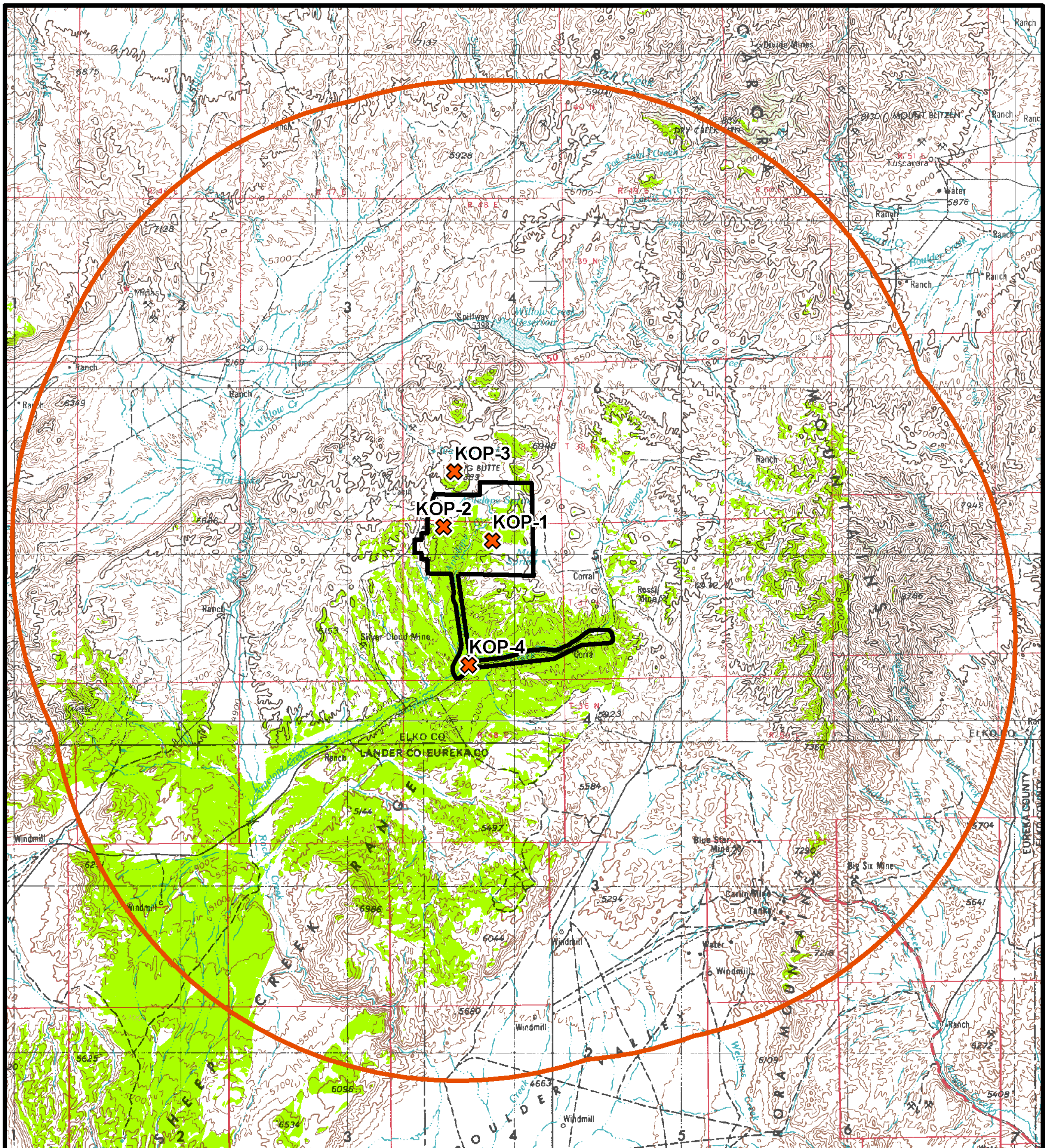
0 1 2 Miles

Hollister Underground Mine Project EIS

Figure 3.22-1

Visual Resources Study Area

3/20/2012



Legend

- Key Observation Point
- Project Area Boundary
- Not Visible
- Visible
- 15 Mile Buffer and CESA Boundary

N

0 2.5 5 Miles

Hollister Underground Mine Project EIS

Figure 3.22-2

Viewshed Area for the Study Area and Cumulative Effects Study Area

08/17/2011

The VRM system also includes a “contrast rating” procedure for evaluating the potential visual effects of a proposed project or management activity. The VRM system was used to evaluate the visual impact of the proposed project as well as the potential cumulative visual effects of the proposed project in the context of other activities that have taken place or may take place in the area in the reasonably foreseeable future.

3.22.1 Affected Environment

The extent of the viewshed is based upon an approximately 15-mile-limit of visibility. Beyond 15 miles, it becomes difficult to distinguish specific features in the landscape. The viewshed for the proposed project contains the area within the general triangle formed by Big Butte, Santa Renia Mountains, and Sheep Creek Range (**Figure 3.22-2**). Landscape characteristics contributing to the inventory process for the proposed project are described below, followed by VRM class designations for the visual area of influence (**Figure 3.22-3**).

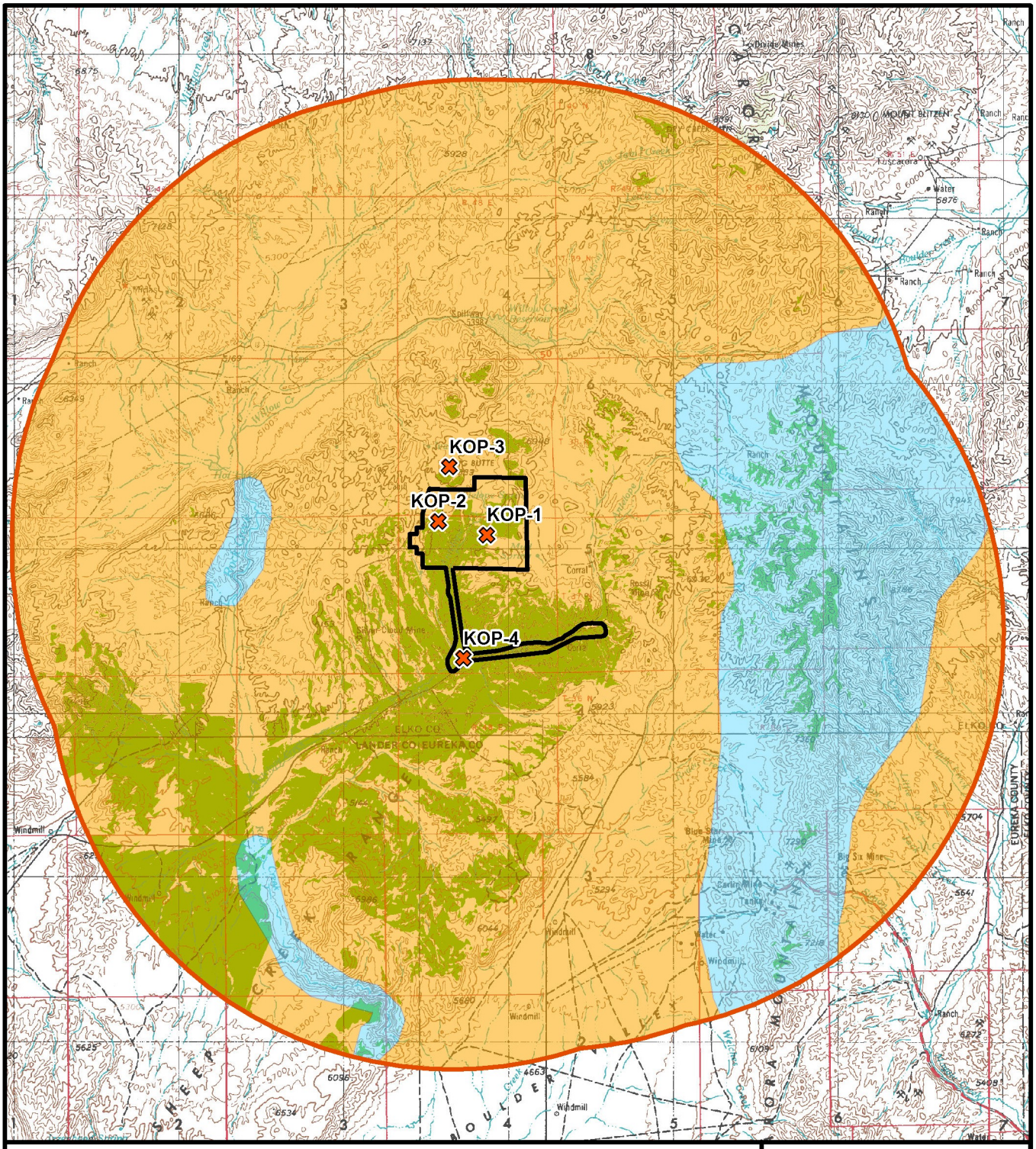
The proposed project is located in the Basin and Range physiographic province as defined by Fenneman (1931). The province is characterized by alternating valleys and low mountain ridges common to northern Nevada. Topography within the project vicinity is rounded, angular, and irregular. The prominent landform in the project vicinity is Big Butte, a Native American Traditional Cultural Property (TCP) from the 5,600-foot elevation contour and above. The lower end of Antelope Creek is at an elevation of approximately 5,100 feet, while the upper end near the proposed electric power transmission line (transmission line) origin is approximately 5,280 feet. The high points to the southeast of the project area are approximately 6,300 feet. The Sheep Creek Range reaches approximately 5,700 feet elevation, dropping gradually to the north and south.

Native soils are light beige to pale whitish gray with rock outcrops adding generally muted browns, oranges, and some mauve to purple hues. Vegetation in the project area tends to be sparse and dominated by small- to medium-sized mixed shrubs. Vegetation colors range from silvery gray-green to light and medium olive. Grasses are short and typically sparse, reflecting the desert conditions of the region. Somewhat brighter greens are evident for periods in the spring with beige, tans, and muted gold during the drier and colder months.

Color differences, though generally not sharply contrasting, can be easily distinguished at ranges of less than 1 mile, especially with early morning or late afternoon sun at the viewer's back. Colors blend together and become very subtle or undistinguishable at greater distances and under different light conditions, such as high mid-day sun or the light haze often seen in this part of Nevada.

The proposed project is located in a region that has been mined for over a century. The nearest historic mines are Clementine Mine, Old Timer Mine, Butte 1 and 2, and Velvet Mine, all less than 1 mile away. The Santa Renia Mountains to the east contain numerous exploration roads; some of which have been reclaimed. Other active mines are located in the Tuscarora Mountains located south-southeast of the project area.

Views in the vicinity of the proposed Hollister Mine include legacy mining landforms from historical surface mining operations. The East and West pits and current operations exhibit strong color contrast with the natural surroundings and moderate to strong line, landform, and surface texture contrast. The darker colors of the existing Rodeo Creek Gold Inc (RCG) waste rock storage facility (WRSF) stand out from the natural background in conditions of direct sunlight. They produce less contrast in overcast sky conditions when the light angle or intensity does not emphasize the color differences between introduced and natural vegetation and soils. The reclaimed leach pad and Newmont reclaimed WRSFs appear as regular, geometric shaped mounds, predominantly horizontal in character. They generally are smoother textured than the surrounding landscape.



Legend

- Key Observation Point
- Project Area Boundary
- 15 Mile Buffer and CESA Boundary

VRM Class

- III - Visible
- IV - Visible
- III - Not Visible
- IV - Not Visible

N

0 2.5 5 Miles

Sources: BLM 1987

Hollister Underground Mine Project EIS

Figure 3.22-3

VRM Classes for the Study Area and Cumulative Effects Study Area

3/12/2012

Areas that have been reclaimed show substantial mitigating effects that the reclamation has had on the visual environment. The irregular softening and rounding of the slopes is more like the natural terrain of the foothills than the angle of repose from dumping on the existing RCG WRSF. This reclamation reduces the landform and line contrast to a relatively low level. Although shrub growth has not yet reached a level to mimic the vegetation of the surrounding valley, and the grasses are characteristically sparse, this early stage of revegetation substantially reduces the color contrast.

Structures in the visual analysis area are geometric in form and limited mainly to mining structures. There also are a few fence lines and a 345-kilovolt (kV) transmission line traversing the area. The fences and utility line have both a linear and structural character in the large, open landscape. Road scars are prominent linear man-made features in the study area, most apparent in the valleys and side slopes. The existing 345-kV transmission line is constructed of metal galvanized single pole framework. The proposed 120-kV transmission line would be located parallel to the existing 345-kV transmission line and constructed in an H-frame or double wood pole structures and shorter in height than the higher voltage line. The proposed 24.9-kV transmission line located along Little Antelope Creek would be constructed of a single wood pole with two crossbar structures.

The project vicinity is visible from Big Butte and the Mud Springs, Antelope Creek, and Little Antelope Creek roads. None of these roads are highly traveled.

The BLM established one VRM class in the study area, VRM Class IV, based on the Elko Resource Management Plan Visual Resource Management Classes (BLM 1987). The management objectives for this class are described in **Table 3.22-1**. In the CESA, there are areas designated Class III and Class IV. The Visual Resource Inventory for the Elko District is in progress.

3.22.2 Environmental Consequences

Potential visual impacts associated with the proposed project were analyzed using the procedures outlined in the BLM Visual Resource Inventory Handbook H-8410-1 (BLM 1986b). Visual impacts were determined by comparing visual contrast ratings for the proposed project facilities with the VRM class objective (**Table 3.22-1**) for the project study area, VRM Class IV. The process involves comparing the degree of visual contrast from the proposed facilities and activities with the existing landscape character both during active mining and after reclamation is completed. The contrast rating process used four KOPs (**Figure 3.22-1**) as the viewpoints for conducting the impact analysis.

KOP-1, located on Mud Springs Road, was selected to represent the view for travelers approaching from the east. KOP-2 is located on the Ivanhoe Road and represents the view for travelers approaching from the northwest. KOP-3, located at the top of Big Butte approximately 2 miles north of the Hollister Site, is different than the other three KOPs in that it represents a sensitive, but infrequently used, viewpoint. Native Americans consider Big Butte to be a sacred site and it is a known TCP. KOP-4, located on the Antelope Creek Road, represents the view for travelers approaching from the southwest in the vicinity of the proposed Rodeo Creek Substation and transmission lines. All of the approach routes are lightly traveled, and are the only improved routes to and through the area. Most traffic in the area is generated by local mineral development or ranching activity. However, there also is some traffic associated with recreational hunting and camping activities.

3.22.2.1 Proposed Action

Development of the proposed project would expand the amount of visual contrast that currently exists between existing and previously approved exploration-related facilities and the natural character of the landscape. The primary change in visual effects from the currently approved levels would be the addition of the proposed Hatter production shaft, raise, or ramp, new mine facilities buildings, and the transmission lines and Rodeo Creek Substation. For the purposes of this visual analysis, the production shaft was analyzed for potential impacts because it is taller and would cause the most

visual impact and greatest surface disturbance compared with a ramp or raise. The proposed project also would extend visual effects through the use of the area and proposed mining activity. As noted in Section 3.22.1, Affected Environment, prior to completion of reclamation, the existing mine features exhibit strong color contrast, especially under bright, clear light conditions. In addition, there are moderate to strong line and landform contrasts generated to a large extent by the shapes of the existing RCG WRSF. Finally, there is moderate texture contrast between the bare surfaces of the mine features and the vegetation textures and patterns in the natural landscape. The proposed project primarily would expand the visual effects in the vicinity of the existing mine area, and would be most prominent during active mining. The visual contrast effects gradually would become less prominent with reclamation.

Under the Proposed Action, the West Pit would be partially backfilled with waste rock and reclaimed. Reclamation of the West Pit WRSF would result in reduced visual contrast effects compared with the visual effects of the existing West Pit.

The proposed facilities would have visual characteristics during active mining that would be similar to existing facilities, notably a geometric form and exposed earth surfaces. As a result, the proposed project would have similar, but expanded, visual effects to those already occurring from the existing facilities, including moderate color contrast, weak to moderate line contrast, and weak texture contrast. The key considerations, therefore, are the degree of expansion of the visual impacts, and the amount of contrast permissible under the VRM Class IV objective.

Visual contrasts from the proposed project would be greatest at KOP-1 and KOP-2. The existing disturbance in the vicinity of the proposed production shaft has been successfully reclaimed and revegetated. The proposed production shaft would rise approximately 120 feet above the ground, and the mine office complex buildings would be approximately 40 feet tall. Lighting used to facilitate around-the-clock mining would increase the visual contrast at night. All of the area proposed for disturbance is rated VRM Class IV. The objective for Class IV states, “the level of change to the characteristic landscape can be high.” Due to the scale of the structure, and the weak color contrast combined with moderate to strong line contrast, it is expected that the proposed production shaft would achieve the requisite level of landscape change in the short term, during active mining. **Figure 3.22-4** illustrates a simulation of the visual effects as seen from KOP-1.

The proposed mine office complex on the western side of the mine area would be constructed on previously disturbed land. The visual effects would be relatively minor, because the complex size is small and would be seen as extensions of the existing and previously approved activities. In addition, as described in Section 2.4.9, Applicant-committed Environmental Protection Measures, structures at the Hollister Mine would be painted in colors that match the natural surroundings. The mine office complex is behind a ridge and is not visible from KOP-2 (**Figure 3.22-5**). The proposed production shaft would be partially seen from view from KOP-2. **Figure 3.22-6** illustrates a simulation of the visual effects as seen from KOP-2.

Recent past and on-going reclamation efforts have been effective at mimicking natural landforms in the project vicinity. The same reclamation standards would be implemented for the proposed project. As a result, it would be expected that the visual contrasts from proposed facilities would be reduced after reclamation. As a result, the residual visual effects (as seen from KOP-1) would be expected to achieve the VRM Class IV objective.

The proposed project would be visible from KOP-2; however, the effects would be less visually dominant than from KOP-1. Upper portions of the proposed facilities would be screened from view at this KOP by existing terrain. With this degree of screening, it is anticipated that the visual contrast effects at KOP-2 would be moderate even during the peak of active mining. As a result, the VRM Class IV objective would be met from this viewpoint. After completion of reclamation, it is anticipated that the visual contrast would be reduced to low levels.

The majority of the proposed project facilities would not be visible from KOP-3, because the land slopes away from viewers. The most prominent feature that would be visible would be the proposed production shaft, which would be slightly over 2 miles from the KOP and would rise approximately 120 feet above the natural ground surface. Other facilities would be entirely screened by intervening terrain. **Figures 3.22-7** and **3.22-8** illustrate simulations of the daytime and nighttime visual effects as seen from KOP-3 during daytime and nighttime, respectively. Given the terrain and existing facilities located in the East Pit, visual impacts during daytime and nighttime would be minor. The weak color contrast facility would achieve the Class IV objective during its active life. After successful completion of reclamation, it would comply with the objective in the long term.

The top of Big Butte is the highest point in the immediate vicinity. From this perspective, a viewer would be able to experience broad vistas of north-central Nevada. The proposed facilities would not dominate the viewer's attention and the existing, natural character of the landscape would be "partially retained." This degree of visual contrast would be further lessened with completion of reclamation.

The moderate color and line contrasts of the transmission line and substation as seen from KOP-4 would achieve the Class IV objective during the project's active life. After successful completion of reclamation, it would comply with the objective in the long term. **Figure 3.22-9** illustrates a simulation of the visual effects as seen from KOP-4. **Figure 3.22-2** illustrates the spatial extent (188,756 acres) of visual impact of the Proposed Action within the foreground-middleground and background distance zones (15 miles).

Visual contrasts from the surface exploration disturbances, including drill sites, storage areas, and roads, would be visible in the immediate foregrounds and middle grounds from KOP-1, KOP-2, and KOP-3, and in the middle ground from KOP-4. Contrasts would range from weak to moderate for form, line, and color, and none to weak for textures. Safety lighting would increase the visual contrast at night. The area of disturbance is rated VRM Class IV. The scales of the disturbances and the weak to moderate form, line, and color contrasts would achieve the requisite "moderate" level of landscape change for Class IV areas during active exploration. All visual contrasts would gradually become less prominent with reclamation.

The proposed project would comply with the Class IV objective during active mining and after reclamation because the color contrast and landform contrast would be weak.

3.22.2.2 Mud Springs Road Transmission Line Alternative

Under this alternative, the transmission line route would originate at a new substation constructed immediately adjacent to (North Option) or southwest of (South Option) the Coyote Creek substation and then parallel the Mud Springs Road to the mine complex. The visual impacts of this alternative including the North and South options, would be similar to the impacts of the Proposed Action in that all facilities except for the transmission line route and substation would be in the same location as for the Proposed Action. None of the project elements would be visible from KOP-4. **Figures 3.22-10** and **3.22-11** illustrate the spatial extent (North Option – 222,675 acres; South Option – 192,484 acres) of visual impact of this alternative within the foreground-middleground and background distance zones (15 miles).

3.22.2.3 Mud Springs Waste Rock Storage Facility Alternative

Visual contrasts from the Mud Spring WRSF would be greatest at KOP-1 where it is visible in the immediate foreground. It also would be visible from KOP-3 at a distance of 2.9 miles. It would not be visible from KOP-2 and KOP-4. The crest of the Mud Spring WRSF would be approximately 100 feet above the ground. Lighting would increase the visual contrast at night. The area of disturbance is rated

Hollister Underground Mine Project EIS

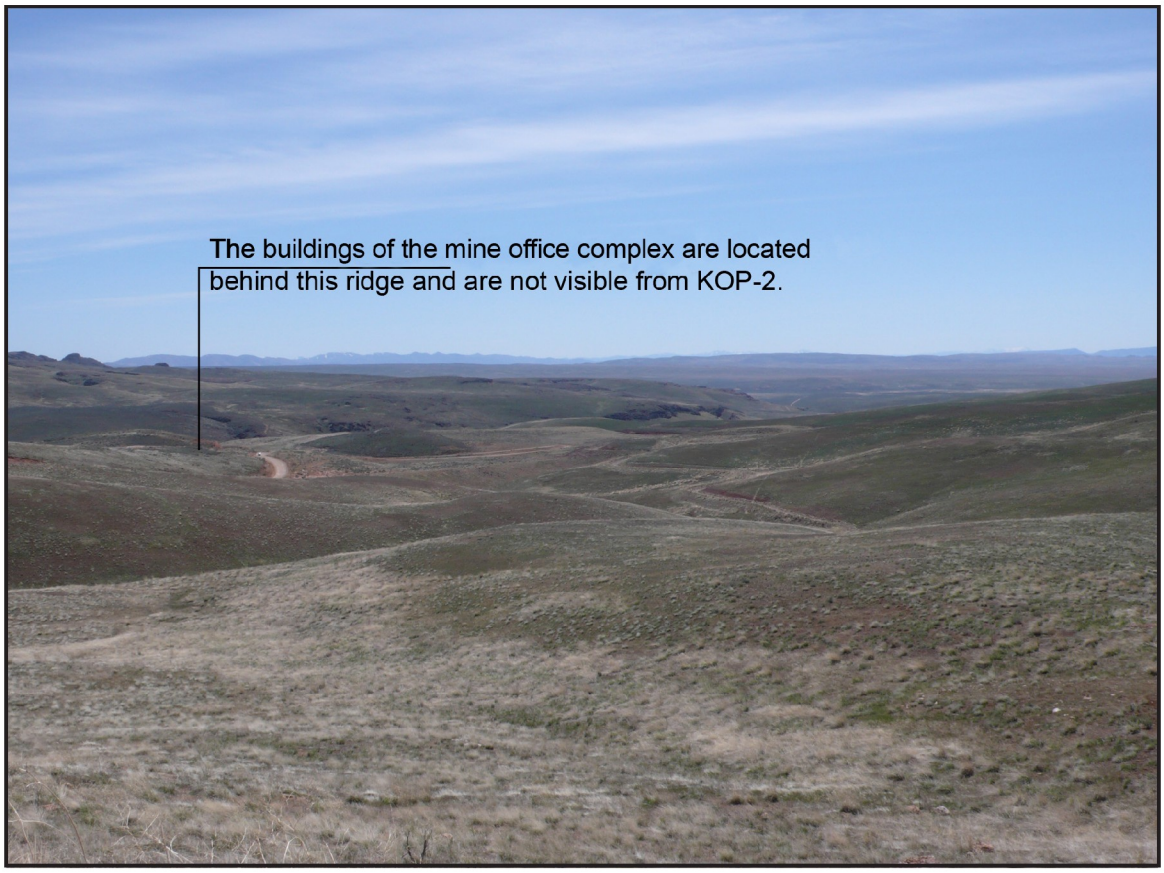
Figure 3.22-4
Key Observation Point 1

Visual Simulations

3.22-9

Note: All dimensions shown are approximate and not to scale.

11/03/2011



Hollister Underground Mine Project EIS

Figure 3.22-5

View from KOP-2 of the Mine Office Complex Area

Hollister Underground Mine Project EIS

Figure 3.22-6
Key Observation Point 2

Visual Simulations

3.22-11

Note: All dimensions shown are approximate and not to scale.

03/13/2012

Hollister Underground Mine Project EIS

Figure 3.22-7
Key Observation Point 3

Visual Simulations

3.22-12

Note: All dimensions shown are approximate and not to scale.

03/12/2012

Hollister Underground Mine Project EIS

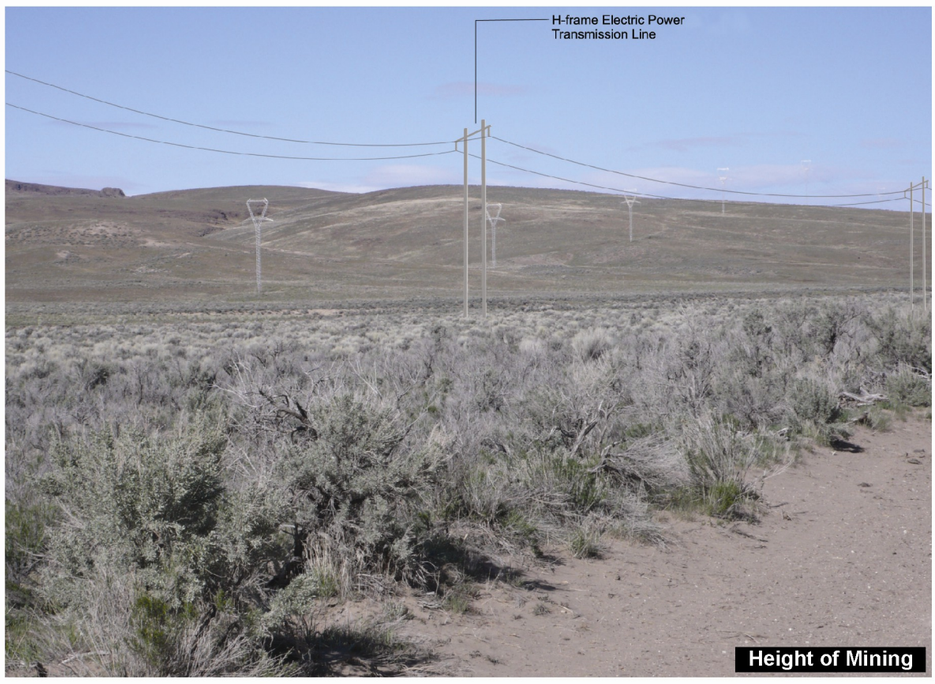
Figure 3.22-8

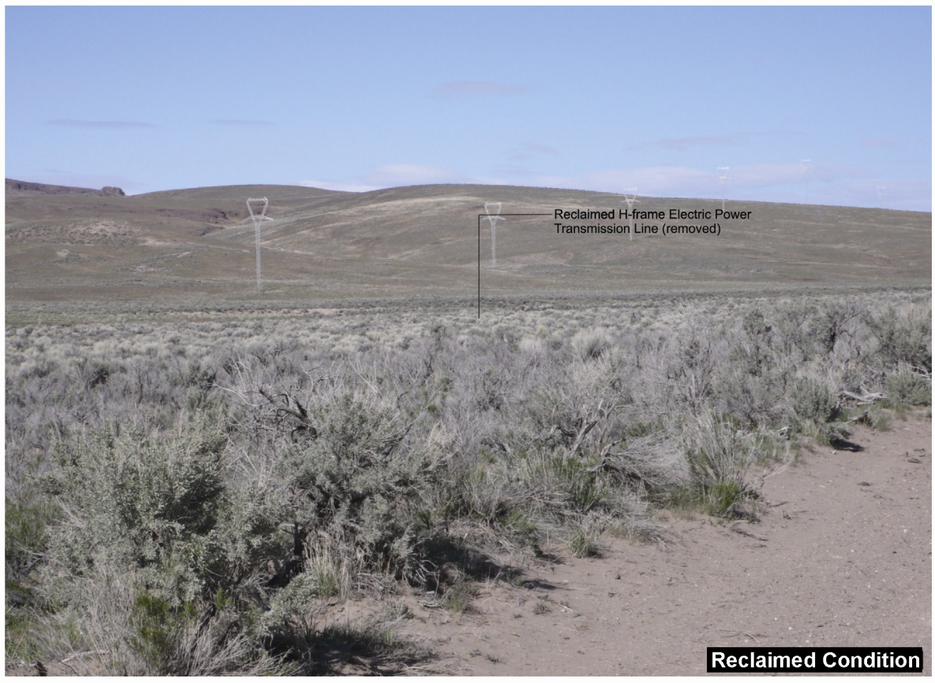
Key Observation Point 3 Nighttime Visual Simulations

3.22-13

Note: All dimensions shown are approximate and not to scale.

03/12/2012





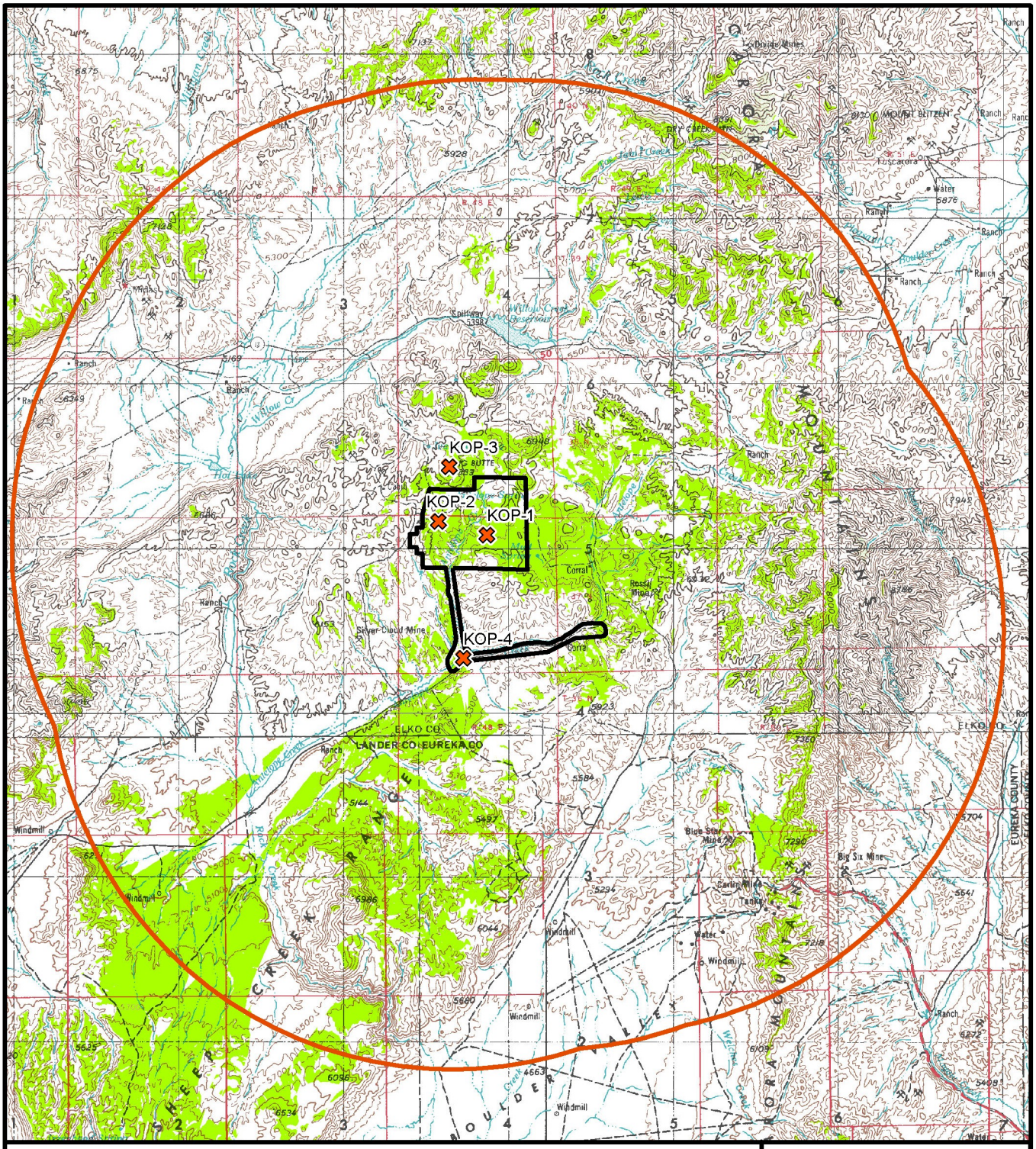
Hollister Underground Mine Project EIS

Figure 3.22-9
Key Observation Point 4

Visual Simulations

Note: All dimensions shown are approximate and not to scale.

03/13/2012



Legend

- Key Observation Point
- Project Area Boundary
- Not Visible
- Visible
- 15-mile Buffer and CESA Boundary

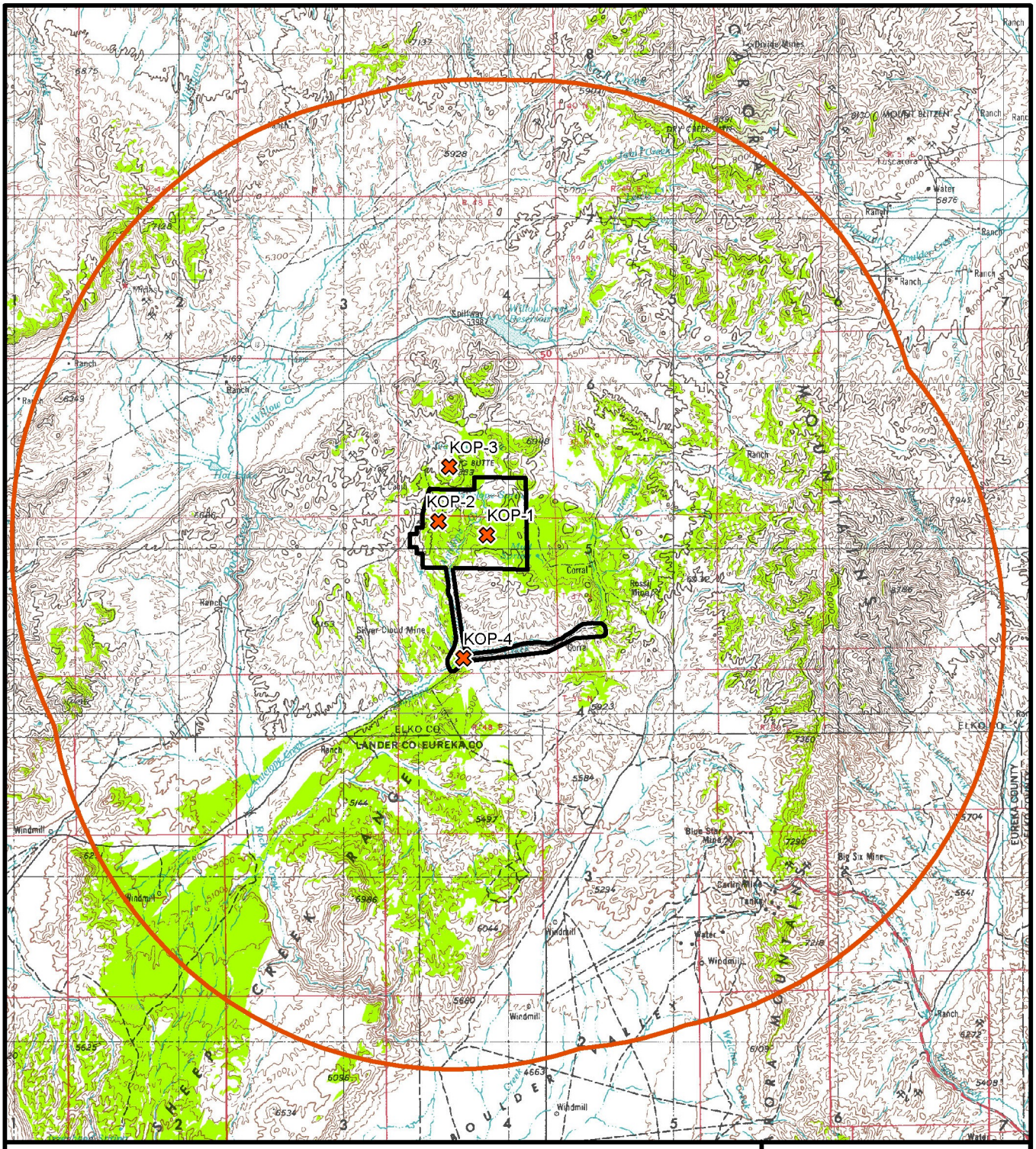
N

0 2.5 5 Miles

Hollister Underground Mine Project EIS

Figure 3.22-10

Viewshed Area for the Mud Springs Road Electric Power Transmission Line Alternative (North Option)



Legend

- Key Observation Point
- Project Area Boundary
- Not Visible
- Visible
- 15-mile Buffer and CESA Boundary

N

0 2.5 5 Miles

Hollister Underground Mine Project EIS

Figure 3.22-11

Viewshed Area for the Mud Springs Road Electric Power Transmission Line Alternative (South Option)

3/20/2012

VRM Class IV. In the view from KOP-1, the existing landform disturbance behind and above this alternative has been successfully reclaimed and revegetated. The scale of the structure and the moderate form, line, color and texture contrasts would achieve the requisite “high” level of landscape change during active mining. In the view from KOP-3, visual contrasts would be weak for form, line, color, and texture. All visual contrasts from KOP-1 and KOP-3 would gradually become less prominent with reclamation.

3.22.2.4 Backfill Alternative

Visual contrasts from the Backfill Alternative would be weak for form, line, color and texture in the view from KOP-1 where it is visible in the immediate foreground. It would not be noticeable from KOP-2, KOP-3 or KOP-4. The area of disturbance is rated VRM Class IV. In the view from KOP-1, the scale of the disturbance and the weak contrasts would achieve the Class IV objectives for permissible landscape change during active mining. All visual contrasts would gradually become less prominent with reclamation.

3.22.2.5 No Action Alternative

Under the No Action Alternative, the proposed project would not be constructed. As a result, there would be no additional disturbance beyond what currently exists or is currently permitted. Exploration activities permitted under current authorizations would continue, including reclamation of disturbance areas, which ultimately would reduce the visual contrast from exploration-related activities. The visual effects of the existing project were considered to be “less than significant” (BLM 2004a).

3.22.3 Cumulative Impacts

The CESA for visual resources is shown in **Figure 3.22-2**. Past and present actions and RFFAs are identified in **Table 3.2-1** and shown in **Figures 3.2-1** and **3.2-2**.

Visual effects of past and present actions are included in the description of the Affected Environment (Section 3.22.1). The future actions that would create visual effects are predominantly mine and mineral exploration activities. There also would be a potential increase in the number and extent of dirt roads. Among these actions, the mining projects would be the most likely to introduce visual contrast in the CESA. However, all of the identified future actions would be located in VRM Class III and VRM Class IV areas, so it is anticipated that the visual disturbance would meet the standards of the VRM Class III objective, which provide for “moderate change” in the landscape and VRM Class IV objective, which provide for major change in the landscape. Based on the project’s proposed reclamation plan and the assumption that standard reclamation requirements would be required for permitting of future projects, the cumulative visual effects would be minimized to the degree possible after completion of the projects and successful reclamation is accomplished.

Cumulative visual effects associated with the alternatives would be similar to the cumulative visual effects associated with the Proposed Action. As previously described, the visual effects of past and present actions are included in the description of the Affected Environment (Section 3.22.1).

3.22.4 Potential Monitoring and Mitigation Measures

Applicant-committed Environmental Protection Measures, described in Section 2.4.9.7, would consist of painting the buildings to blend into the surrounding terrain, either a tan or sage green color; completed reclamation and closure at the end of mine life with concurrent reclamation where possible; and contoured WRSFs to provide a natural looking post-reclamation landform. No monitoring or additional mitigation would be necessary.

3.22.5 Residual Impacts

Residual adverse visual effects would result from the long-term changes in landform and color contrasts associated with construction of facilities such as the production shaft and transmission lines. The visual contrast effects would be eliminated after reclamation and closure of the mine site, when the vegetation in the area either reaches maturity, or the area burns and vegetation re-establishes at the same time.