U.S. Department of the Interior
Bureau of Land Management
Humboldt River Field Office

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Coeur Rochester and Packard Mines Plan of Operations, Amendment 11

Final EIS: Volume 2

Costs:

BLM: $237,060 (through cost recovery from proponent)

Proponent: $6,200,000

MISSION STATEMENT

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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Appendix B

Environmental Protection Measures

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Appendix B. Environmental Protection Measures

Design features have been developed as a way of minimizing or avoiding environmental impacts. These environmental protection measures are part of Coeur Rochester, Inc.'s (CRI's) commitments for the mine operation. The following sections outline the environmental protection measures for the Proposed Action as outlined in the Plan of Operations and Reclamation Permit # N-64629, Amendment #11 (POA 11; CRI 2017c).

B.1 CULTURAL RESOURCES

As part of the cultural resources management, CRI has completed a Class III cultural resource survey for the areas where surface disturbance is proposed for POA 11. Avoidance is the BLM's preferred treatment for preventing effects on prehistoric or historic sites eligible for the National Register of Historic Places and ethnohistoric properties or unevaluated cultural resources. If avoidance is not feasible because an area is needed for development of mine facilities or project operations, or adverse effects cannot be prevented, CRI will implement mitigation measures, such as data recovery at the affected historic properties, in accordance with the programmatic agreement between the Bureau of Land Management (BLM), Nevada State Historic Preservation Officer, the Advisory Council on Historic Preservation, and CRI signed in 1992. Development of a treatment plan, data recovery, archaeological documentation, and report preparation will be based on the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation, 48 *Federal Register* 44716 (September 29, 1983), as amended and annotated.

If an unevaluated site cannot be avoided, additional information will be gathered, and the site will be evaluated. If the site does not meet eligibility criteria, no further cultural work will be performed. If the site meets eligibility criteria, a data recovery plan or appropriate mitigation will be completed under the programmatic agreement.

Employees and contractors associated with project-related activities will be informed that knowingly disturbing cultural resources (historic or archaeological) or collecting artifacts is illegal; they will be informed on how to proceed with chance finds.

B.2 NATIVE AMERICAN RELIGIONS CONCERNS

In accordance with 43 Code of Federal Regulations (CFR) 10.4(g) and Nevada Revised Statutes 383, CRI would notify the BLM authorized officer, by phone and with written confirmation, immediately upon the discovery of human remains or funerary, sacred, or cultural patrimony objects (as defined in 43 CFR 10.2). Further, in accordance with 43 CFR 10.4(c) and (d), the operator would immediately stop all activities in the vicinity of the discovery and would not restart them for 30 days or until notified to proceed by the BLM authorized officer.

B.3 PALEONTOLOGICAL RESOURCES

In the event undiscovered paleontological resources are encountered (including all significant vertebrate fossils and deposits of petrified wood), the artifacts will be left intact, and CRI would contact the BLM authorized officer.

B.4 SURVEY MONUMENTS

To the extent practicable, CRI will protect all survey monuments, witness corners, reference monuments, bearing trees, and line trees against unnecessary or undue destruction or damage. If, in the course of

operations, any monuments, corners, or accessories are destroyed, CRI will immediately notify the BLM authorized officer. Prior to any land disturbance activities, CRI will contact the BLM to develop a plan for restoration or reestablishment activity of the affected monument in accordance with Nevada Instruction Memorandum No. NV-2007-003 and Nevada law. CRI will bear the cost for the restoration or reestablishment activities, including the fees for a Nevada professional land surveyor.

B.5 AIR QUALITY

Air quality permits will be adhered to from the Nevada Department of Environmental Protection (NDEP) Bureau of Air Quality Planning (BAPC) for the facilities and operations. Air quality management practices will include dust control for mine unit operations as described by the BAPC-required Fugitive Dust Control and Process Equipment Emission Control Plan Permit Number #AP1044-0063. In general, air quality control measures will include dust abatement techniques on unpaved and non-vegetated surfaces, regular equipment maintenance to ensure engines meet the manufacturer's guidelines relative to emission types and rates, adherence to posted speed limits, and compliance with NDEP air quality operating permits and the Nevada Mercury Operating Permit to Construct #AP1044-2242.

Disturbed areas will be seeded with an interim BLM-approved seed mix to minimize fugitive dust emissions from non-vegetated surfaces where appropriate. Fugitive dust emissions in the process area will be controlled at the crusher and conveyor drop points through the use of water sprays and other controls where necessary. Appropriate emission control equipment will be installed and operated in accordance with the construction and operating air permits.

B.6 DRILL HOLE ABANDONMENT

Mineral exploration and development drill holes, monitoring, and production wells subject to Nevada Department of Water Resources regulations will be abandoned in accordance with applicable rules and regulations (Nevada Administrative Code 534). Boreholes will be sealed to prevent cross contamination between aquifers, and the required shallow seal will be placed to prevent contamination by surface access.

Monitoring wells will be abandoned and reclaimed as required by Nevada Administrative Code 534. Well abandonment methods will differ based on well hydrologic conditions (e.g., dry, standing water, or artesian) and completion methods (e.g., type of casing, such as polyvinyl chloride or steel, and perforated interval or unperforated).

B.7 NOXIOUS WEEDS AND NONNATIVE SPECIES

CRI will implement measures to minimize non-native and invasive species weed infestations or population spread in the project area according to the Weed Management Plan (CRI 2017b). CRI will continue to survey for, and treat, noxious weeds in the spring and fall. The Weed Management Plan will be updated as needed. A weed scientist or qualified biologist will identify and survey in the field areas of concern. Surveys will be conducted concurrently with weed treatments. Weed control measures may include mechanical removal or herbicide application, or both. Herbicide application reports will be submitted to the BLM following each weed treatment event.

Other weed management activities will include employee education, power-washing the undercarriages of vehicles and equipment prior to project area entry, and the use of weed-free straw and materials for stormwater management and reclamation. Seeding will be conducted using certified weed-free seed stock. Concurrent reclamation will aid in minimizing the spread of weeds onto disturbed areas.

Removal and disturbance of vegetation will be kept to a minimum to the extent possible through construction site management (e.g., using previously disturbed areas and existing easements, and limiting equipment/materials storage and staging area sites).

Mixing herbicides and rinsing herbicide containers and spray equipment will be conducted only in areas that are a safe distance from environmentally sensitive areas and points of entry to bodies of water, such as storm drains, irrigation ditches, streams, lakes, and wells.

B.8 GROWTH MEDIA MANAGEMENT

During stripping or grading/surface clearing, growth media will be salvaged and stockpiled within designated areas. Growth media stockpiles will be located away from areas where mining operations occur to avoid any disturbance to the piles. The stockpiles will be graded to avoid development of rills and to reduce slope erosion. To further minimize wind and water erosion, the growth media stockpiles will be shaped and seeded with a seed mix approved by the BLM. Diversions or berms, or both, will be constructed around the stockpiles as needed to prevent erosion from overland run-on or runoff. Best management practices (BMPs), such as silt fences or certified weed-free straw bales, will be used, as necessary, to contain sediment resulting from direct precipitation.

B.9 FIRE PROTECTION

The following precautionary measures will be taken to prevent wildland fires:

- Wildland fires will be reported immediately to the BLM Central Nevada Interagency Dispatch Center (phone 775-623-3444). To the extent known, CRI will include the location (latitude and longitude if possible), what is burning, the time the fire started, who/what is near the fire, and the direction of fire spread. CRI will place the call even if the available mine personnel can handle the situation or the fire poses no threat to the surrounding area.
- The CRI roster of emergency phone numbers will be available to ensure that the appropriate firefighting agency can be contacted in case of a fire.
- All vehicle operators will carry, at a minimum, a shovel and a conventional fire extinguisher.
- Vehicle catalytic converters (on vehicles that will enter and leave the project area on a regular basis) will be inspected regularly and cleaned of all flammable debris.
- All cutting/welding torch use, electric-arc welding, and grinding operations will be conducted in an area free, or mostly free, from vegetation. An ample water supply and shovel will be on hand to extinguish any fires created from sparks. At least one person in addition to the cutter/welder/grinder will be at the work site to promptly detect fires created by sparks.
- Personnel will be responsible for being aware of and complying with the requirements of any fire restrictions or closures issued by the BLM, as publicized in the local media or posted at various sites throughout the field office district.
- All applicable state and federal fire laws and regulations will be complied with, and all reasonable measures will be taken to prevent and suppress fires in the project area.
- Personnel will be allowed to smoke only in designated areas (e.g., visitor parking area).

B.10 WILDLIFE, INCLUDING SPECIAL STATUS SPECIES AND MIGRATORY BIRDS

CRI holds a Nevada Department of Wildlife (NDOW) Industrial Artificial Pond Permit for the existing ponds associated with leaching operations. As part of the permit, CRI must implement the following measures to prevent wildlife mortality:

- In order to avoid chemical exposure to wildlife from ponds associated with heap leaching, fencing will be installed that will comply with requirements of NDOW's Industrial Artificial Pond Permit. The minimum standard fence will be 8 feet high; the bottom 4 feet of the fence will be composed of woven or mesh wire. Nothing greater than 2-inch mesh will be used on the bottom 2 feet, and a maximum of 8-inch mesh will be on the top. The remainder of the fence above the woven or mesh wire will be four-strand smooth or barbed wire. The wire spacing will be 10 inches, 12

inches, and 14 inches beginning from the top of the woven or mesh wire. If a cyclone or chain-link fence is to be used, it will be 8-feet high, and the bottom will be tight to the ground.

- Open waters containing chemical solutions at levels that may be lethal to wildlife (e.g., barren and pregnant solution ponds) will be covered or contained to preclude access by birds and bats. All covers or containers will be maintained to preclude access by wildlife for as long as the pond or container contains chemicals in solution at levels lethal to wildlife.
- Before demobilization of drill rigs at sites that contain mud pits with standing fluid, the operator will erect a fence along the perimeter of the mud pits to prevent wildlife and livestock from being exposed to drilling fluids.

Wherever possible, hand spraying of herbicides is preferred over other methods to prevent impacts on wildlife, including special status species. Noxious and invasive weed control will not be conducted within 0.5 miles of nesting and brood rearing areas for special status species during the nesting and brood rearing season.

Speed limits for light vehicles will be adhered to within the project area for safety and protection of wildlife and livestock.

If an area with potential shrew habitat is disturbed, an equal amount of area with potential shrew habitat will be surveyed for Preble's shrew for three seasons (spring, summer, and fall) using a BLM-approved Preble's shrew survey protocol. In addition, disturbance in potential shrew habitat would be reclaimed with a recommended seed mix that will support Preble's shrew habitat.

The Migratory Bird Treaty Act prohibits the destruction of nests with eggs or young of migratory birds. Most of the "songbirds" that occur in the project area are migratory birds and are protected by this provision. Nesting season occurs from approximately March 1 through August 31. A thorough inspection of each area to be disturbed (including cross-country travel routes) during the breeding season will be conducted to assure no nests with eggs or young are present. If such nests are found, they will be avoided by an appropriate distance to prevent destruction of the nest and disturbance of the nesting birds.

Prior to any land disturbance during the breeding and nesting seasons, surveys will be conducted to determine the presence or absence of eagles. If nesting or brooding eagles are present, CRI will avoid the area using a buffer zone developed in coordination with the BLM, NDOW, and the United States Fish and Wildlife Service.

Prior to any surface disturbance in the areas identified as potential burrowing owl habitat within the project area, a burrowing owl clearance survey will be conducted during burrowing owl nesting season (March to late August). The survey will follow the BLM's survey protocol for burrowing owls; the survey results and a report will be submitted to the BLM.

Standard raptor protection designs, as outlined in Suggested Practice for Avian Protection on Power Lines (APLIC 2006), will be incorporated into the design and construction of power lines.

CRI will conduct a greater sage-grouse survey to identify signs of the species and observe any potential individual and/or leks in the areas of proposed disturbance associated with POA 11. In accordance with the Strategic Plan for Conservation of Greater Sage-Grouse in Nevada (Greater Sage-Grouse Advisory Committee 2012), CRI will minimize impacts on greater sage-grouse by limiting disturbance areas, performing breeding bird surveys prior to ground disturbance, reclaiming disturbed areas after use, and working with agencies to make long-term habitat improvements through reclamation.

B.11 SAFETY AND SECURITY

CRI maintains strict security procedures to prevent unauthorized access to the project area. A standard four-strand barbed wire fence surrounds the project area. The main access road into the project area is controlled by a 24-hour manned security gate. CRI will continue to implement the existing security procedures implemented at Rochester for the proposed POA 11. Access to Limerick Canyon and Packard Flat will be controlled by new fencing and by guard shacks constructed by the main access roads. Routine vehicle travel and inspections by mine personnel also serve to identify the presence of unauthorized individuals in the project area. In addition to the barbed wire fence installed along the project area, the process areas are fenced with an 8-foot-high chain-link fence to inhibit access to large wildlife species and livestock.

Other standard security and safety procedures include the following:

- Speed limits are posted and enforced on access routes and on roads throughout the project area.
- Warning signs are posted in areas where flammable materials and hazardous materials are stored and in areas where conditions warrant posting of signs.
- Safety training is conducted for all employees as required by the Mine Safety and Health Administration.

B.12 WASTE

Nonhazardous, project-related refuse will be collected in approved trash bins or containers (equipped with lids) and removed from the project area for disposal in accordance with county, state, and federal regulations, or disposed of in the on-site permitted landfill. Debris that may have hazardous properties, residues, or fluids will not be disposed of in these trash bins.

A Class III-waivered landfill has been permitted for the project area. This landfill has been designed, permitted, and constructed in accordance with applicable local, state, and federal regulations; however, CRI uses roll-off bins for disposal of solid waste. No hazardous or toxic waste, used oil, or lubricants will be disposed of on public lands. Unauthorized burial and/or burning of trash and other debris will not occur.

B.13 EROSION, SEDIMENTATION, AND SURFACE WATER QUALITY

Surface disturbance associated with the Proposed Action will not be conducted during periods when muddy conditions exist. Muddy conditions are defined as those periods when ruts develop that are greater than 6 inches deep. BMPs will be used strategically to reduce erosion and sedimentation in accordance with the Stormwater Pollution Prevention Plan (CRI 2016).

CRI will monitor groundwater sources according to NDEP standards and will maintain water quality and quantity for wildlife, livestock, and human consumption to State of Nevada standards. The operator will conduct operations in such a manner as to not disturb the Packard Artesian Well water pipeline and its associated water sources and developments.

B.14 ACID ROCK DRAINAGE

CRI will monitor the potentially acid generating (PAG) material storage area during operations to verify the absence of, or provide early detection of, the existence or potential formation of acid rock drainage in accordance with the Waste Rock Management Plan (SRK 2018c). Monitoring may include, but will not be limited to, regular visual inspection of the PAG material storage area for conditions indicating significant geochemical reactivity of PAG material, ponding of potentially affected stormwater, or seepage from the toe of the PAG material storage area.

At a minimum, the following environmental protection measures will be implemented for the PAG material storage area:

- Grading of material surfaces to promote runoff
- Redirecting stormwater from upgradient areas around the storage areas
- Removal of snow from the flat surfaces of the PAG material storage area as soon as practicable after significant precipitation events to avoid ponding of water

Should CRI identify the development of acid rock drainage, additional contingency measures to mitigate acid rock drainage formation will be developed in consultation with the BLM and NDEP.

In addition, CRI will manage meteoric waters that contact PAG material storage areas through use of BMPs and applicable measures defined in CRI's Stormwater Pollution Prevention Plan (CRI 2016). Affected contact waters would be collected and evaporated or incorporated into the process circuit during operations. Affected contact waters will not be discharged off-site to the surrounding environment.

B.15 SPILLS AND RELEASES

In order to minimize environmental impacts, spills and releases will be handled according to the Spill Contingency Plan (Appendix D of POA 11 [CRI 2017a]).

B.16 RECLAMATION

A map will be submitted to the BLM on or before April 15 of each year, showing topography, township, range and sections, locations of existing facilities, new areas of disturbance, and areas that have been reclaimed with the month and year the area was regraded or reseeded.

Seeding is recommended from October through December. Spring seeding is generally too late for successful establishment of vegetation. Reclamation and concurrent reclamation are discussed further in Section 3 of POA 11 (CRI 2017a).

B.17 VISUAL RESOURCES AND LIGHTING

To the extent possible, buildings will be painted in colors that are compatible with the natural environment. Existing utility corridors, roads, and areas of disturbed land will be utilized wherever possible, and the construction of new roads will be avoided to the extent possible. To minimize visual intrusions, existing utility corridors, roads, and areas previously disturbed will be used wherever possible.

To reduce light pollution and maintain dark sky attributes, CRI will install screens to limit light diffusion downward and toward a specific area. Proposed lighting will be located/directed to avoid light pollution onto adjacent lands as viewed from a distance in accordance with the Lighting Management Plan (CRI 2017c).

Lighting fixtures will be hooded and shielded, faced downward, located within soffits as appropriate, and directed onto the pertinent site only, away from adjacent parcels or view areas. Where possible, existing topography will be used to "terrain shield"[6] portable light equipment from adjacent parcels or view areas.

[6] Terrain shields use existing topography to block lighting or other infrastructure from view.

Appendix C

Impact Analysis Methodology

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Appendix C. Impact Analysis Methodology

A description of the direct and indirect impacts methodology is provided in **Section C.1**. The analysis methods, including the types of impacts, indicators, and assumptions, used for each resource analysis are detailed below under **Section C.2**. The information contained in this appendix provides the context for the resource analysis by topic area presented in **Chapter 3**.

C.1 DIRECT AND INDIRECT IMPACTS

Direct, indirect, and cumulative impacts are considered in **Chapter 3**, consistent with direction provided in 40 Code of Federal Regulations (CFR) 1502.16.

Direct Effects—Effects that are caused by the Proposed Action and occur at the same time and place (40 CFR 1508.8).

Indirect Effects—Effects that are caused by the Proposed Action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects "may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems" (40 CFR 1508.8).

Cumulative Effects—Effects on the environment that result from implementing any one of the alternatives, in combination with other actions outside the scope of this environmental impact statement (EIS), either in the project area or within the cumulative effects study areas defined for each resource (**Table 3-3**; **Figure 3-1**).

Effects are quantified where possible using geographic information systems and other applications; in the absence of quantitative data, best professional judgment prevailed. Impacts are sometimes described using ranges of potential impacts or in qualitative terms. Actions may have either adverse or beneficial effects, or both, on a particular resource. The standard definitions for terms used in the effects analysis are as follows, unless otherwise stated:

Context—Describes the area or location (site specific, local, program area-wide, or regional) in which the impact would occur. Site-specific impacts would occur at the location of the action; local impacts would occur in the general vicinity of the project.

Duration—Describes the length of time an effect would occur, either short term or long term. Short term is anticipated to begin and end within the 15-year mining and reclamation time frame. Long term would be the time frame beyond the end of active mining and reclamation (after 15 years).

Intensity—Impacts are discussed using quantitative data where possible.

C.2 RESOURCE METHODOLOGY, TYPES OF IMPACTS, AND INDICATORS

During the writing process, resource specialists shared data and discussed interrelated aspects of the analyses to better capture the interrelated nature of environmental resources. The indicators, analysis areas, and assumptions used for each resource analysis are detailed below.

C.2.1 Air Quality and Atmospheric Resources

Analysis Method

Construction and operation associated with the Plan of Operations and Reclamation Permit # N-64629, Amendment #11 (POA 11), including new Stage VI and Packard heap leach pads (HLPs), new crushing and conveying facilities, and expanded haul truck traffic, would increase air emissions in the project area. The

Bureau of Land Management (BLM) requested that Coeur Rochester, Inc. (CRI) submit a quantitative impact assessment as part of the EIS to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS). CRI contracted with Trinity Consultants to perform this assessment, which included both an emissions inventory and atmospheric dispersion modeling, to assess project compliance with the NAAQS. The emissions inventory included criteria pollutants, hazardous air pollutants (HAPs), and greenhouse gases (GHGs), while the air dispersion modeling involved criteria pollutant concentrations for comparison against the NAAQS. Only criteria pollutant concentrations were modeled due to the limited amount of HAP emissions generated. The air dispersion modeling included both direct impacts and cumulative impacts from POA 11, in combination with other mining operations in the area.

The methods used to develop the emissions inventory and to perform the air dispersion modeling are documented in the Technical Support Document for AERMOD Modeling of Ambient Air Quality Impacts (Trinity Consultants 2018). Trinity Consultants developed the model following recommendations of the BLM and cooperating agencies and the guidance set forth in Nevada Department of Environmental Protection (NDEP) and Environmental Protection Agency documents. The air dispersion modeling took the background concentrations of pollutants in the project area and added them to the modeled pollutant concentrations from POA 11; the resultant concentrations were then compared with the NAAQs.

No on-site ambient air concentration data were collected in the project area; rather, staff at the Nevada Bureau of Air Pollution Control (NBAPC) provided background concentration recommendations, which are shown in Table 5-1 of the technical support document. As explained in Chapter 5 of the technical support document, the NBAPC provided recommended background concentrations for particulate matter with a diameter less than or equal to 10 microns and particulate matter with a diameter less than or equal to 2.5 microns, and recommended the use of statewide pristine background concentrations of zero for gaseous air pollutants (carbon monoxide [CO], nitrogen dioxide [NO_2], and sulfur dioxide [SO_2]).

While NDEP provided the background concentrations required for state air permitting, the BLM has taken an additionally conservative approach to analyzing air quality impacts under the National Environmental Policy Act. In addition to the NDEP-recommended values of zero as background concentrations for CO, NO_2, and SO_2, the BLM has identified representative background concentrations greater than zero for these pollutants and has added these representative background concentrations to modeled air pollutant concentrations to estimate the total air quality impacts on CO, NO_2, and SO_2. The BLM then compared the resultant concentrations of all criteria pollutants with both the NAAQS and the Nevada ambient air quality standards.

The results of modeling detailed in the technical support document, added to the background concentrations described above, form the basis of this air impact analysis.

Impact Indicators

The BLM used the following indicators to assess impacts on air quality:

- The change in ambient air quality, based on atmospheric concentrations of regulated pollutants, as compared with the NAAQS
- The change in greenhouse gas emissions, as compared with state and national emissions

Nature and Type of Effects

Direct Effects

Atmospheric pollutant concentrations result from the direct emissions of criteria pollutants during activities associated with the Proposed Action and alternatives. The modeled concentrations predicted by project emissions are presented as the direct effects of the Proposed Action and alternatives.

Indirect Effects

In addition to direct atmospheric pollutant concentrations, the Proposed Action and alternatives can produce associated indirect effects: localized dust deposits that lower vegetation productivity and cause incremental changes to the global radiative budget[7] due to GHGs.

C.2.2 Cultural Resources

Analysis Methods

The analysis for cultural resources consists of a comprehensive review of the results of Class III field inventories meeting the data adequacy standards of the BLM (**Table D-1** in **Appendix D**). Recent archaeological and built environment surveys (Giambastiani 2019; Ross-Hauer 2018) presented full lists of previous studies and previously identified sites, along with the results of new and previous surface inventories for the acreage in the entire POA 11 area. They include all areas subject to impact from the Proposed Action (**Table D-2** in **Appendix D**).

A recent visual resource management (VRM) study provides an assessment of visual effects on historic properties in the direct and indirect areas of potential effect (APEs; Table 11 of Appendix F in Giambastiani 2019). These data sets, coupled with BLM correspondence, and eligibility determinations from Nevada State Historic Preservation Office-BLM consultation provide the most recent National Register of Historic Places (NRHP) evaluations for sites in the direct and indirect effect APEs.

Impacts on cultural resources were assessed based on the degree the POA 11 Proposed Action could adversely affect the following:

- Cultural resources listed on the NRHP
- Cultural resources eligible for listing on the NRHP
- Cultural resources unevaluated for listing on the NRHP
- Cultural resources contributing to the NRHP eligibility of the Rochester Cultural District

In accordance with 36 CFR 800.16(i), a property would be affected if its NRHP qualifying characteristics were to be altered. For this reason, it is necessary to know why the property is significant and which of its elements contribute to that significance. Significant impacts on historic properties are usually irreversible.

Impact Indicators

In evaluating the impacts of the Proposed Action and alternatives on cultural resources, it is necessary to determine whether any part of the Proposed Action would adversely affect those cultural resources listed on or eligible for listing on the NRHP, as defined in 36 CFR 800.5(a)(1) and 800.5(a)(2).

An impact occurs when the Proposed Action would directly or indirectly alter any of the qualities of that property that qualified it for inclusion on the NRHP; an example is the diminished integrity of the property's location, design, setting, materials, workmanship, feeling, or association. In addition to the impacts caused by the initial construction and operation, the proposed project impacts may include reasonably foreseeable adverse effects later in time, farther removed, or that may be cumulative.

Nature and Type of Effects

Direct Impacts

Direct impacts anticipated from the proposed project on cultural resources are as follows:

- Physical destruction of or damage to all or part of an NRHP-eligible site or district

[7] The global radiative budget is the balance between incoming energy from the sun and the outgoing longwave (thermal) and reflected shortwave energy from the Earth.

- Change in the character of the physical features in the property's setting or its use that contributes to its historic significance
- Removal of the property from its historic location unless approved by the BLM and conducted consistent with a treatment plan

Indirect Impacts

The indirect impacts anticipated from the proposed project on cultural resources include the introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features (36 CFR 800.5(a)(1) and 800.5(a)(2)). Other indirect impacts could occur from increased visitation by CRI employees and contractors to areas with historic properties and unauthorized collection of artifacts.

C.2.3 Migratory Birds

Analysis Method

Potential effects on migratory birds may be direct or indirect and would occur during the life of the project and afterward. Direct impacts are those that would result in the injury or mortality of a migratory bird or loss of an active nest. Indirect impacts are the degradation of migratory bird habitat to the extent that population numbers decline. Long-term impacts are those occurring after reclamation.

Impact Indicators

Impact indicators used to assess impacts on migratory birds include the following:

- Acres of lost nesting and foraging habitat
- Project features that could pose a risk of injury, mortality, or increased predation

Nature and Type of Effects

Direct Effects

Direct impacts on migratory birds are direct loss of nests from crushing, injury or mortality from construction or mining equipment, loss of burrow or roost habitat from ground disturbance, or harm from noise or light in the vicinity of habitat. Mining activities, road and pad construction, and drilling equipment operation could disturb wildlife year-round through the presence of humans and by removing vegetation and upper soil layers and generating noise and dust.

Birds also may die from electrocution or collision with power lines. Electrocution occurs when a bird comes in contact with two energized lines simultaneously, an energized part and a grounded part of electrical equipment, or if the collision causes two lines to come into contact or become close enough to arc; as such, larger birds are more vulnerable to electrocution (APLIC 2012). Vulnerability to collision depends on many factors, including bird behavior and maneuverability, topography, weather, and power line design and placement. Collision risk is highest in areas where birds congregate, such as power lines that bisect daily flight paths. The open landscapes closer to where birds might congregate, such as playa habitats, likely have greater risk than areas already containing significant topographic obstacles that birds must navigate around (APLIC 2012), such as those in the project area.

Indirect Effects

Potential indirect effects from the Proposed Action include displacement or nest abandonment from increased noise and human presence close to an active nest site.

Foraging birds are unlikely to be disturbed by construction and operational noise, as they would be likely to avoid noisy areas and forage elsewhere.

Avian species, typically raptors, take advantage of power lines, distribution poles, and trees, which provide viewing advantages and increase hunting success. Power line poles also may provide suitable nesting

structures for birds. New or relocated power lines near migratory bird nesting sites may increase nesting by raptors (birds of prey) or corvids (such as crows and ravens), which would increase predation in habitat directly surrounding the nest and potentially result in a decline in nesting success of migratory birds that serve as prey.

C.2.4 Wastes and Materials (Solid and Hazardous)

Analysis Method

The hazardous materials and solid waste environmental impact analysis was based on a qualitative assessment of the probability of a spill of chemicals and/or fuels in the project area or during transport of the chemicals and fuels to the site along major highways. Potential impacts would be on soils, surface water bodies such as streams or lakes, and aquatic resources that may be present in the surface water bodies. Any spill of chemicals or fuels would constitute an adverse impact. There are no beneficial impacts on natural resources that would result from a spill of chemicals or fuels.

Impact Indicators

The following indicators were considered when analyzing potential impacts on resources from hazardous materials and solid waste:

- Release of a hazardous material on the site exceeding the storage volume of secondary containment
- Loading, unloading, or handling a hazardous material in a manner that results in the release of a reportable quantity of a hazardous material

Nature and Type of Effects

Direct Effects

The environmental effects of a release would depend on the substance, quantity, timing, and location of the release. The event could range from a minor oil spill at the project area to a severe spill during transportation involving a large release of diesel fuel adjacent to a surface water body. Some of the chemicals could have immediate adverse effects on water quality if spills were to enter streams. Spills of hazardous materials could seep into the ground and contaminate groundwater resources. Depending on the proximity of people to such spills or the use of degraded water for human consumption, an accidental spill could affect human health.

Indirect Effects

Indirect effects include the potential for the spill to affect downstream water quality or to affect human health after the spill occurs.

C.2.5 Water Quality and Quantity (Surface and Ground)

Analysis Method

Piteau and Associates (2019) assessed the water quantity and quality impacts due to the proposed mine plan changes described in POA 11. The impact analysis for the proposed project included both groundwater quantity and quality modeling and analysis of the potential impacts on surface water quantity and quality.

In addition, SRK (2018c) reviewed waste rock characterization data that can be used to analyze the potential impacts of a change on the potentially acid generating management plan for POA 11. SRK reviewed and validated waste rock characterization data to confirm that the characterization was comparable and suitable for its intended analysis. The closure plan for the existing and proposed facilities in POA 11 was also evaluated for foreseeable impacts on surface and groundwater quantity and quality.

Impact Indicators

The indicators of impacts for water resources are changes to surface or groundwater flows or quality, as follows:

Surface Water

- Degradation of surface water quality to below applicable state or federal regulations designated for beneficial uses, such as municipal or domestic water supply, irrigation, and livestock watering or support of terrestrial, avian, and aquatic life
- Alteration in surface water drainage patterns that accelerate erosion and sedimentation
- Measurable reduction in flow from springs and in surface water drainages that are important for biological resources
- Damage to project facilities and on- and off-site resources during operation or post closure as a result of inadequate drainage control

Groundwater

- Lowering of groundwater levels that may adversely affect water supply and indirectly affect vegetation and forage for wildlife and livestock
- Degradation of groundwater quality downgradient of the project facilities such that one or more water quality constituents would exceed federal primary or Nevada secondary enforceable maximum contaminant levels (these were established to protect human health from potentially toxic or undesirable substances in drinking water)
- Where groundwater already exceeds the maximum contaminant levels for drinking water, the quality would be lowered such that it would render those waters unsuitable for other existing or potential beneficial use.

Geochemistry

Indicators of impacts for geochemistry are based on the propensity of mined materials that contain sulfide minerals to oxidize following placement in:

- Rock disposal sites (RDSs)
- Rochester and Packard Pits

Oxidation of sulfide minerals produces the components of acid rock drainage and metal leaching when there is also sufficient water flow to transport oxidation products such that surface water and/or groundwater quality can be affected. Thus, if conditions in a mine facility are such that oxidation of sulfide minerals is likely to occur and there is sufficient water contact to transport oxidation products, then there is a reasonable potential for impact on the environment.

Nature and Type of Effects

Direct Effects

Direct impacts on surface water quantity are those that increase or decrease runoff and, subsequently, stream flows. Surface water quality is directly affected by activities that improve or degrade the ambient quality of surface waters.

Direct impacts on groundwater quantity result in changes in groundwater levels by changing the amount of water that infiltrates into the ground or making changes to well pumping. Inputs of water that are of better or poorer quality directly affect groundwater quality.

Indirect Effects
Indirect effects on groundwater quality and quantity result from activities that modify the areas or sources that recharge the groundwater system and the quality of that recharge water.

Indirect impacts on surface water are from activities that disturb soil and modify drainages. The distribution and condition of wetlands and riparian areas indirectly change surface water quantity because wetlands and riparian areas affect infiltration and stream flows. Changes in surface water quantity also may affect the water available for vegetation and subsequently the ability for wildlife and livestock to forage.

C.2.6 Geology and Minerals

Analysis Method

The impact analysis includes identifying future mineral resources in the project area and identifying whether the Proposed Action or action alternatives would affect future extraction of those minerals. Potential impacts associated with leaching or acid production from potentially acid generating or exposed pit walls are addressed in **Section C.2.5**.

Impact Indicators

Indicators of impacts for geology and minerals include:

- Exclusion of future mineral resource availability caused by the location of the pits, RDSs, and HLPs or placement of mined materials as backfill to the pits

Nature and Type of Effects

Direct Effects
Direct effects are those that exclude the future extraction or development of a known resource due to the location of the existing pits, RDSs, or HLPs.

Indirect Effects
Indirect effects are those that would limit mineral resource development within the region.

C.2.7 Rangeland Management

Analysis Method

Impacts were determined by assessing which actions, if any, would change the livestock grazing indicators described below. Some impacts are direct, including the loss of grazing acreage or reduction in animal unit months. Indirect impacts affect grazing through a change in another resource, such as decreased forage from dust or reduced water quality for vegetation. Other indirect impacts include increased costs for ranchers due to fencing and difficulties in moving livestock, or the loss of forage quality from introduction of unpalatable weeds.

Impact Indicators

Impact indicators used to assess impacts on rangeland management include the following:

- Change in animal unit months
- Changes in forage availability
- Acres of rangeland to be affected by the project
- Acres of land in an allotment to be affected by the project

Nature and Type of Effects

Direct Effects

Direct effects include loss and fragmentation of grazing land resulting from land grading and clearing and construction of well pads, roads, pipelines, and facilities. Human presence and vehicle traffic on-site could disturb livestock and trample vegetation that provides forage. Vegetation removal or trampling would reduce the amount and quality of available forage.

Indirect Effects

Indirect effects on livestock and rangeland include the possibility of injury to livestock from vehicle and equipment traffic to and from the mine. Traffic facilitates the spread of weeds, resulting in reduced forage palatability. Vehicles and equipment also could cause erosion and soil compaction, affecting the growth of forage and potentially facilitating weed spread. Furthermore, construction and maintenance activities could increase dust, which could cover vegetation, reduce palatability of forage, and increase tooth wear.

C.2.8 Lands and Realty

Analysis Method

Land status baseline information in **Section 3.11.1** was reviewed for an understanding of current use policies for the BLM and Pershing County and known rights-of-way (ROWs). This known information was overlain with the Proposed Action, and conclusions were drawn based on an understanding of how these types of actions may affect the lands and realty program, adjacent landowners, and public access users.

Impact Indicators

Impact indicators for lands and realty are as follows:

- Conflicting with, or substantially modifying or terminating, existing land uses, ROWs, or land use authorizations
- Altering land use patterns or other use areas next to or near the project area
- Conflicting with federal, state, and local land use plans, goals, and policies
- Stimulating or encouraging the development of land uses not presently anticipated, or conversely, precluding other planned or proposed uses

Nature and Type of Effects

Direct Effects

Direct effects include any conflicts with the Winnemucca Resource Management Plan (BLM 2015), Pershing County land use designations (Pershing County 2012), or existing ROWs in the project area.

Indirect Effects

Indirect effects include displacing ROWs, land use authorizations, or public users and increasing the use of adjacent or nearby lands for these.

C.2.9 Social Values and Economic Conditions

The below section is a summary of anticipated impacts on social and economic issues from project activities. Additional details are found in the socioeconomic impacts report prepared by Sammons/Dutton (2018).

As discussed in **Section 3.12**, Social Values and Economic Conditions, the study area identified for potential social and economic effects is Pershing and Humboldt Counties and the communities of Lovelock, Imlay, and Winnemucca. Although two federally recognized Native American tribes—the Lovelock Paiute Tribe and the Winnemucca Indian Colony—have an established presence in the study area, their location relative to the CRI mine indicates that socioeconomic effects on the two tribes would likely be limited to opportunities for tribal member employment. Some CRI employees live in other northern Nevada communities, and CRI

purchases goods and services in a number of locations in Nevada; these effects are also briefly discussed, but impacts on these locations are likely to be minimal overall.

Analysis Method

The potential socioeconomic effects were assessed based on the following:

- Estimates for direct employment information for construction and operations were modeled by Sammons/Dutton (2018). A low and high scenario for the project time frame were developed in order to better estimate employment numbers. The low scenario assumes 5 additional years of mining and crushing, followed by 3 years of leaching. The high scenario assumes 7 years of mining and crushing, followed by 5 years of leaching, closure, and reclamation.
- The IMPLAN economic model was used to estimate the indirect and induced economic effects of the proposed construction program and continued operations.
- Construction workforce estimates were contrasted with the inventory of local motels and recreational vehicle parks.
- Fiscal effects were assessed qualitatively based on CRI's estimated future production and spending.
- Social effects were assessed by reviewing the effects of previous CRI mine cessation and restarts and were based on discussions with local government officials and staff.

Impact Indicators

The following indicators are used to measure impacts on social and economic values:

- Employment (direct construction and operations employment levels and indirect and induced employment)
- Labor income (direct, indirect, and induced income from mine construction and operations)
- Population (projected change in population levels)
- Housing availability (projected changes in temporary or traditional housing availability)
- Public facilities and services (level of demand for local services)
- Public education (enrollment level in local elementary schools)
- Fiscal effects (tax collection levels and distributions)
- Social setting (changes to social values)

Nature and Type of Effects

Direct Effects

Income and Employment

Construction of mine facilities results in temporary employment in the construction sector. Project operations result in direct employment by mine operators as well as long-term contractor jobs. These jobs represent short- and long-term labor income for area residents.

Population and Housing

Employment of area residents may affect both short- and long-term area population and housing availability. Population change and demand for short-term housing during construction is affected primarily by the average number of workers required and the location of residences for these workers. Depending on their area of current residence, workers may relocate to the area for the length of the construction period or on a weekly basis, or they may commute daily from their places of residence.

When relocation is required, temporary construction workers typically seek short-term rental accommodations, motels, recreational vehicle parks, and apartments. Project operations may require long-term immigration of employees. Operations employment is more likely to result in changes in local property values and housing availability for conventional housing (e.g., houses, apartments, and mobile homes).

Fiscal Impacts

Taxes collected from project operations contribute money to local and state economies. Mining operations in Nevada are subject to real and personal property taxes, sales and use taxes, and net proceeds of tax levies. Sales, use, and net proceeds taxes are collected by the state and are distributed to counties, school districts, and, in the case of sales and use taxes, to municipalities.

Counties collect property taxes and distribute them to the county, school districts, and special districts. The mine's taxable values in these property tax categories are taxed at the same rates as other real property in the county, such as residential, commercial, and agricultural properties. Purchases of equipment, supplies, and construction materials, along with consumer purchases by the mines' workforce and other workers whose jobs are supported by the mine, are subject to sales and use taxes, resulting in funds for local governments. In addition, the population supported by project operations can influence revenue from local sales and property taxes.

Public Facilities and Services, Including Public Schools

Changes in the area population may affect the ability of local public facilities and schools to meet area demands for the local population. There can be impacts on services such as utilities; health care, including emergency services, fire, and public safety officers; and public schools. The level of impacts is determined by the anticipated change in population.

Social Impacts

Construction workforces are sometimes associated with increases in a variety of social issues, such as housing shortages, crowding in public and commercial facilities, substance abuse, traffic incidents, and minor disturbances. The degree to which such social changes are likely to occur depends on the size of the population increase.

Indirect Effects

In addition to the direct employment and income, local economic contributions are the indirect and induced effects stimulated by a particular development, such as a mine. Indirect effects refer to the secondary impacts on area businesses that supply goods and services, for example, to CRI and its on-site contractors; induced effects refer to the secondary impacts related to consumer spending for such commodities as housing, transportation, utilities, food, clothing, entertainment, and taxes. These create revenue for such businesses as retailers, restaurants, grocery stores, gasoline stations, and movie theaters and for local and state government. This recirculation is commonly referred to as the multiplier effect.

The location of indirect effects of an economic activity depends on the location of that activity's vendors. The impact of each successive round of spending diminishes because of leaks from the spending stream to areas outside the region. Indirect and induced effects can include additional income, employment, and population changes.

C.2.10 Soils

Analysis Method

Potential effects on soil resources were categorized as direct or indirect and as short term or long term (following mining and reclamation). Direct effects on soil resources are temporary or permanent removal of soil through grading, excavation, or building construction. Indirect effects are the degradation of soil from compaction, loss of soil productivity, disturbance from off-road activities, increased soil erosion above natural rates, and the introduction of noxious weeds.

Operating plans (Section 2.6 of POA 11 [CRI 2017a]) and environmental protection measures (**Appendix B**) are incorporated into the Proposed Action, which would lessen the impact that the proposed project would have on soil resources. These measures would be implemented during construction and operation

to reduce environmental impacts and to ensure consistency with applicable federal, state, and county rules and regulations.

The extent of impacts on the soil resources would additionally be influenced by the success of interim and final reclamation. Reclamation success, in part, depends on the amount of surface area disturbed, the quality of salvaged topsoil, stockpile redistribution methods in disturbed areas, precipitation, soil type, soil amendments, and moisture availability.

Impact Indicators

Indicators of impacts on soil resources and eventual reclamation potential are as follows:

- Soil characteristics at the location of site disturbances
- Accelerated erosion in excess of soil loss tolerances on waste rock and heap leach facilities or other sloping surfaces
- Loss of growth media during stockpiling or reclamation, which would limit revegetation success
- Presence of invasive plant species on disturbed acres
- Decrease in the overall site productivity from pre-mining to post-mining land uses

Nature and Type of Effects

Direct Effects

Direct impacts are construction, operation, and maintenance activities that displace or mix soil horizons; that compact, remove, or contaminate soil; or that remove vegetation. The intensity and extent of impacts on soil resources are determined by the type and location of the surface-disturbing activities and interim and long-term reclamation activities. Direct impacts on soil resources can be mitigated by applicable stipulations, BMPs, and plans of operation; examples are those that address site-specific environmental concerns and require mitigation to stabilize soil, prevent unnecessary erosion, and revegetate disturbed surfaces.

Indirect Effects

Indirect impacts are increased soil erosion potential for areas of disturbance in the project area. The construction of sloped facilities, such as the RDSs, stockpiles, and open pits, would increase the erosion hazard of soils until the completion of stabilization and revegetation during reclamation. The construction of additional features and expansion of existing features also would increase the erosion potential of soils in the project area. Specifically, these features are the yards and processing facilities; the haul, secondary, and exploration road; and the power line corridors, sediment control structures, and water supply and ancillary facilities.

C.2.11 Special Status Species

Analysis Method

Surveys were conducted for special status species between 2016 and 2018. The findings from these surveys are summarized in **Chapter 3** and provide the basis for the impacts analysis.

Potential effects on special status species are described as direct or indirect, and short term and long term. Direct impacts are those that would injure or result in mortality to an animal, eliminate a special status plant population, or destroy habitat for the plant or animal. Indirect impacts are those that degrade habitat to the extent that population numbers decline. Short-term impacts are those that could occur during the project and until reclamation is complete; long-term impacts are those occurring after reclamation.

Impact Indicators

Impact indicators are as follows:

- Risk of mortality to special status species

- Acres of habitat for special status species removed temporarily and over the long term
- Injured species; normal breeding, feeding, or sheltering behavior upset; or nests abandoned due to a substantial interference with normal breeding, feeding, or sheltering behavior
- Directly affected special status plant individual or population
- A unique or rare natural plant community eliminated, reduced, or adversely affected

Nature and Type of Effects

Direct Effects

Direct impacts on special status species are direct loss of nests from crushing, injury or mortality from construction or mining equipment, loss of burrow or roost habitat from ground disturbance, or harm from noise or light in the vicinity of habitat.

Mining activities, road and pad construction, and drilling equipment operation could disturb wildlife year-round, through the presence of humans, the removal of vegetation and upper soil layers, and by generating noise and dust.

Special status wildlife also could be disturbed by increased noise adjacent to habitat areas associated with the Proposed Action. For example, noise could affect the foraging ability of bats, which use ultrasonic signals above the spectrum of human noise; however, some bats that locate prey based on auditory cues avoid noisy areas (Francis and Barber 2013). Noise may cause species to avoid the area as a potential migration corridor.

Indirect Effects

Potential indirect impacts on special status wildlife are loss of nesting, brooding, roosting, foraging, and cover habitats until successful reclamation is complete; an increased risk of predation from tall structures; reduced foraging or breeding success; and a reduction in quantity or quality of available water.

C.2.12 Transportation, Access, and Public Safety

Analysis Method

Impacts on transportation were assessed by reviewing proposed locations and specifications for roads to determine any increase in traffic volume or change in the availability or quality of transportation routes.

Impact Indicators

Impact indicators for transportation, access, and public safety are the following:

- Adverse or beneficial effects on traffic safety from expanding Packard Flat Road
- Increases in traffic accidents from an increase in project-related traffic, especially from large, slow-moving vehicles during construction
- Increases in traffic on Limerick Canyon Road or Coal Canyon and Packard Flat Roads in excess of road capacity, as determined by Level of Service[8]

Nature and Type of Effects

Direct Effects

Direct effects include changes to traffic flows and access during construction and operation of the Proposed Action that may affect Level of Service standards for Limerick Canyon Road, Relief Canyon Road, and Packard Flat Road; change access for public users; or increase the potential for accidents.

[8] Level of Service is a term used to qualitatively describe the operating conditions of a roadway based on factors such as speed, travel time, maneuverability, delay, and safety.

Indirect Effects
Indirect effects of higher traffic volumes would include more frequent road maintenance and the need for additional patrolling by public safety personnel. Increased heavy vehicle traffic could deteriorate the gravel road surface, which would require more frequent road maintenance. However, beneficial impacts could result from improvements to roads, thus increasing the quality and safety of the road surface in the short term.

C.2.13 Vegetation

Analysis Method

Vegetation and biological studies were conducted between 2016 and 2018. These are discussed in **Chapter 3** and provide the basis for the impacts analysis for vegetation.

Impacts are assessed in terms of their duration (temporary or permanent) and context (local, regional, or national). A temporary impact is one that occurs only during implementation of the alternative, while a permanent impact could occur for an extended period afterward. The impact could last several years or more.

As discussed in **Chapter 2**, operating plans and environmental protection measures (**Appendix B**) are incorporated into the Proposed Action. These plans and measures lessen the impact that the proposed project would have on the human and natural environment. These measures would be implemented during construction and operation to reduce environmental impacts and to ensure consistency with applicable federal, state, and county rules and regulations. These measures are considered part of the applicant's proposed project in the environmental impact analysis presented in this EIS.

Impact Indicators

Potential impacts on vegetation would occur if the Proposed Action were to:

- Affect a plant species, habitat, or natural community recognized for ecological, scientific, recreational, or commercial importance
- Affect a species, habitat, or natural community that is specifically recognized as biologically significant in local, state, or federal policies, statutes, or regulations
- Destroy or extensively alter habitats or vegetation communities in such a way that would render them unfavorable to native species
- Fail to achieve a stable vegetation cover that protects against soil erosion or otherwise fails to meet standards
- Establish or increase noxious or nonnative invasive weed populations

Nature and Type of Effects

Direct Effects
Direct effects on vegetation are temporary and permanent vegetation removal associated with construction, operation, and maintenance of the project. Failure to reestablish vegetation cover and the introduction or spread of noxious or nonnative species would also result in direct effects.

Indirect Effects
Indirect effects could include changes in the watershed function and condition or habitat values resulting from the changes to vegetation. Residual, or long-term impacts, are those occurring after reclamation.

C.2.14 Visual Resources

Analysis Method

BLM Handbook H-8431-1, Visual Resource Contrast Rating, describes the system that the agency uses to analyze the potential visual impact of proposed projects and activities (BLM 1986). The degree to which a management activity affects the visual quality of a landscape depends on the visual contrast created between a project and the existing landscape. The contrast can be measured by comparing the project features with the major features in the landscape. The basic design elements of form, line, color, and texture are used to make this comparison and to describe the visual contrast created by the project. This assessment provides a means for determining visual impacts and for identifying measures to mitigate these impacts. A full description of the visual resource contrast rating process is at https://www.blm.gov/sites/blm.gov/files/program_recreation_visual%20resource%20management_quick%20link_BLM%20Handbook%20H-8431-1%2C%20Visual%20Resource%20Contrast%20Rating.pdf.

The BLM used BLM Form 8400-4, Visual Contrast Rating Worksheet, to identify the visual contrast created by the proposed project. In order to complete the contrast rating worksheet, information for the proposed project was compiled (described in **Chapter 2**), and the VRM classes for BLM-administered public land in the location of the proposed project were identified (**Figure 3-15** and **Table 3-22**).

The contrast rating is conducted from the most critical viewpoints, called key observation points (KOPs). This is done to determine the degree of contrast on the landscape created by the Proposed Action from existing and future conditions; such contrasts would be seen by various observers, such as recreationists, motorists, and residents. KOPs are usually along commonly traveled routes or at other likely observation points; they are identified in **Figure 3-15**.

Using the photographs obtained during the site visit, the BLM created photo simulations of the proposed project to aid in completing the contrast rating worksheets (see **Appendix E**). The purposes of photo simulations are as follows:

- To depict proposed project features for visualizing the relative scale and extent of the proposed project when viewed from KOPs
- To evaluate the contrast created by the proposed project
- To develop methods for minimizing visual impacts

Impact Indicators

The impact indicator used for visual resources are the following:

- Conformance with VRM class objectives. Conformance with VRM class objectives is based on the overall degree of contrast in the landscape created by proposed project features.
- Changes to dark skies

Nature and Type of Effects

Direct Effects

Direct effects for visual resources include changes to the form, line, color, and texture from the construction and operation of the mine and associated facilities.

Indirect Effects

Indirect effects are changes to nighttime light levels, including glow due to artificial light.

C.2.15 Wildlife

Analysis Method

Wildlife and botanical surveys were conducted between 2016 and 2018. The findings from these surveys are summarized in **Chapter 3** and provide the basis for the impacts analysis.

Potential effects on wildlife resources are described as direct or indirect during the life of the project and as long term after the project ceases. Direct impacts are those that would injure or result in mortality of an animal, such as a vehicular collision, entrapment, or crushing with equipment, or that would cause a loss of habitat. Indirect impacts are the degradation of wildlife habitat such that population numbers decline, which may include the loss of habitat through vegetation removal, introduction of invasive species, reduction in prey base, or loss of a water source. Long-term impacts are those that occur after reclamation is complete.

Impact Indicators

Potential impacts on wildlife would occur if the Proposed Action were to:

- Remove or substantially disturb acres of habitat for wildlife
- Injure or result in mortality of wildlife species
- Cause species to avoid habitat due to human disturbance, including noise

Nature and Type of Effects

Direct Effects

Direct impacts on wildlife are injury or mortality from construction or mining equipment, loss of burrow or roost habitat from ground disturbance, or harm from noise or light in the vicinity of habitat.

Construction and operation of the project would directly affect wildlife habitat by removing vegetation in areas proposed for surface disturbance. These impacts would remove available nesting and foraging habitat for wildlife. Biological surveys have shown mammals and migratory birds nesting or denning in the project area, including great horned owl and red-tailed hawk, and others in the vicinity of the project area.

The loss of habitat is temporary in most locations because surface disturbed by the Proposed Action would be reclaimed and revegetated, with the exception of the main access road to the mine facilities, public access roads, the pit walls, contingency ponds, and closure evaporation cells. Surface disturbance subject to revegetation would be seeded with a BLM-approved seed mix. The mix would contain native seeds or plants that are compatible with native soils in the project area and forb and shrub species to provide forage for wildlife.

Mining activities, road and pad construction, and drilling equipment operation could disturb wildlife year-round, through the presence of humans, the removal of vegetation and upper soil layers, and dust production over the life of the project.

Wildlife would also be disturbed by project operation noise. Noise may cause deer to avoid the area as a migration corridor.

There is the potential for increased risk of predation from the existing power transmission line being relocated in the project area to a new area. Although it is an existing power transmission line, wildlife in the area where the power transmission line would be relocated has the risk of increased predation from raptors using the power poles as perch sites. Wildlife within the area that would have the power transmission line removed may experience decreased risk of predation from the removal of perch sites.

There is also a potential for injury or mortality of wildlife to increase from the increased vehicular traffic associated with the Proposed Action. Due to the available habitat in adjacent areas, no impacts on regional populations are likely to result from the Proposed Action.

There is the potential for injury or mortality of wildlife from ingesting process solution in industrial ponds, which can attract wildlife in the arid Great Basin (Clark and Hothem 1991) for drinking and foraging (O'Shea et al. 2000). However, potential sources of open water are fenced, covered, or otherwise restricted from wildlife access, as described in **Appendix B**.

Indirect Effects

Potential indirect impacts on wildlife are the loss of nesting, brooding, roosting, and foraging and cover habitats; increased predation from predators perched on tall structures; reduced foraging or breeding success from human disturbance; habitat avoidance resulting from human disturbance; and a reduction in the quantity or quality of available water.

Under long-term reclamation, grasses, shrubs, and forbs would become reestablished in the project area's wildlife habitat. The Proposed Action would result in a net loss of potential habitat but would not contribute to a loss of viability for wildlife, including game species.

Appendix D

Cultural Resources Supporting Tables

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Appendix D. Cultural Resources Supporting Tables

Table D-1
Class III Inventories

BLM Report No.	Year	Title	Indirect Sites (CrNV-XX-XXX)	Direct Sites (CrNV-XX-XXXX)
CR2-0083	1974	Report of Archaeological Reconnaissance Along Proposed 230KV Transmission Line Right-of-Way of Sierra Pacific Power Company: Part 1 Tracy, Nevada to Valmy, Nevada	-	22-1458; 22-1459; 22-1460; 22-1461; 22-1462; 22-1463; 22-1464/22-1465
CR2-0126	1977	Vegetation Study Exclosures	-	-
CR2-0136	1977	Cultural Resources Report Field Worksheet: U.S.G.S. Geothermal Notice of Intent N2-20-77	-	-
CR2-0329	1979	Right-of-Way Application #N-24709	22-2175	-
CR2-0348	1979	A Class III Cultural Resources Inventory of the Sierra Pacific Power Company's Transmission Corridor: Valmy to Mira Loma, Nevada	-	-
CR2-0689	1981	Spring Re-Developments in the Sonoma-Gerlach Resources Area	-	-
CR2-0775	1982	NOI N2-12-82 True Geothermal Lovelock-Colado Temperature Gradient Holes	-	-
CR2-0779	1982	Humboldt Range Horse Traps Inventory and Clearance	-	-
CR2-0783	1982	Oreana Horse Traps #1 and #2 Clearance and Inventory	-	-
CR2-0864	1984	Kelly Creek Pit FUP-N2-5084	-	-
CR2-0926	1984	Lacan Mining Plan of Operation	-	-
CR2-0968	1984	Coeur Exploration Sump Improvement	-	-
CR2-0971	1984	Cultural Resources Report Format/Field Worksheet: Black Knob Spring Improvement Project	-	-

BLM Report No.	Year	Title	Indirect Sites (CrNV-XX-XXX)	Direct Sites (CrNV-XX-XXXX)
CR2-0974	1984	Communication Site, Buried Powerline, and Access Road	-	-
CR2-1077	1985	Humboldts/East Range Wild Horse Gathering Trap Site #1	-	-
CR2-1086	1985	Rochester Mining Property Right-of-Way	-	22-3428; 22-3429; 22-3430
CR2-1380	2000	The Cultural Resources Inventory of the Rochester Fire Rehabilitation Project, Pershing County, Nevada	22-6919; 22-6920	-
CR2-2007	1986	Cultural Resources Assessment for the Rochester Mine Project Parcel Power Line Reroute	-	22-3545; 22-3550; 22-3551
CR2-2022	1986	Preliminary Cultural Resource Investigation of Sierra Pacific Power Company Transmission Line Corridor in Rochester Canyon, Pershing County, Nevada	-	22-403; 22-436
CR2-2024	1986	Coeur Explorations, Inc. Rochester Mining Development Project Parcel Inventory	-	22-3545; 22-3563
CR2-2033	1992	A Cultural Resources Inventory of 20 +/- Acres (Santa Fe Inventory) for Environmental Protection and Monitoring Structures in the Vicinity of the Coeur Rochester Mine, Pershing County, Nevada	-	-
CR2-2168	1987	A Class III Archaeological Inventory and Evaluation in Weaver Canyon, Pershing County, Nevada	22-3912; 22-3915; 22-3916; 22-3929	22-3913; 22-3919; 22-3923
CR2-2193	1987	SR 857 Right-of-Way Betterment Project	-	-
CR2-2321	1989	A Cultural Resource Inventory of the Coeur-Rochester Weaver Saddle Area, Pershing County, Nevada	-	-
CR2-2322	1989	A Cultural Resources Survey of the Coeur-Rochester Project Expansion Area, Pershing County, Nevada	22-4760	22-4758
CR2-2334	1989	Further Archaeological Investigations at Site CrNV-22-3545	22-4229/4230;	22-3545; 22-4226; 22-4229/4230; 22-4241

BLM Report No.	Year	Title	Indirect Sites (CrNV-XX-XXX)	Direct Sites (CrNV-XX-XXXX)
CR2-2365	1990	A Cultural Resource Inventory of the Coeur-Rochester South Ruddic Area, Pershing County, Nevada	22-5043; 22-5044; 22-5045; 22-5046/5051; 22-5047/5048; 22-5049; 22-5055; 22-5057; 22-5058; 22-5059; 22-5064; 22-5066; 22-5068; 22-5074; 22-5077 22-5085; 22-5088	22-5050; 22-5065; 22-5069; 22-5072; 22-5073; 22-5078; 22-5080; 22-5081; 22-5082; 22-5083
CR2-2367	1990	A Class III Cultural Resources Survey of the Packard Ridge, Humboldt Range, Pershing County, Nevada	-	22-5127; 22-5129; 22-5131
CR2-2373	1990	An Evaluation of Four Archaeological Sites in Weaver Canyon, Pershing County, Nevada	-	-
CR2-2377	1990	A Class III Cultural Resources Survey of the Black Ridge, Humboldt Range, Pershing County, Nevada	-	-
CR2-2432	1991	A Class III Archaeological Survey of Five Aggregate Sources in Pershing County, Nevada	-	-
CR2-2436	1991	A Cultural Resources Inventory of 540 Acres (Pan Inventory) for Geophysical Exploration in the Vicinity of the Coeur Rochester Mine. Pershing County, Nevada	-	-
CR2-2441	1991	A Cultural Resources Inventory of the Friedman Dump Project Area in the Vicinity of the Coeur Rochester Mine, Pershing County, Nevada	-	22-3561/3563/3564/5440
CR2-2449	1992	A Cultural Resources Survey for the Limerick Basin Project, Pershing County, Nevada	-	22-5476/5479-5486
CR2-2511	1993	Cultural Resources Inventory: Proposed 18.0+/- Acre Waste Rock Dump Expansion Project Vicinity of the Coeur Rochester Mine, Pershing County, Nevada	-	22-3563
CR2-2543	1993	Amendment to Coeur Rochester Inc. Notice of Intent N26-90-134N	-	-
CR2-2548	1993	Lovelock Meadows Water District Monitoring Well	-	-
CR2-2648	1994	Construction of an Underground Pipeline	-	-

BLM Report No.	Year	Title	Indirect Sites (CrNV-XX-XXX)	Direct Sites (CrNV-XX-XXXX)
CR2-2670	1996	Cultural Resources Inventory: Proposed 28.7+/- acre Rock Disposal Site Permit Expansion Project, Vicinity of the Coeur Rochester Mine, Pershing County, Nevada	-	22-402
CR2-2937	2006	A Class III Cultural Resources Inventory of MGC Resources, Inc's Spring Valley Project, in the Spring Valley of Pershing County, Nevada	22-6919; 22-6920	-
CR2-2952	2007	A Class III Cultural Resources Inventory of Approximately 500 Acres for the Spring Valley Exploration Project, Pershing County, Nevada	-	-
CR2-2972	2007	Relief Canyon Pad Survey	-	-
CR2-3005	2008	Cultural Resources Inventory for the Coeur Rochester Mineral Exploration Program 2008, Pershing County, Nevada	22-5059; 22-5085; 22-5088; 02-8559; 02-8563; 02-8564; 02-8566; 02-8567; 02-8568; 02-8571; 02-8572	22-4235; 02-8561; 02-8562;02-8569; 02-8570; 02-8571; 02-8573
CR2-3028	2008	Limerick Canyon Class III Inventory and Historic Structure Evaluation	-	-
CR2-3142	2011	A Class III Cultural Resource Inventory of 3110 acres for the Barrick Gold Exploration, Inc. Spring Valley Project, Pershing County, Nevada	-	22-401; 02-11044;
CR2-3167	2014	A Class III Cultural Resource Inventory for the Coeur Rochester, Inc. Plan of Operations Amendment (POA) Number 10 in Pershing County, Nevada	22-4760; 02-12591; 02-12593; 02-12595; 02-12598; 02-12711; 02-12747; 02-12968; 02-12972;	22-401; 22-3429; 22-3561/3563/3564/5440; 22-3545/3562/3567/3580-3584; 02-11649; 02-12593; 02-12711
CR2-3199	2015	A Class III Cultural Resources Inventory of 2,984 Acres for the Barrick Gold Exploration, Inc. Spring Valley Project, Pershing County, Nevada	02-11874; 02-11886; 02-12725; 02-12969; 02-12997	22-5476/5479-5486; 02-11044; 02-11871; 02-11875; 02-11878; 02-11880; 02-11881; 02-11883; 02-11876; 02-11879; 02-12977/12073
CR2-3230	2014	A Class III Inventory of NV Energy's Transmission Rebuild Project, Pershing County, Nevada	-	-

BLM Report No.	Year	Title	Indirect Sites (CrNV-XX-XXX)	Direct Sites (CrNV-XX-XXXX)
CR2-3257	2017	A Class III Cultural Resources Inventory of 1,035 Acres for the Coeur Rochester, Inc. Packard Flat Project, Pershing County, Nevada	02-12525; 02-12526; 02-12529	02-12527; 22-4229/4230; 02-11649; 02-11655; 02-11656
CR2-3275	2015	Class III Survey of 2753 Acres in the Relief Canyon Area, Pershing County, NV	-	-
CR2-3299	2017	A Class III Cultural Resources Inventory of 5,432 acres for the Rye Patch Gold Oreana Exploration Project in the Humboldt Range, Pershing County, Nevada	02-12711; 02-12713; 02-12593	22-403; 22-471; 02-12593; 02-12711; 02-12977/12073; 02-12734; 02-12806
CR2-3309	1987	An Intensive Archaeological Survey of Proposed Electronic Warfare Range Communications Line Improvements, TACTS Sites, and Repeater Site: Naval Air Station Fallon	-	-
CR2-3347	2017	A Cultural Resource Assessment of 192 Abandoned Mine Land Hazards for Fencing and Abatement in American Canyon	22-243	-
CR2-3385	2019	A Class III Cultural Resources Inventory of 3,595 acres in Pershing County, Nevada for the Coeur Rochester Mine POA 11 Project	22-2175; 22-3916; 22-3929; 22-4229/4230; 22-5043; 22-5044; 22-5045; 22-5046/5051; 22-5047/5048; 22-5049; 22-5050; 22-5055; 22-5064; 22-5066; 22-5068; 22-5074; 22-5077; 22-6919; 22-6920; 02-8571; 02-8568; 02-12374; 02-13344; 02-13447; 02-13448;02-13452; 02-13453; 02-13455; 02-13456; 02-13469; 02-13470; 02-13471; 02-13474; 02-13478; 02-13482; 02-13504; 02-13520; 02-13521; 02-13522; 02-13523; 02-13524; 02-13525; 02-13526; 02-13527; 02-13528; 02-13529; 02-13530	22-402; 22-403; 22-436; 22-471; CrNV-22-1458; CrNV-22-1459; CrNV-22-1460; CrNV-22-1461; CrNV-22-1462; CrNV-22-1463; CrNV-22-1464/22-1465; 22-3428; 22-3550; 22-3551; 22-3552; 22-3585; 22-3913; 22-3919; 22-3923; 22-4195; 22-4206; 22-4208; 22-4211; 22-4214; 22-4215; 22-4221; 22-4222; 22-4224; 22-3592; 22-4226; 22-4229/4230; 22-4233; 22-4234; 22-4236; 22-4238; 22-4241; 22-4758; 22-5072; 22-5073; 22-5078; 22-5080; 22-5081/5082; 22-5083; 22-5129; 22-5131; 22-5476/5479-5486; 02-8565; 02-8569; 02-8571; 02-8573; 02-11655; 02-11876; 02-11879; 02-12794; 02-12974;

BLM Report No.	Year	Title	Indirect Sites (CrNV-XX-XXX)	Direct Sites (CrNV-XX-XXXX)
CR2-3385 *(continued)*	*(see above)*	*(see above)*	*(see above)*	2-12977/12073; 02-13441; 02-13442; 02-13443 02-13444; 02-13446; 02-13449; 02-13450; 02-13451; 02-13454; CrNV-02-13457; CrNV-02-13458; CrNV-02-13459; CrNV-02-13460; CrNV-02-13461; CrNV-02-13462; CrNV-02-13463; CrNV-02-13464; CrNV-02-13465; CrNV-02-13466; CrNV-02-13467; CrNV-02-13468; CrNV-02-13472; CrNV-02-13473; 02-13475; 02-13476; 02-13477; 2-13479; 02-13480; 02-13481; 02-13483; 02-13485; 02-13495; 02-13486; 02-13487; 02-13488; 02-13489; 02-13490; 02-13491; 02-13492; 02-13493; 02-13494; 02-13495; 02-13496; 02-13497; 02-13498; 02-13499; 02-13500; 02-13501; 02-13502; 02-13503; 02-13505; 02-13506; 02-13507; 02-13508; 02-13509; 02-13510; 02-13511; 02-13512; 02-13513; 02-13514; 02-13515; 02-13516; 02-13517; 02-13518; 02-13519; 02-13531; 02-13532; 02-13533; 02-13535; 13536

Table D-2
Eligible Sites

BLM Site No. (CrNV-XX-XXXX)	Site Description	Age	APE	NRHP	RCD Contributing
22-243	Lithic Scatter/Mining Camp	Multi-component	Indirect	Eligible (A and D)	-
22-401	Historic Townsite	Historic	Direct	Eligible (A and D)	-
22-402	Historic Townsite	Historic	Direct	Eligible (D)	Contributing (D)
22-403	Historic Townsite	Historic	Direct	Eligible (D)	Contributing (D)
22-471	Railroad	Historic	Direct/Indirect	Eligible (A and B)	Contributing (D)
22-1462	Complex Ground Stone Scatter/Mining Features	Multi-component	Indirect	Eligible (D)	-
22-1463	Mining/Historic Habitation	Historic	Indirect	Eligible (D)	-
22-1464/1465/S1913	Complex Lithic Scatter/Mining Dugout	Multi-component	Indirect	Eligible (D)	-
22-2175/S1908	Mining/Pipeline	Historic	Indirect	Ineligible	Contributing (D)
22-3241	Lithic Scatter/Historic Homestead	Multi-component	Indirect	Eligible (A and D)	Contributing (D)
22-3430	Lithic Scatter/Mining	Multi-component	Direct	Eligible (D)	-
22-3545/3562/3567/3580-3584	Lithic Scatter/Mining	Multi-component	Direct	Eligible (D)	-
22-3923	Complex Lithic Scatter/Mining Camp	Multi-component	Direct	Eligible (D)	-
22-4229/4230/B14129	Historic Townsite Refuse Scatter	Historic	Direct/Indirect	Eligible (A, C, and D)	Contributing (D)
22-4235	Historic Mill Site	Historic	Direct/Indirect	Eligible (A and D)	Contributing (D)
22-5045	Foundation and Refuse Scatter	Historic	Indirect	Unevaluated	
22-5072/S1909	Wooden Pipeline	Historic	Direct	Ineligible	Contributing (D)
22-5474	Mine Complex	Historic	Indirect	Eligible (D)	-
22-5491	Refuse Scatter	Historic	Indirect	Unevaluated	-
22-6919	Historic Habitation	Historic	Indirect	Unevaluated	-
22-6920	Historic Habitation	Historic	Indirect	Unevaluated	-
02-8563	Wooden Pipeline	Historic	Indirect	Eligible (C and D)	Contributing (D)
02-8565	Road	Historic	Direct	Unevaluated	-
02-8568	Road	Historic	Indirect	Unevaluated	-
02-8569	Mining Complex with Structures	Historic	Direct	Eligible (D)	Contributing (D)
02-8571	Utility Line	Historic	Direct/Indirect	Ineligible/Other Segments Unevaluated	Other Segments Contributing (D)

BLM Site No. (CrNV-XX-XXXX)	Site Description	Age	APE	NRHP	RCD Contributing
02-8573	Road	Historic	Direct	Unevaluated	-
02-11044	Lithic Scatter and Prospect	Multi-component	Direct	Eligible (D)	-
02-11048	Road	Historic	Indirect	Unevaluated	-
02-11050	Road	Historic	Direct/Indirect	Unevaluated	-
02-11051/S1906	Historic Road	Historic	Direct	Ineligible	Contributing (D)
02-11649	Complex Lithic Scatter	Prehistoric	Direct	Eligible (D)	-
02-11656	Complex Lithic Scatter with Features	Prehistoric	Direct	Eligible (D)	-
02-11665	Road and Refuse Scatter	Historic	Direct	Unevaluated	-
02-11875	Lithic and Ground Stone Scatter with Features	Multi-component	Direct	Eligible (D)	-
02-11876	Complex Lithic Scatter/Prospecting	Multi-component	Direct	Eligible (D)	-
02-11880	Lithic Scatter/Mining	Multi-component	Direct	Eligible (D)	-
02-11886	Placer Mining Site	Historic	Indirect	Eligible (A and D)	-
02-12374	Pipeline	Historic	Indirect	Unevaluated	-
02-12593	Cultural District (D177)	Historic	Direct/Indirect	Eligible (D)	-
02-12598	Mining	Historic	Indirect	Eligible (A and D)	Contributing (D)
02-12711	Historic Mine	Historic	Direct/Indirect	Eligible (A)	Contributing (D)
02-12725	Mining	Historic	Indirect	Eligible (A)	Contributing (D)
02-12734	Historic Mill Site	Historic	Direct	Eligible (D)	Contributing (D)
02-12747	Historic Mine	Historic	Indirect	Ineligible	Contributing (D)
02-12748	Historic Mill Site	Historic	Indirect	Ineligible	Contributing (D)
02-12794	Historic Townsite	Historic	Direct	Eligible (D)	Contributing (D)
02-12806	Lithic Scatter	Prehistoric	Direct	Unevaluated	-
02-12968	Historic Mine	Historic	Indirect	Eligible (A)	Contributing (D)
02-12969	Historic Mine	Historic	Indirect	Eligible (A)	Contributing (D)
02-12972	Historic Mill and Mine	Historic	Indirect	Eligible (A and D)	Contributing (D)
02-12977/12073	Historic Road	Historic	Direct/Indirect	Eligible (A)	Contributing (D)
02-12997	Historic Mine	Historic	Indirect	Eligible (A)	Contributing (D)
02-13344	Historic Mine	Historic	Indirect	Unevaluated	-
02-13441	Aerial Tram	Historic	Direct	Ineligible	Contributing (D)
02-13443	Utility Line	Historic	Indirect	Unevaluated	-

BLM Site No. (CrNV-XX-XXXX)	Site Description	Age	APE	NRHP	RCD Contributing
02-13460	Historic Habitation, Stone Cabin	Historic	Indirect	Eligible (D)	-
02-13464	Historic Habitation, Stone Cabin	Historic	Indirect	Eligible (D)	-
02-13471	Prehistoric Habitation	Prehistoric	Indirect	Unevaluated	-
02-13479	Complex Lithic Scatter/Prospecting	Multi-component	Direct	Eligible (D)	-

Table D-3
Potential Project Impacts to NRHP-Eligible, Unevaluated, or RDC-Contributing Resources

BLM Site Number (CrNV-XX-XXXXX)	NRHP Eligibility by Component	Site Description	Impact	Type of Impact	Included in VRM Study Effects	Visual Impacts
22-401	Historic Eligible (A and D)	Historic Townsite	Direct	Mining activities (BLM)	Yes	Will be affected directly
22-402	Historic Eligible (D)	Historic Townsite	Direct	Mining activities (BLM, Private)	-	-
22-403	Historic Eligible (D)	Historic Townsite	Direct	Powerline permanent and temporary disturbances (BLM, Private)	-	-
02-471	Historic Eligible (A and B)	Railroad	Indirect	Powerline permanent and temporary disturbances (BLM)	-	Yes
22-3241	Historic Eligible (A and D)	Lithic Scatter/Historic Homestead	Indirect	-	Yes	Yes
22-3430	Prehistoric Eligible (D)	Lithic Scatter/Mining	Direct	Mining activities (BLM)	-	-
22-3923	Prehistoric Eligible (D)	Complex Lithic Scatter/Mining Camp	Direct	Mining activities (BLM)	-	-
22-4229/4230/B14129	Historic Eligible (A, C, and D)	Historic Townsite Refuse Scatter	Direct/Indirect	Mining activities (BLM, Private)	Yes	Will be affected directly
22-4235	Historic Eligible (A and D)	Historic Mill Site	Direct/Indirect	Mining activities (BLM)	Yes	Yes
22-5072/S1909	Historic Ineligible; (Contributing to the RCD; D)	Wooden Pipeline	Direct	Mining activities (BLM)	-	-
02-8563	Historic Eligible (C and D)	Wooden Pipeline	Indirect	-	Yes	Yes
02-8569	Historic Eligible (D)	Mining Complex with Structures	Direct	Mining activities (BLM), Relief Canyon Road to Packard Flat (BLM)	-	-

BLM Site Number (CrNV-XX-XXXXX)	NRHP Eligibility by Component	Site Description	Impact	Type of Impact	Included in VRM Study Effects	Visual Impacts
02-8571	Historic Ineligible; (Other segments contributing to the RCD; D)	Utility Line	Direct//Indirect	Powerline permanent and temporary disturbances (BLM, Private); Mining activities (BLM	Yes	Yes
02-11044	Prehistoric Eligible (D)	Lithic Scatter/Prospect	Direct	Mining activities (BLM, Private)	-	-
02-11051/S1906	Historic Ineligible; (Contributing to the RCD; D)	Historic Road	Direct	Mining activities (BLM)	-	-
02-11649	Prehistoric Eligible (D)	Complex Lithic Scatter	Direct	Mining activities (BLM, Private)	-	-
02-11656	Prehistoric Eligible (D)	Complex Lithic Scatter with Features	Direct	Relief Canyon Road to Packard Flat (BLM, Private)	-	-
02-11875	Prehistoric Eligible (D)	Lithic and Ground Stone Scatter with Features	Direct	Mining activities (BLM), Powerline permanent disturbance (BLM)	-	-
02-11876	Prehistoric Eligible (D)	Complex Lithic Scatter/Prospecting	Direct	Mining activities (Private)	-	-
02-11880	Prehistoric Eligible (D)	Lithic Scatter/Mining	Direct	Mining activities (Private)	-	-
02-12593	Historic Eligible (D)	Cultural District (D177)	Direct/Indirect	Mining activities (BLM, Private), Relief Canyon Road to Packard Flat (BLM, Private), Powerline permanent and temporary disturbances (BLM, Private)	-	Yes
02-12598	Historic Eligible (A and D)	Mining	Indirect	-	Yes	Yes
02-12711	Historic Eligible (A)	Historic Mine	Direct/Indirect	Powerline permanent and temporary disturbances (BLM)	Yes	Yes
02-12734	Historic Eligible (D)	Historic Mill Site	Direct	Powerline permanent and temporary disturbances (BLM, Private)	-	-

BLM Site Number (CrNV-XX-XXXXX)	NRHP Eligibility by Component	Site Description	Impact	Type of Impact	Included in VRM Study Effects	Visual Impacts
02-12794	Historic Eligible (D)	Historic Townsite	Direct	Mining activities (BLM, Private)	-	-
02-12806	Unevaluated	Lithic Scatter	Direct	Powerline permanent and temporary disturbances (BLM, Private)	-	-
02-12968	Historic Eligible (A)	Historic Mine	Indirect	-	Yes	Yes
02-12972	Historic Eligible (A and D)	Historic Mill and Mine	Indirect	-	Yes	Yes
02-12977/12073	Historic Eligible (A)	Historic Road	Direct/Indirect	Mining activities (BLM), Powerline permanent and temporary disturbances (BLM, Private)	Yes	Yes
02-13441	Historic Ineligible; (Contributing to the RCD; D)	Aerial Tram	Direct	Mining activities (BLM)	-	-
02-13479	Prehistoric Eligible (D)	Complex Lithic Scatter/Prospecting	Direct	Mining activities (Private)	-	-

Source: SHPO 2019

Appendix E

Visual Resources – Contrast Rating Worksheets

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Figure C-1 - KOP Location Sketch

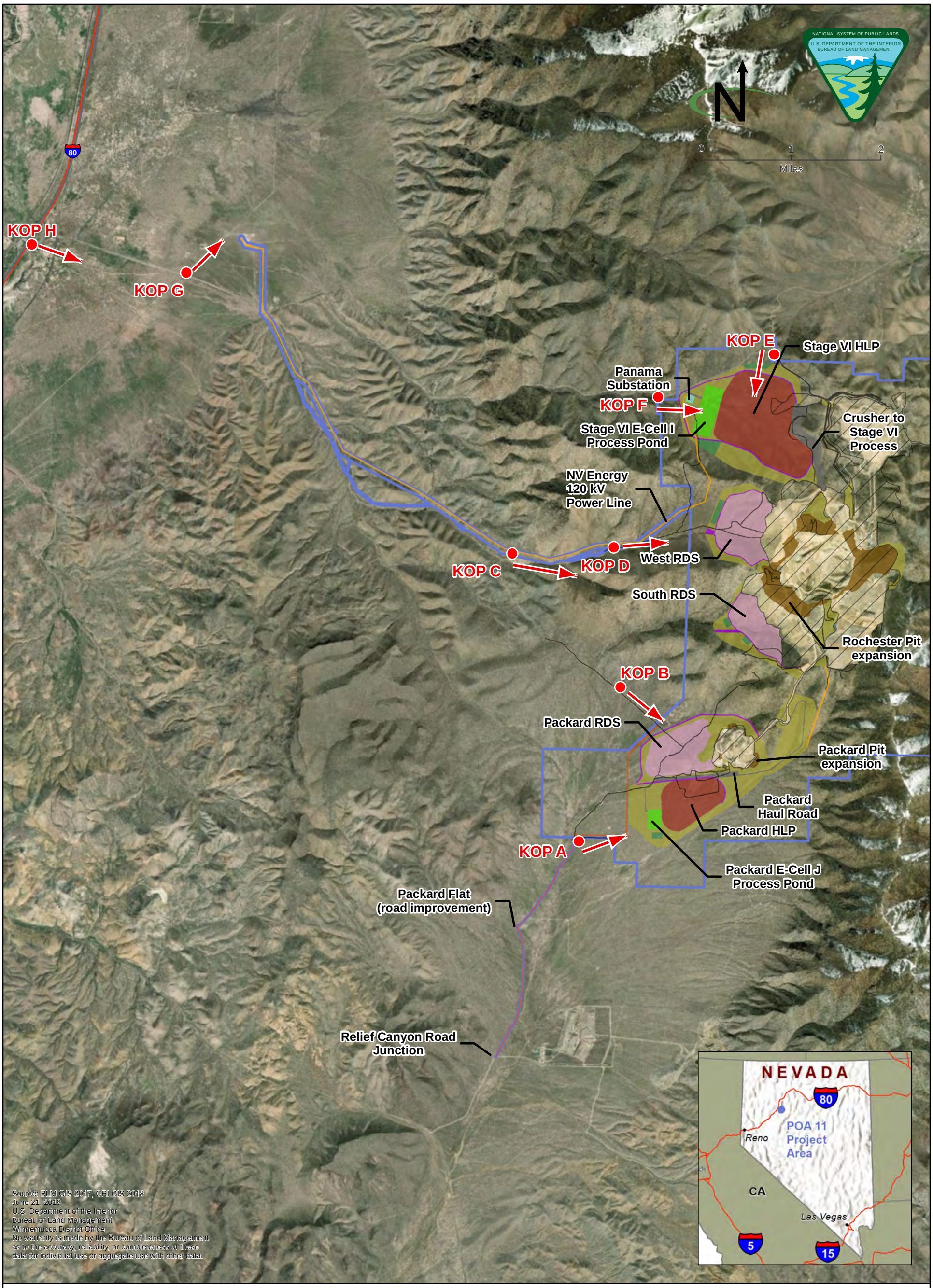

Figure E-1

Contrast Rating Worksheet Location Sketch

POA 11 EIS project area

KOP and viewing direction

Authorized disturbance

Proposed Disturbance

- Pit expansion
- Heap Leach Pad (HLP)
- Rock Disposal Site (RDS)
- E-Cell
- Growth Media Stockpiles
- Sediment and drainage control
- Roads
- Additional disturbance area
- Panama substation
- NV Energy 120 kV Power Line
- Packard Flat (road improvement)

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Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date July 27, 2018

District Winnemucca

Resource Area Humboldt River

Activity (program) Locatable minerals

SECTION A. PROJECT INFORMATION

1. Project Name Coeur Rochester and Packard Mines Plan of Operations Amendment 11

2. Key Observation Point A

3. VRM Class II and IV

4. Location
Township 27N
Range 34E
Section 6

5. Location Sketch
See Figure E-1 in Appendix E

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat leading to simple, rolling terrain. Flat road.	Uniform or patchy	None
LINE	Horizontal to diagonal. Horizontal road converging in distance.	Horizontal to diagonal. Abrupt edge. Converging in distance.	None
COLOR	Tan. Tan or light gray road.	Tan, medium green, or dark green	None
TEX-TURE	Smooth to bumpy. Smooth road	Smooth to slightly bumpy	None

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat leading to simple, rolling terrain. Flat road.	Uniform or patchy. Absent vegetation.	Isolated gate.
LINE	Horizontal to diagonal. Horizontal road converging in distance.	Horizontal to diagonal. Abrupt edge. Converging in distance.	Vertical gate.
COLOR	Tan. Tan or light gray road.	Tan, medium green, or dark green	Gray and green gate.
TEX-TURE	Smooth to bumpy. Smooth road.	Smooth to slightly bumpy	Bumpy gate.

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

		FEATURES											
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS	Form			X					X			X	
	Line				X				X			X	
	Color				X				X			X	
	Texture				X				X			X	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No
(Explain on reverse side)

3. Additional mitigating measures recommended
☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names — Date
Derek Holmgren — July 27, 2018

Comments from item 2.

A gate, road, and Packard heap leach pad would be visible. During construction and operation, views of the area would be cluttered with construction equipment, construction materials, and temporary support infrastructure. The bold colors and geometric, boxy forms of artificial construction vehicles, materials, and equipment would not resemble the colors and forms of the surrounding terrain and vegetation. This would create focal points on an open landscape and would not resemble other landscape elements, which is mostly short vegetation. These potential impacts would occur only when construction equipment, construction materials, and temporary support infrastructure are present.

Construction and operation would involve surface disturbances that create new landforms in the shape of hills with exposed soil. The new landforms would be contoured to resemble nearby landforms but would lack vegetation. The exposed soil and lack of vegetation would persist until reclamation.

Construction and operation would generate dust from vehicle movement, earthmoving activities, and wind. Fugitive dust would diminish atmospheric clarity. This potential impacts on visual resources would persist until the dust settles or is blown elsewhere.

During construction and operation, vehicle lights and other lights to illuminate work sites for visibility and safety would be used. Also, reflective surface structures would create glare. The intensity and amount of light and glare would vary, depending on the intensity and angle of sunlight and the time of day and year. This would add artificial points of illumination that are nearly absent in the area. The potential impacts from light and glare would persist until reclamation. Given the negligible artificial light in the area, construction and operation light and glare would essentially be the only sources of light that would diminish the quality of dark skies.

During construction and operation, the changes to visual resources would create a moderate to strong degree of contrast. It would not conform with VRM Class II objectives. In the long term after reclamation, the remaining degree of contrast would be weak, which would conform with VRM Class II objectives. The proposed project would meet VRM Class IV objectives.

Additional Mitigating Measures (See item 3)

No additional mitigating measures recommended beyond best management practices, standard operating procedures, and reclamation (such as contouring land to resemble nearby contours, revegetation, etc.).

U.S. Government Printing Office: 1985-461-988/33094

Figure 1: KOP A Existing Conditions

Figure 2: KOP A Simulated Operations

Figure 3: KOP A Simulated Reclamation

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date July 27, 2018

District Winnemucca

Resource Area Humboldt River

Activity (program) Locatable minerals

SECTION A. PROJECT INFORMATION

1. Project Name Coeur Rochester and Packard Mines Plan of Operations Amendment 11

2. Key Observation Point B

3. VRM Class II

4. Location
Township 28N
Range 34E
Section 30

5. Location Sketch
See Figure E-1 in Appendix E

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat leading to simple, rolling terrain. Flat road	Mostly uniform	None
LINE	Horizontal to diagonal. Horizontal road converging in distance.	Horizontal to diagonal. Abrupt edge. Converging in distance.	None
COLOR	Tan. Light gray road	Tan, medium green, or dark green	None
TEX-TURE	Smooth to bumpy. Smooth road	Smooth to slightly bumpy	None

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat leading to simple, rolling terrain. Flat road	Mostly uniform	None
LINE	Horizontal to diagonal. Horizontal road converging in distance.	Horizontal to diagonal. Abrupt edge. Converging in distance.	None
COLOR	Tan. Light gray road	Tan, medium green, or dark green	None
TEX-TURE	Smooth to bumpy. Smooth road	Smooth to slightly bumpy	None

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Form			X					X				X
Line			X					X				X
Color			X				X					X
Texture			X				X					X

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No
(Explain on reverse side)

3. Additional mitigating measures recommended
☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names — Date
Derek Holmgren — July 27, 2018

SECTION D. (Continued)

Comments from item 2.

A Packard rock disposal site would be visible. During construction and operation, views of the area would be cluttered with construction equipment, construction materials, and temporary support infrastructure. The bold colors and geometric, boxy forms of artificial construction vehicles, materials, and equipment would not resemble the colors and forms of the surrounding terrain and vegetation. This would create focal points on an open landscape and would not resemble other landscape elements, which is mostly short vegetation. These potential impacts would occur only when construction equipment, construction materials, and temporary support infrastructure are present.

Construction and operation would involve surface disturbances that create new landforms in the shape of hills with exposed soil. The new landforms would be contoured to resemble nearby landforms but would lack vegetation. The exposed soil and lack of vegetation would persist until reclamation.

Construction and operation would generate dust from vehicle movement, earthmoving activities, and wind. Fugitive dust would diminish atmospheric clarity. This potential impacts on visual resources would persist until the dust settles or is blown elsewhere.

During construction and operation, vehicle lights and other lights to illuminate work sites for visibility and safety would be used. Also, reflective surface structures would create glare. The intensity and amount of light and glare would vary, depending on the intensity and angle of sunlight and the time of day and year. This would add artificial points of illumination that are nearly absent in the area. The potential impacts from light and glare would persist until reclamation. Given the negligible artificial light in the area, construction and operation light and glare would essentially be the only sources of light that would diminish the quality of dark skies.

During construction and operation, the changes to visual resources would create a moderate to strong degree of contrast. It would not conform with VRM Class II objectives. In the long term after reclamation, the remaining degree of contrast would be weak, which would conform with VRM Class II objectives.

Additional Mitigating Measures (See item 3)

No additional mitigating measures recommended beyond best management practices, standard operating procedures, and reclamation (such as contouring land to resemble nearby contours, revegetation, etc.).

U.S. Government Printing Office: 1985-461-988/33094

Figure 4: KOP B Existing Conditions

Figure 5: KOP B Simulated Operations

Figure 6: KOP B Simulated Reclamation

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date July 27, 2018

District Winnemucca

Resource Area Humboldt River

Activity (program) Locatable minerals

SECTION A. PROJECT INFORMATION

1. Project Name Coeur Rochester and Packard Mines Plan of Operations Amendment 11

2. Key Observation Point C

3. VRM Class II

4. Location
Township 28N
Range 33E
Section 13

5. Location Sketch
See Figure E-1 in Appendix E

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rolling terrain. Flat road.	Uniform or patchy	Isolated utility poles
LINE	Horizontal and diagonal. Horizontal road converging in distance.	Horizontal and diagonal. Abrupt edge. Converging in distance.	Vertical utility poles
COLOR	Tan. Gray road.	Tan, medium green, or dark green	Brown utility poles
TEX-TURE	Smooth to bumpy. Smooth road.	Smooth, slightly bumpy, or coarse	Stippled utility poles

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rolling terrain. Flat road.	Uniform or patchy	Isolated utility poles
LINE	Horizontal and diagonal. Horizontal road converging in distance.	Horizontal and diagonal. Abrupt edge. Converging in distance.	Vertical utility poles
COLOR	Tan. Gray road.	Tan, medium green, or dark green	Brown utility poles
TEX-TURE	Smooth to bumpy. Smooth road.	Smooth, slightly bumpy, or coarse	Stippled utility poles

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS	Form				X				X				X
	Line				X				X			X	
	Color				X				X				X
	Texture				X				X			X	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No
(Explain on reverse side)

3. Additional mitigating measures recommended
☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names — Date
Derek Holmgren — July 27, 2018

SECTION D. (Continued)

Comments from item 2.

A powerline would be visible. During construction, views of the area would be cluttered with construction equipment, construction materials, and temporary support infrastructure. The bold colors and geometric, boxy forms of artificial construction vehicles, materials, and equipment would not resemble the colors and forms of the surrounding terrain and vegetation. This would create focal points on an open landscape and would not resemble other landscape elements, which is mostly short vegetation. These potential impacts would occur only when construction equipment, construction materials, and temporary support infrastructure are present.

Construction would involve surface disturbances that create exposed soil. The exposed soil would lack vegetation. The exposed soil and lack of vegetation would persist until reclamation.

During short-term construction activities, the changes to visual resources would create a moderate degree of contrast. It would not conform with VRM Class II objectives. In the long term after reclamation, the remaining degree of contrast would be weak, which would conform with VRM Class II objectives.

Additional Mitigating Measures (See item 3)

No additional mitigating measures recommended beyond best management practices, standard operating procedures, and reclamation (such as contouring land to resemble nearby contours, revegetation, etc.).

U.S. Government Printing Office: 1985-461-988/33094

Figure 7: KOP C Existing Conditions

Figure 8: KOP C Simulated Operations

Figure 9: KOP C Simulated Reclamation

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date July 27, 2018

District Winnemucca

Resource Area Humboldt River

Activity (program) Locatable minerals

SECTION A. PROJECT INFORMATION

1. Project Name Coeur Rochester and Packard Mines Plan of Operations Amendment 11

2. Key Observation Point D

3. VRM Class II

4. Location
Township 28N
Range 34E
Section 18

5. Location Sketch
See Figure E-1 in Appendix E

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rolling terrain. Flat road.	Uniform or patchy	Isolated utility poles
LINE	Horizontal and diagonal. Horizontal road converging in distance.	Horizontal and diagonal. Abrupt edge. Converging in distance.	Vertical utility poles
COLOR	Tan. Gray road.	Tan, medium green, or dark green	Brown utility poles
TEX-TURE	Smooth to bumpy. Smooth road.	Smooth or slightly bumpy	Stippled utility poles

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rolling terrain. Flat road.	Uniform or patchy	Isolated utility poles
LINE	Horizontal and diagonal. Horizontal road converging in distance.	Horizontal and diagonal. Abrupt edge. Converging in distance.	Vertical utility poles
COLOR	Tan. Gray road.	Tan, medium green, or dark green	Brown utility poles
TEX-TURE	Smooth to bumpy. Smooth road.	Smooth or slightly bumpy	Stippled utility poles

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS	Form				X				X				X
	Line				X				X			X	
	Color				X				X				X
	Texture				X				X			X	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names: Derek Holmgren

Date: July 27, 2018

SECTION D. (Continued)

Comments from item 2.

A powerline would be visible. During construction, views of the area would be cluttered with construction equipment, construction materials, and temporary support infrastructure. The bold colors and geometric, boxy forms of artificial construction vehicles, materials, and equipment would not resemble the colors and forms of the surrounding terrain and vegetation. This would create focal points on an open landscape and would not resemble other landscape elements, which is mostly short vegetation. These potential impacts would occur only when construction equipment, construction materials, and temporary support infrastructure are present.

Construction would involve surface disturbances that create exposed soil. The exposed soil would lack vegetation. The exposed soil and lack of vegetation would persist until reclamation.

During short-term construction activities, the changes to visual resources would create a moderate degree of contrast. It would not conform with VRM Class II objectives. In the long term after reclamation, the remaining degree of contrast would be weak, which would conform with VRM Class II objectives.

Additional Mitigating Measures (See item 3)

No additional mitigating measures recommended beyond best management practices, standard operating procedures, and reclamation (such as contouring land to resemble nearby contours, revegetation, etc.).

U.S. Government Printing Office: 1985-461-988/33094

Figure 10: KOP D Existing Conditions

Figure 11: KOP D Simulated Operations

Figure 12: KOP D Simulated Reclamation

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date July 27, 2018

District Winnemucca

Resource Area Humboldt River

Activity (program) Locatable minerals

SECTION A. PROJECT INFORMATION

1. Project Name Coeur Rochester and Packard Mines Plan of Operations Amendment 11

2. Key Observation Point E

3. VRM Class II and IV

4. Location
Township 28N
Range 34E
Section 4

5. Location Sketch
See Figure E-1 in Appendix E

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rolling terrain. Flat vehicle pullout.	Uniform, patchy, or scattered	None
LINE	Horizontal and diagonal. Horizontal vehicle pullout.	Horizontal and diagonal. Abrupt edge.	None
COLOR	Tan. Gray vehicle pullout.	Tan, medium green, or dark green	None
TEX-TURE	Smooth to bumpy. Smooth vehicle pullout.	Smooth, slightly bumpy, or coarse	None

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rolling terrain. Flat vehicle pullout.	Uniform, patchy, or scattered. Absent vegetation.	Isolated utility poles
LINE	Horizontal and diagonal. Horizontal vehicle pullout.	Horizontal and diagonal. Abrupt edge.	Vertical utility poles
COLOR	Tan. Gray vehicle pullout.	Tan, medium green, or dark green	Brown utility poles
TEX-TURE	Smooth to bumpy. Smooth vehicle pullout.	Smooth, slightly bumpy, or coarse	Stippled utility poles

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

	FEATURES											
	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
ELEMENTS	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Form		X					X				X	
Line			X				X					X
Color			X			X						X
Texture			X			X					X	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names: Derek Holmgren

Date: July 27, 2018

SECTION D. (Continued)

Comments from item 2.

A powerline, heap leach pad, and Rochester pit expansion would be visible. During construction and operation, views of the area would be cluttered with construction equipment, construction materials, and temporary support infrastructure, mostly when the prominent new hill in the immediate foreground reaches a height visible from the KOP. The bold colors and geometric, boxy forms of artificial construction vehicles, materials, and equipment would not resemble the colors and forms of the surrounding terrain and vegetation. This would create focal points on an open landscape and would not resemble other landscape elements, which is mostly short vegetation. These potential impacts would occur only when construction equipment, construction materials, and temporary support infrastructure are present.

Construction and operation would involve creating new surfaces with exposed soil. The exposed soil would lack vegetation. The exposed soil and lack of vegetation would persist until reclamation.

During short-term construction activities, the changes to visual resources would create a moderate degree of contrast. It would not conform with VRM Class II objectives. In the long term after reclamation, the remaining degree of contrast would be weak, which would conform with VRM Class II objectives. The proposed project would meet VRM Class IV objectives.

Additional Mitigating Measures (See item 3)

No additional mitigating measures recommended beyond best management practices, standard operating procedures, and reclamation (such as contouring land to resemble nearby contours, revegetation, etc.).

U.S. Government Printing Office: 1985-461-988/33094

Figure 13: KOP E Existing Conditions

Figure 14: KOP E Simulated Operations

Figure 15: KOP E Simulated Reclamation

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date July 27, 2018

District Winnemucca

Resource Area Humboldt River

Activity (program) Locatable minerals

SECTION A. PROJECT INFORMATION

1. Project Name Coeur Rochester and Packard Mines Plan of Operations Amendment 11

2. Key Observation Point F

3. VRM Class II and IV

4. Location
Township 28N
Range 34E
Section 5

5. Location Sketch
See Figure E-1 in Appendix E

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rolling terrain. Flat road	Uniform or patchy	None
LINE	Horizontal and diagonal. Horizontal road.	Horizontal, diagonal, or vertical. Subtle abrupt edge.	None
COLOR	Tan. Gray road.	Golden, tan, light green, medium green, or dark green	None
TEX-TURE	Smooth to bumpy. Smooth road.	Smooth, bumpy, or coarse	None

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rolling terrain. Flat road	Uniform or patchy. Absent vegetation.	Isolated facilities
LINE	Horizontal and diagonal. Horizontal road.	Horizontal, diagonal, or vertical. Abrupt edge.	Discrete facilities
COLOR	Tan. Gray road.	Golden, tan, light green, medium green, or dark green	Brown, white, and gray facilities
TEX-TURE	Smooth to bumpy. Smooth road.	Smooth, bumpy, or coarse	Stippled facilities

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

	FEATURES											
	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS Form		X					X				X	
ELEMENTS Line			X				X				X	
ELEMENTS Color			X					X				X
ELEMENTS Texture			X				X				X	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No
(Explain on reverse side)

3. Additional mitigating measures recommended
☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names: Derek Holmgren
Date: July 27, 2018

SECTION D. (Continued)

Comments from item 2.

A substation, powerline, and heap leach pad would be visible. During construction and operation, views of the area would be cluttered with construction equipment, construction materials, and temporary support infrastructure, mostly when the prominent new hill in the immediate foreground reaches a height visible from the KOP. The bold colors and geometric, boxy forms of artificial construction vehicles, materials, and equipment would not resemble the colors and forms of the surrounding terrain and vegetation. This would create focal points on an open landscape and would not resemble other landscape elements, which is mostly short vegetation. These potential impacts would occur only when construction equipment, construction materials, and temporary support infrastructure are present.

Construction and operation would involve creating new surfaces with exposed soil. The exposed soil would lack vegetation. The exposed soil and lack of vegetation would persist until reclamation.

During short-term construction activities, the changes to visual resources would create a moderate degree of contrast. It would not conform with VRM Class II objectives. In the long term after reclamation, the remaining degree of contrast would be weak, which would conform with VRM Class II objectives. The proposed project would meet VRM Class IV objectives.

Additional Mitigating Measures (See item 3)

No additional mitigating measures recommended beyond best management practices, standard operating procedures, and reclamation (such as contouring land to resemble nearby contours, revegetation, planting trees to screen views of the substation, etc.).

U.S. Government Printing Office: 1985-461-988/33094

Figure 16: KOP F Existing Conditions

Figure 17: KOP F Simulated Operations

Figure 18: KOP F Simulated Reclamation

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date July 27, 2018

District Winnemucca

Resource Area Humboldt River

Activity (program) Locatable minerals

SECTION A. PROJECT INFORMATION

1. Project Name Coeur Rochester and Packard Mines Plan of Operations Amendment 11

2. Key Observation Point G

3. VRM Class None (not on BLM-administered land)

4. Location
Township 29N
Range 33E
Section 33

5. Location Sketch
See Figure E-1 in Appendix E

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat leading to simple, rolling terrain. Flat road.	Uniform or patchy	Isolated utility poles
LINE	Horizontal to diagonal. Horizontal road converging in distance.	Horizontal to diagonal. Abrupt edge. Converging in distance.	Vertical utility poles
COLOR	Tan. Tan or light gray road.	Tan, medium green, or dark green	Gray utility poles
TEX-TURE	Smooth to bumpy. Smooth road.	Smooth to slightly bumpy	Stippled utility poles

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat leading to simple, rolling terrain. Flat road.	Uniform or patchy	Isolated utility poles
LINE	Horizontal to diagonal. Horizontal road converging in distance.	Horizontal to diagonal. Abrupt edge. Converging in distance.	Vertical utility poles
COLOR	Tan. Tan or light gray road.	Tan, medium green, or dark green	Gray utility poles
TEX-TURE	Smooth to bumpy. Smooth road.	Smooth to slightly bumpy	Stippled utility poles

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

	FEATURES											
	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS Form				X				X				X
ELEMENTS Line				X				X				X
ELEMENTS Color				X				X				X
ELEMENTS Texture				X				X				X

2. Does project design meet visual resource management objectives? ☐ Yes ☐ No
(Explain on reverse side) Not applicable

3. Additional mitigating measures recommended
☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names — Date
Derek Holmgren — July 27, 2018

SECTION D. (Continued)

Comments from item 2.

The proposed project feature (a powerline) is not subject to BLM VRM class objectives, because the proposed project would not be on BLM-administered land.

Additional Mitigating Measures (See item 3)

None

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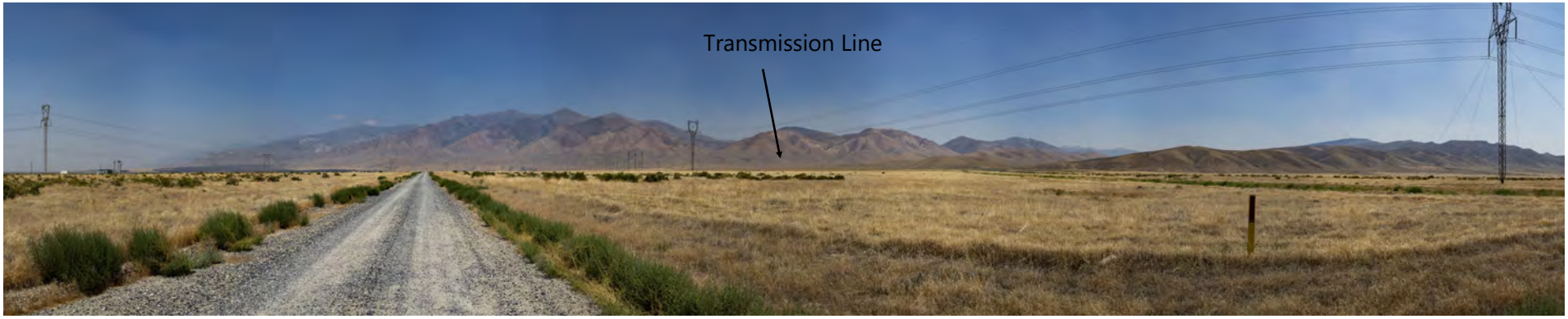
Figure 19: KOP G Existing Conditions

Figure 20: KOP G Simulated Operations



Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date July 27, 2018

District Winnemucca

Resource Area Humboldt River

Activity (program) Locatable minerals

SECTION A. PROJECT INFORMATION

1. Project Name Coeur Rochester and Packard Mines Plan of Operations Amendment 11

2. Key Observation Point H

3. VRM Class II and IV

4. Location
Township 29N
Range 33E
Section 31

5. Location Sketch
See Figure E-1 in Appendix E

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat leading to simple, rolling terrain. Flat road.	Uniform or patchy. Isolated trees.	Isolated utility poles and houses
LINE	Horizontal to diagonal. Horizontal road.	Horizontal to diagonal. Abrupt edge. Vertical trees.	Vertical utility poles and houses.
COLOR	Gray or tan. Gray, yellow, and white road.	Tan, medium green, or dark green	Dark utility poles and light houses.
TEX-TURE	Smooth to bumpy. Smooth road.	Smooth to slightly bumpy	Stippled utility poles and houses.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat leading to simple, rolling terrain. Flat road.	Uniform or patchy. Isolated trees.	Isolated utility poles and houses
LINE	Horizontal to diagonal. Horizontal road.	Horizontal to diagonal. Abrupt edge. Vertical trees.	Vertical utility poles and houses.
COLOR	Gray or tan. Gray, yellow, and white road.	Tan, medium green, or dark green	Dark utility poles and light houses.
TEX-TURE	Smooth to bumpy. Smooth road.	Smooth to slightly bumpy	Stippled utility poles and houses.

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS	Form				X				X				X
	Line				X				X				X
	Color				X				X				X
	Texture				X				X				X

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No
(Explain on reverse side)

3. Additional mitigating measures recommended
☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names — Date
Derek Holmgren — July 27, 2018

SECTION D. (Continued)

Comments from item 2.

Due to distance, no changes to the landscape are visible from this KOP. There would be no degree of contrast. The proposed project would meet VRM Class II and IV objectives.

Additional Mitigating Measures (See item 3)

None

U.S. Government Printing Office: 1985-461-988/33094

Figure 21: KOP H Existing Conditions. Project area not visible.

Appendix F

Public Comments and BLM Response

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ATTACHMENT

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Appendix F. Public Comments and BLM Response

This volume presents comments that the BLM received on the Coeur Rochester and Packard Mines POA 11 Draft EIS. It also includes a description of the public comment process, how all comments were considered, and responses to all substantive comments.

F.1 DRAFT EIS COMMENT PROCESS

The National Environmental Policy Act (NEPA) requires that all substantive comments received before a decision is reached must be considered to the extent feasible and that agencies must respond to all substantive written comments submitted during the public comment period for an EIS (40 CFR 1503.4). Comments must be in writing, including paper or electronic format or a court reporter's transcript taken at a formal public meeting or hearing. They also must be substantive and timely in order to merit a written response.

Although the BLM diligently considered each comment letter, the comment analysis process involved determining if a comment was substantive or non-substantive. In performing this analysis, the BLM relied on Section 6.9.2, Comments, in the BLM NEPA Handbook H-1790-1 to determine what constituted a substantive comment.

A substantive comment does one or more of the following:

- Questions, with a reasonable basis, the accuracy of the information or analysis in the EIS
- Presents reasonable alternatives other than those in the Draft EIS that meet the purpose and need of the proposed action and address significant issues
- Questions, with a reasonable basis, the merits of an alternative or alternatives
- Causes changes in or revisions to the proposed action
- Questions, with a reasonable basis, the adequacy of the planning process itself

Additionally, the BLM's NEPA handbook identifies the following types of substantive comments:

- Comments on the Adequacy of the Analysis—Comments that express a professional disagreement with the conclusions of the analysis or that assert that the analysis is inadequate are considered substantive; they may or may not lead to changes in the Final EIS. Interpretations of analyses should be based on professional expertise. Where there is disagreement within a professional discipline, a careful review of the various interpretations is warranted. In some cases, public comments may necessitate a reevaluation of analytical conclusions. If, after reevaluation, the BLM Authorized Officer responsible for preparing the EIS does not think that a change is warranted, the BLM response should provide the rationale for that conclusion.
- Comments That Identify New Impacts, Alternatives, or Mitigation Measures—Public comments on a Draft EIS that identify impacts, alternatives, or mitigation measures that were not addressed in the draft are considered substantive. This type of comment requires the BLM Authorized Officer to determine if it warrants further consideration; if so, he or she must determine if the new impacts, new alternatives, or new mitigation measures should be analyzed in the Final EIS, in a supplement to the Draft EIS, or in a completely revised and recirculated Draft EIS.

- Disagreements with Significance Determinations—Comments that directly or indirectly question, with a reasonable basis, determinations on the significance or severity of impacts are considered substantive. A reevaluation of these determinations may be warranted and may lead to changes in the Final EIS. If, after reevaluation, the BLM Authorized Officer does not think that a change is warranted, the BLM's response should provide the rationale for that conclusion.

Comments on the Draft EIS that failed to meet the above description were considered non-substantive.

The Draft EIS was published on October 18, 2019, and the 45-day comment period officially ended on December 2, 2019. The BLM received written comments by mail, fax, email, online comment form via the project website at https://go.usa.gov/xPdjC, and handwritten submissions at public meetings.

The BLM held two public meetings during the comment period, on November 5, 2019, in Winnemucca and November 6, 2019, in Lovelock.

Comments received covered a wide spectrum of thoughts, opinions, ideas, and concerns. The BLM recognizes that commenters invested considerable time and effort to submit comments on the Draft EIS. The agency developed a comment analysis method to ensure that all comments were considered, as directed by NEPA regulations. This systematic process ensured that all substantive comments were tracked and considered.

On receipt, each comment letter was assigned an identification number and logged into a database that allowed the BLM to organize, categorize, and respond. Substantive comments from each letter were coded to appropriate categories, based on content, and the link to the commenter was retained. The categories generally follow the sections presented in the Draft EIS, though some related to the planning process or editorial concerns.

The BLM received a total of six comment letter submissions, five of which included substantive comments. An additional letter was received late from the Nevada Department of Conservation and Natural Resources. The comment focused on obtaining permits and protection measures for the Proposed Action. and it has been included in the project record. Some commenters expressed personal opinions or preferences, their comments had little relevance to the adequacy or accuracy of the EIS, or their comments represented commentary on management actions that are outside the scope of this NEPA analysis. These commenters did not provide specific information to assist the BLM in making a change to the existing action alternatives, did not suggest new alternatives, and did not take issue with methods used in the Draft EIS; the BLM did not address these comments further in this document.

The BLM read, analyzed, and considered all comments of a personal or philosophical nature and all opinions, feelings, and preferences for one element or one alternative over another. Because such comments were not substantive, the agency did not respond to them. It is also important to note that, while the BLM reviewed and considered all comments, none were counted as votes. The NEPA public comment period is neither an election nor does it result in a representative sampling of the population; therefore, public comments are not appropriate to be used as a democratic decision-making tool or as a scientific sampling mechanism.

Commenters who recommended additional studies, data, or scientific literature to be incorporated into the analysis were reviewed by subject matter experts; new information and citations were incorporated into the Final EIS, as appropriate. Comments citing editorial changes to the document were reviewed and incorporated. The Final EIS has been technically edited and revised to fix typos, missing references, definitions, and acronyms and to provide other clarifications as needed.

F.2 HOW TO READ THIS VOLUME

The BLM assigned a letter number to every unique communication received during the Draft EIS public comment period. **Table F-4** contains all substantive comments and the BLM's responses and is organized by the comment category. Commenter names and applicable organizations or agencies are provided for those submitting letters who did not request that their information be withheld.

Table F-4
Substantive Public Comments and BLM Responses

Row #	Organization Name	Comment Text	Response Text
1.	US Environmental Protection Agency Region IX	The Alternatives presented in this Draft EIS would mitigate past and proposed impacts to water but none of the alternatives would avoid or reduce impacts with a smaller footprint. Alternative I would permanently encapsulate Potentially Acid Generating (PAG) waste rock, while Alternative II would partially backfill 3 of the 4 newly created pit lakes and offer some acid mine drainage neutralization. The EPA recommends that these elements from both alternatives be adopted.	To accomplish the proposed mine plan, the proposed footprint is necessary for managing mining materials. The text has been clarified to explain that encapsulation of PAG would be the same under the Proposed Action and Alternative I. The only change between the Proposed Action and Alternative I is the storage location of the PAG material.
2.	US Environmental Protection Agency Region IX	Long term Management of PAG Materials The Draft EIS indicates that the Proposed Action would expand the Rochester Pit into more sulfidic materials which may lower pH and create acidic conditions in pit lake water or runoff. If improperly stored, P AG rock oxidizes and can release aqueous metals, salts and acid as seepage under Rock Disposal Sites or to groundwater (pages 3-44 -3-45). The Proposed Action temporarily places newly unearthed P AG material in an unsaturated portion of the Rochester Pit and encapsulates it with 20 feet of non-PAG materials to prevent oxidation (page ES-2). Further, the Proposed Action involves relocating Heap Leach Pad I and a portion of HLP II to HLP V, potentially exposing PAG rock and increasing the likelihood of further oxidation after placement (page ES-I). Due to the potential that the West Rock Disposal Site could leak and degrade groundwater quality, Alternative I permanently places mined PAG material on a 50-foot non-PAG base covered with 20 feet of non-P AG material in an expanded West Rock Disposal Site. In-pit management would be the same as under the Proposed Action: cover with 20 feet of non-PAG materials to prevent oxidation and exposure to meteoric waters (pages ES-2 and 3-46). Recommendations: The EPA recommends that the Final EIS: * Clearly identify the periods of time where PAG materials will be exposed and when measures to reduce or limit the acid generating potential of these materials will be taken.	The DEIS incorrectly stated that PAG material would be encapsulated by 20 feet of non-PAG material in the Rochester Pit. The correct amount is 50 feet of non-PAG material. The text has been updated to reflect the correct encapsulation amount. The material removed from HLPs I and II would be relocated to a lined facility and would not be placed on a rock disposal site. Additionally, removal of HLP I mitigates previous groundwater issues. All of the heap leach materials would be managed in accordance with applicable protocols designed to protect surface water and groundwater. There is no difference in the storage of PAG between the Proposed Action and Alternative 2, and this is consistent with the waste rock management plan approved by the BLM and NDEP. Detailed information on geochemistry and waste rock characterization is contained in SRK 2018b, 2018c, and Piteau 2019. Details on closure were analyzed under the POA 10 EIS (BLM 2016a).

Row #	Organization Name	Comment Text	Response Text
2. *cont'd.*	*(see above)*	* Discuss the permeability of cover materials proposed to be used in the pits, and of both base and cover materials to be used in the Rock Disposal Sites. Compare the ability of such materials to prevent the infiltration of meteoric waters and seepage with other available liner or capping options. * Identify the approximate period of time when in-pit PAG materials would be inundated, and PAG rock found in pit walls submerged, that would reduce or limit oxygenation of the reactive materials. * Similarly, describe how long mined PAG materials would be exposed before being moved to permanent storage, covered or encapsulated. * Publish with the Final EIS any existing plans to close, permanently store or otherwise manage the remaining PAG materials not managed under POAII and its Alternatives.	*(see above)*
3.	US Environmental Protection Agency Region IX	Drawdown and Groundwater Recharge POAII would include construction of a Stage VI HLP and expansion of the West, South and Packard Rock Disposal Sites which would reduce recharge and the quantity of water discharging to springs and surface streams fed by the hydraulically connected alluvial aquifers (page 3-28). As indicated in the Draft EIS, springs and riparian communities buried by Rock Disposal Sites would be permanently destroyed, and at least five artesian springs would be impacted by proposed HLPs as stormwaters are rerouted and infiltration is blocked (page 3-44). The maximum extent of the 10' groundwater drawdown contour is predicted to occur 30 years after the end of mining; however, it is not clear whether surface or spring/seep water levels would recover, or to what extent, post closure. Recommendation: Expand upon previous modeling to include an analysis of whether or when springs, seeps or other surface water would recover, and to what levels, to inform any mitigation strategies addressing water supplies for migratory birds, wildlife or livestock.	Piteau (2019) showed that there would be no effects on groundwater; however, seeps and springs would be monitored over the life of the mine. CRI will monitor groundwater sources as directed in mitigation outlined in the EIS and according to NDEP standards. CRI will maintain water quality and quantity for wildlife, livestock, and human consumption to the State of Nevada standards.

Row #	Organization Name	Comment Text	Response Text
4.	US Environmental Protection Agency Region IX	The 'No Action' alternative serves as a benchmark from which to measure future impacts from the Proposed Action; Alternatives I and II would mitigate impacts from past and proposed activities. Alternative I would permanently dispose ofPAG waste rock generated from past POAlO activity, while the Proposed Action would only temporarily store newly unearthed PAG material. Alternative II would minimize the magnitude of impacts resulting from pit lake development by partially backfilling Pits 2 and 3 with non-PAG materials, and limit the acid generating potential of the PAG waste rock backfilled into Pit 4 by adding lime. For the Proposed Action, neither the Mitigation and Monitoring chapter nor Appendix B Environmental Protection Measures address P AG rock sequestration or long-term water quality impacts further except to rely on the establishment of biological means to inhibit metal and sulfate generation to groundwater should the pit lake become a flow-through system (pages 4-1, 4-2 and B-1 through B-6.). Alternatives I and II include opportunities to reduce or mitigate different mining impacts at closure and post-closure beyond what is in the Proposed Action. Recommendation: The EPA recommends that the BLM incorporate the elements of Alternatives I and II described above as enforceable mitigation in Conditions of Approval to the POA11 Plan of Operations and Closure Plan.	As stated in the Plan of Operations, the Proposed Action would permanently store PAG material in designated rock disposal sites. Under the Proposed Action, PAG management is in accordance with the approved Waste Rock Management Plan and only differs from Alternative 1 in storage location. CRI will monitor groundwater sources according to NDEP standards and will maintain water quality and quantity for wildlife, livestock, and human consumption to the State of Nevada standards.

Row #	Organization Name	Comment Text	Response Text
5.	US Environmental Protection Agency Region IX	Potential for Contaminating Groundwater under a Flow-Through System The type of state-prescribed water quality standards to analyze against expected pit lake water depends on whether the lake is a terminal hydrologic sink or a flow-through pit lake that discharges to groundwater. A flow-through pit lake is subject to both the groundwater provisions in Nevada Administrative Code 44SA.424/44SA.429 (comparison with Division Profile I reference values and natural background groundwater concentrations) and the surface water quality provisions in NAC 44SA.121144SA.429 (Division Profile III and ecological risk assessment). Appendix F to the Draft EIS concludes that the Rochester pits lakes are most likely to remain terminal sinks, I but if flow-through scenarios were to occur, they would develop centuries after the cessation of mining when depressed groundwater levels from mine pumping have recovered (page 3-43). Complexities in site hydrogeology, e.g. potential 'hydraulic communications' between bedrock and fault systems and uncertainties in predicted inflow rates and groundwater directions 'leave open the possibility' that portions of the Rochester pit lakes could result in a flow-through system and need to be analyzed using Profile I water quality standards (pages 3-42; 3-48). I The hydrology model (Piteau Assoc. 2019) simulates lake filling to an elevation of 5,950' and asserts that lake level elevations would need to reach approximately 6,200 feet to become a flow-through system. Because the modeling extends out only 300 years with no definitive conclusions, EPA concurs with the BLM's2 recommendation that the modeling period be extended to 1,000 years or run until the pit lake, or groundwater as applicable, is hydrogeochemically stabilized, or nearly so.3 Although there are inherent uncertainties in any model, the period of prediction must be long enough to adequately show that pit lake water balance has reached steady state conditions. 2 Piteau Technical Memorandum, April 26, 2019 response to BLM's Data Adequacy Addendum, Comment A19 3 Nevada Division of Environmental Protection's	Piteau addressed these issues in the technical memo of April 26, 2019, in response to the BLM"s comments. Piteau found that water levels increased approximately 18 feet between 300 and 1,000 years and was continuing to rise in Sub-pits 1-3. A sensitivity analysis on aquifer hydraulic conductivity and recharge reported by Piteau in an October 17, 2019 technical memo showed that increasing both of these parameters by 17 percent increased water levels in Sub-pits 1-3 by 51 feet. If monitoring during the mine's life detects water quality issues, NDEP and the BLM would develop a mitigation and treatment plan. In addition, model input uncertainties have been analyzed in the EIS and measures to address potential impacts have been outlined.

Row #	Organization Name	Comment Text	Response Text
5. *cont'd.*	*(see above)*	Guidance/or Geochemical Modeling at Mine Sites Revision 00, November 2018 at page 11 Recommendations: The EPA recommends that additional modeling be performed - to further assess long term flow and water quality in the pit lake - and discussed in the Final EIS as follows: * Extend the groundwater flow model through Year 1,000 to more clearly define the period when the elevation of the pit lake is expected to match the elevation of aquifers when fully recovered and to better predict the possibility that the pit lake evolves into a flow-through system. Analyze whether the pit lake elevation would remain under 6,200 feet - the predicted threshold for becoming a flow-through system under the 300-year model- for the life of the pit lake. * If further geochemical modeling of groundwater quality post mining shows that Profile I water quality standards would be exceeded, discuss the treatment options that would be available. If warranted, reconsider analyzing the installation of a water treatment plant and use of rapid infiltration basins to recharge groundwater (page 2-4). * Given that amending pit lake water with lime, phosphorus and/or nitrogen requires constant monitoring and addition of materials for decades (page 2-4), clearly disclose how long such monitoring and mitigation would be the responsibility of the applicant, what long-term funding mechanisms are available to pay for this extended monitoring and treatment, and which entity would likely assume those obligations after that period. * Elaborate upon the 'biological means or other [mitigation] strategies,' that involve sulfur-reducing bacteria, geochemical sequestration of Acid Rock Drainage constituents, and biological ways to 'physically slow output to groundwater' that would be used to avoid releases of contaminated pit waters and improve water quality in a flow-through system (pages 4-1 and 4-2). Explain how this aquatic biota would be introduced or established and what conditions would promote or inhibit their functions.	*(see above)*

Row #	Organization Name	Comment Text	Response Text
6.	US Environmental Protection Agency Region IX	Heap Leach Pad Fluids The Proposed Action would remove the Stage I Heap Leach Pad and a portion of the Stage II HLP relocating spent ore to the Stage V HLP. Further, solution pipelines from the Stage III HLP would be relocated to the existing processing plant and a pipeline would be installed that connects the Stage IV HLP barren solution distribution pipeline to Stage VI HLP to meet process solution demands. Changes to these primary fluid management and bypass systems in such close proximity to intercepted groundwater and pit lakes continue to raise concerns about the ability of these systems to achieve the zero-discharge goal intended by design. A remedial groundwater pump back system to prevent the spread of an accidently-released contaminated plume is already in place, but it is not clear whether this well would need be operated indefinitely or would be funded for as long as it is required. Neither the Draft EIS nor Water Quality and Quantity Impacts Analysis Report discuss closure and postclosure management of the heap leach facilities, e.g. the time required for the heap leach facilities to reach a rate of drain-down that can be managed in a fully passive manner. Given that the mine site is underlain by a fragmented network of shallow alluvial groundwater (page 3-44), the potential exists for acidic, contaminated heap leach seepage to overflow e-cells or overwhelm bypass systems once monitoring and maintenance ends. Should diversion and e-cell systems fail to contain heap leach residual drain-down solutions, then those solutions could potentially appear in downgradient springs and seeps, degrading water quality and exposing wildlife or livestock to acute or chronic toxicity. Further, several government agencies are taking into consideration changing precipitation patterns to analyze impacts to water resources and designing erosion control, bypass and diversion features to withstand more severe precipitation events of longer frequency and duration. For example, the Federal Energy Regulatory Commission and the Army Corps of Engineers are increasingly relying on 200-year or 500-year levels to simulate rainfall amounts and	After the removal of HLP I, the pumpback system would no longer be needed. Closure facilities and e-cells are designed to accommodate all fluids and in accordance with BLM and NDEP regulations. Pipelines, ponds, and HLPs include double containment and leak detection and are constructed to BLM/NDEP standards. Closure and post-closure activities related to the HLPs would be managed as approved under POA 10's Final Permanent Closure Plan. CRI would monitor groundwater sources according to NDEP standards and would maintain water quality and quantity for wildlife, livestock, and human consumption to the State of Nevada standards. Any new regulations enacted by the State of Nevada in regard to stormwater would be addressed in their State of Nevada permits. The BLM requires mines to be in compliance with all local, state, and federal regulations. Engineering designs would be prepared in accordance with those regulations.

Row #	Organization Name	Comment Text	Response Text
6. *cont'd.*	*(see above)*	intensity to standardize dam safety and levee design. The US Geological Survey is testing 500-year levels on various soils to estimate infiltration/runoff rates and reduce erosion risks at hazardous waste dumps. In addition, the State of Nevada recently adopted and now enforces 'Closure 500' regulations to require that primary fluid management systems and other process components be designed to withstand a 500-year, 24-hour event at mine closure (NAC §445A.433 (2018)). Recommendations: With regard to long term fluid management and segregation, the EPA recommends that the Final EIS: * Disclose whether proposed closure e-cells would require excavation or system replacement post-closure, at what time intervals and expense. * Include figures of the anticipated drain-down schedule for each heap-leach facility to identify how long active management and maintenance of process would be needed. * Describe the groundwater remediation pump back well's effectiveness in containing the existing plume and closure and post-closure plans for long term operations, maintenance and funding. * Identify design modifications that would be needed to accommodate future anticipated effects from storms of increased intensity and severity and consider upsizing the stormwater management channels and retention systems beyond the 100-year, 24-hour design to meet the 500-year stormwater event.	*(see above)*

Row #	Organization Name	Comment Text	Response Text
7.	US Environmental Protection Agency Region IX	EPA's primary concern is that long-term monitoring, maintenance and mitigation needs would outlast the time and funds planned to evaluate and correct long-term impacts. The EPA recommends extending modeling of pit lake development well into the future (1,000 years) to more accurately predict when the pit lake could become a flow-through system and evaluate constituent concentrations to help predict future treatment options or eliminate exposure pathways. Further, the EPA recommends that the Final EIS include more information pertaining to the timing of PAG rock encapsulation or inundation and the ability of lining and cover materials to retain or exclude waters, respectively. Finally, the EPA recommends that bypass, e-cell or diversionary structures be designed to accommodate a SOO-year stormwater event.	Groundwater modeling was extended to 1,000 years and presented in an April 26, 2019, technical memo by Piteau (see responses to comments 4 and 5). The BLM requires bonding and a long-term trust that adequately covers operations, closure, and post-closure activities, which includes long-term monitoring and maintenance.
8.	US Environmental Protection Agency Region IX	Water Quality Impacts of Terminal Sinks As acknowledged in the Draft EIS at page 3-92, Nevada regulations state that in addition to not degrading groundwater, pit lakes cannot pose an adverse threat to human, terrestrial, or avian life. The Proposed Action would cause four pit lakes to develop in the Rochester mining area. Modeling in the Draft EIS shows that as groundwater levels recover post-mining, the waters from main Pit 1 would rise to coalesce with waters of Pit 2 approximately 20 years post closure, then elevate to mix with Pit 3 approximately 130 years post closure (Draft EIS page 3-41 and page 5 of the Water Quality and Quantity Impact Analysis Report). Predicted to develop as terminal sinks, these pit lakes have the potential to present long-term water quality problems due to the presence of PAG rock in backfill and the pit walls and evapoconcentrated salts and metals. The Proposed Action relies on the co-mingling of waters from Pits 1-3 to dilute contaminants to meet water quality standards and reduce toxicity levels. Constituents of potential ecological concern include cadmium, aluminum, copper, lead, fluoride and selenium that would evapoconcentrate over time, with cadmium exceeding Profile III standards into the modeled future (Water Quality and Quantity Impacts Assessment Report, pages 103-104).	The BLM notes the EPA's comments with respect to water quality predicted in the pit system during the early years of pit lake infill. These issues are described in detail in Piteau (2019). Aluminum presents the greatest concern to avian species addressed by the ecological risk assessment; however, aluminum in the system is controlled by pH-related solubility, reaching minimal concentrations in the circumneutral mature pit lake system. Aluminum does not exhibit significant enough changes in the mature pit lake to warrant further modeling. ARD reactions are impeded by lack of oxygen when wall rock is submerged. Accordingly, new inputs of the ARD contaminants cited to produce evapo-concentration are minimal. Adding lime to Sub-pits 2 and 3 as analyzed in the EIS would neutralize pH and reduce subject contaminant concentrations sooner. Lime is also an effective mitigation tool if long-term water quality does not meet predictions or future water quality objectives.

Row #	Organization Name	Comment Text	Response Text
8. *cont'd.*	*(see above)*	With respect to the potential for pit waters to be acidic, the Draft EIS describes Rochester Pit 1 as having the lowest c.oncentration of P AG material on its pit walls and because it would refill 'quickly' with groundwater and cover the PAG rock, it is expected to have the 'best' water quality (page 45). Pit 2's pit walls are comprised of 45% PAG materials which would result in two decades of acidic water quality before its water combines with Pit 1 water. Pit 3' s walls are 100% PAG at the surface diminishing to 25% PAG at depth, and would be open for over 100 years before combining with waters from Pits 1 and 2. As Pit 4's waters are not expected to intermingle with the waters of Pits 1-3, closure would involve partially backfilling Pit 4 with up to 62% PAG material and amending it with lime to neutralize its acid generating potential under both the Proposed Action and Alternative II (page 3-4S). Alternative II differs from the Proposed Action by proposing to partially backfill Pits 2 and 3 with non-PAG waste rock (pages ES-3 and ES-6). No fill would be added to Pit 1, the largest, deepest lake, nor would Pits 1-3 receive lime amendments under either the Proposed Action or Alternative II. The EPA is concerned that the Draft EIS does not fully address the extent of the closure and post-closure impacts, obligations or remedies that would be needed to ensure long-term protection of water quality and wildlife. Prior to coalescing, Pits 2 and 3 are projected to exceed several of the Nevada Division of Environmental Protection's Profile III water quality reference values by 3 to 12 times while they remain open and undiluted for 17 to 130 years, respectively (Water Quality and Quantity Impacts Assessment Report ,pages 94-9S, 103-IOS). During this time, the lakes would be attractive to migratory birds and other avian species and harmful effects to plant, aquatic, mammalian and avian species from excessive concentration of aluminum and other constituents in an open pit scenario cannot be IUled out (Ecological Risk Assessment pages IS, 17-18). The Draft EIS relies heavily on long term monitoring to identify the development of a flow-through system and unacceptable contaminant and toxicity levels, yet proposed	*(see above)*

Row #	Organization Name	Comment Text	Response Text
8. *cont'd.*	*(see above)*	long-term monitoring requirements and funding fall far short of the period when the most adverse impacts would appear. For these reasons, the EPA recommends that modeling of constituent concentrations be extended to help predict future treatment options or eliminate exposure pathways. Recommendations: We recommend the following information be included in the Final EIS to provide clarity regarding water quality impacts to terminal sinks and identify opportunities for mitigation of those impacts. * Discuss whether the addition of lime or other amendments to Pits 2 and 3 would avoid 20 to 130 years of acidic, contaminated water and when the addition of such amendments would effectively avoid potential impacts to human, terrestrial or avian life. * Discuss how evaporation concentrates Total Dissolved Solids and other salts and metals in pit lakes and what treatments or additives would be needed to meet water quality standards in the long term. Discuss how backfilling affects evaporation rates. * Describe whether and when further study of species-specific toxicity might be warranted. * Discuss what long-term monitoring and maintenance needs would be needed closure and postclosure and the adequacy of the monitoring and maintenance schedule to meet water quality standards in perpetuity. Discuss whether all long-term funding mechanisms need to be amended to cover these extended post-closure costs.	*(see above)*

Row #	Organization Name	Comment Text	Response Text
9.	Duncan Ranch	We oppose this expansion due to the loss of grazing acreage as well as how it will adversely affect the water in both the Limerick and Packard Basins. According to Coeur Rochester POA-II proposal, they are projecting they will affect 6,057 acres within the Limerick and Packard Basins. All 6,057 acres will dramatically affect our way of life as they are a part of our grazing permit in the Poker Brown-Coal Canyon Allotment. The EIS also states that it will adversely affect 4 water sources within both Limerick and Packard Basins. Such as the Limerick Canyon Spring #4, McCarty Spring, Weaver Spring #2 and #3 as well as the Packard Flat Artesian Well. As ranchers, we depend on both the water and acreage within our grazing allotment. The Duncan Family has lived on the Duncan Ranch since 1946. Our BLM allotment is the Coal Canyon-Poker Allotment in Lovelock, Nevada which we have had since 1946.	The Coal Canyon-Poker allotment encompasses 176,131 acres; the project area overlaps 6,057 acres of the total allotment. The Proposed Action includes 2,778 acres of overall disturbance (2 percent of the allotment) and 668 acres of permanent disturbance after mining is complete (0.4 percent of the allotment). The number of AUMs would not be reduced as a result of the Proposed Action. The analysis in the Draft EIS discloses that proposed facilities may reduce recharge and the quantity of water discharging to springs and surface streams. The BLM would require CRI to monitor seep and spring discharges and, if springs are affected, to develop alternative water sources.
10.	Lovelock Meadows Water District	Our knowledge of Basin 73A is mostly historical with very little scientific information gathered in order to support all of our decisions regarding POA-11.	Comment noted. For detailed information on hydrology, see the baseline hydrologic report (WSP 2018) and seeps and springs report (WRC 2018) on the BLM's project website.
11.	Lovelock Meadows Water District	The idea of a heap leach pad and eventually the Pit Lake within our recharge watershed is concerning to the Board of Trustees who are charged with protecting and maintaining the community's water supply.	Comment noted. In the Draft EIS, the BLM analyzed the potential impacts from the pit lake.
12.	Lovelock Meadows Water District	As we assess the impacts of this project to our District we have to look for both the bad and good while trying to resolve any damaging impacts and improving on the beneficial possibilities of long term stability for our system.	Comment noted.
13.	Lovelock Meadows Water District	Coeur Rochester has been involved in our community almost thirty years and have agreed to more involvement with the LMWD regarding this project (housing, monitoring wells, data acquisition, funding, water alternatives, etc.). But as management changes (both LMWD's and Coeur Rochester's) we want and need working agreements and relations to make this project totally successful.	Agreements between Lovelock Meadows Watershed District and CRI are not within the scope of the EIS. In addition, the BLM and State of Nevada permits would persist beyond any current management.

Row #	Organization Name	Comment Text	Response Text
14.	Lovelock Meadows Water District	As always, we are concerned about any possible degradation of the recharge source in Basin 73A which may ultimately adversely affect our ability to provide safe, clean, affordable, potable water to our community. We believe any potential degradation to our water source/supply should be addressed through the EIS process.	In the Draft EIS, the BLM analyzed the effects on groundwater. Refer to the mitigation measures in **Chapter 4** and the environmental protection measures in **Appendix B** of the Draft EIS.
15.	Women's Mining Coalition	The WMC has reviewed the DEIS and has concerns with the proposed monitoring requirement for seeps, springs, and non-mining wells within 5 miles of the model boundary listed on page 4-1 in the Water Resources/Geochemistry and Wildlife section of Chapter 4. The model boundary is the Water Quality CESA which was developed in coordination with the BLM and the NDEP, and approved in the groundwater model workplan for POA 11. The Water Quality CESA boundary was chosen based on hydrologic divides in many locations and for scientific reasons. Requiring monitoring in a 5-mile area around the Water Quality CESA for monitoring in all directions is arbitrary because seeps, springs, and non-mining wells in those locations may be in completely hydrologically disconnected from the Coeur Rochester Mine operations. There are no predicted impacts to seeps, springs, and non-mining wells outside the CESA according to the DEIS; therefore, the 5-mile buffer outside the Water Quality CESA is without scientific basis. The Women's Mining Coalition has concerns that this sets a precedent for mining industry projects that has no scientific value. It is recommended that the monitoring area remain the same as the Water Quality CESA.	This text has been revised to clarify the extent of the mitigation measure.

Row #	Organization Name	Comment Text	Response Text
16.	Women's Mining Coalition	In the DEIS, the description of the Proposed Action PAG management is not consistent with the Coeur Rochester POA 11 Waste Rock Management Plan (SRK 2018c), which makes it difficult to see why Alternative 1 - Management of PAG in the West RDS provides any benefit. The Proposed Action PAG management should be rewritten in the Final EIS to be consistent with the Coeur Rochester POA 11 Waste Rock Management Plan (SRK 2018c). Alternative 1 - Management of PAG in the West RDS described on page 2-3 in Section 2.1.2 specifies placement of PAG in dedicated PAG cells that will need to be rehandeled at closure. As an environmental safey practice, WMC discourages management of PAG that requires rehandling; therefore, the Proposed Action PAG management approach described in the Coeur Rochester POA 11 Waste Rock Management Plan (SRK 2018c) should be the preferred alternative for PAG management for POA 11.	The text has been revised for Alternative 1 to clarify PAG management and has been corrected to show 50 feet of non-PAG material encapsulation for PAG storage in the Rochester Pit.

Row #	Organization Name	Comment Text	Response Text
17.	Individual	Throughout the DEIS, there are inconsistencies in the Environmental Consequences regarding which facilities are a temporary impact and which are a permanent impact. For example, on page 3-71 it says "Most of the disturbed surface under the No Action Alternative would be reclaimed, with the exception of open pits and the main access road to the mine facilities and the public access roads." Then on page 3-27 it says "Most of the disturbed surface under the No Action Alternative would be reclaimed, with the exception of open pits, the main access road to the mine, closure e-cell ponds, closure stormwater diversion structures, and public access roads." In our review of the DEIS we found these same inconsistences in the Environmental Consequences for the No Action Alternative, Proposed Action, and Cumulative Impacts throughout Chapter 3 of the document. It is unclear in this DEIS exactly what the Environmental Consequences are in terms of temporary impacts and permanent impacts from mine facilities. A thorough review should be completed of the DEIS and the Final EIS should clearly and consistently disclose the temporary and permanent effects from the mine facilities throughout Chapter 3 of the document.	The text has been revised where appropriate to clarify temporary and permanent disturbance. Calculations for temporary and permanent disturbance were based on Coeur data submitted to the Sagebrush Ecosystem Technical Team (SETT). The SETT considers disturbance permanent if it will exist for more than 30 years. Furthermore, the total disturbance by activity (See **Table 2-1**) is the basis for the EIS analysis.

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Attachment 1
Public Comment Letters

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Sean Cottle

From: Jennifer Thies
Sent: Wednesday, November 27, 2019 9:14 AM
To: Sean Cottle; Kirsten Settas
Subject: FW: [EXTERNAL] RE: EPA's Amended letter on Coeur Rochester mine POA 11 Draft Environmental Impact Statement
Attachments: 11-26-2019_EPA Comments DEIS_Coeur Rochester POA11_CEQ#20190253.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

For Coeur comments

EPA again but this has a different CEQ# so we'll need to confirm this is different/separate from previous letter. Or if they duplicated and resent with new number?

Thanks,

Jennifer Thies
EMPSi Environmental Management and Planning Solutions, Inc.
4741 Caughlin Parkway, Suite 4
Reno, NV 89519
tel: 775-657-9999 Main: 775-323-1433 fax: 866-625-0707
www.EMPSi.com Twitter: EMPSInc Facebook: EMPSi

From: Rehberg, Kathleen <krehberg@blm.gov>
Sent: Tuesday, November 26, 2019 4:03 PM
To: Jennifer Thies <jennifer.thies@empsi.com>; Matthew Smith <matthew.smith@empsi.com>
Subject: Fwd: [EXTERNAL] RE: EPA's Amended letter on Coeur Rochester mine POA 11 Draft Environmental Impact Statement

Thanks,

Kathleen Rehberg
Assistant Field Manager - Minerals
Humboldt River Field Office
Winnemucca District BLM
775-623-1739

---------- Forwarded message ---------
From: **WDO_Webmail, BLM_NV** <blm_nv_wdo_webmail@blm.gov>
Date: Tue, Nov 26, 2019 at 3:47 PM
Subject: Fwd: [EXTERNAL] RE: EPA's Amended letter on Coeur Rochester mine POA 11 Draft Environmental Impact Statement
To: Kathleen Rehberg <krehberg@blm.gov>

---------- Forwarded message ---------
From: **Truitt, Roberta** <truitt.roberta@epa.gov>
Date: Tue, Nov 26, 2019 at 2:05 PM
Subject: [EXTERNAL] RE: EPA's Amended letter on Coeur Rochester mine POA 11 Draft Environmental Impact Statement
To: nvsoweb@blm.gov <nvsoweb@blm.gov>, wfoweb@blm.gov <wfoweb@blm.gov>
Cc: krehberg@blm.gov <krehberg@blm.gov>, dkampwerth@blm.gov <dkampwerth@blm.gov>

Dear Mr. Raby –

Please find attached the EPA's AMENDED comment letter on the Coeur mine DEIS.

The only change reflects the correct CEQ/EIS#, which is 20190253.

The amended letter reflects today's date.

I apologize for any inconvenience,

Robin Truitt

NEPA Environmental Review Branch

Tribal, Intergovernmental and Policy Division

U.S. Environmental Protection Agency Region IX

75 Hawthorne Street, (TIP-2)

San Francisco, CA 94105-3941

(415) 972-3742

From: Truitt, Roberta
Sent: Monday, November 25, 2019 4:54 PM
To: nvsoweb@blm.gov; wfoweb@blm.gov
Cc: krehberg@blm.gov; dkampwerth@blm.gov
Subject: Coeur Rochester mine POA 11 Draft Environmental Impact Statement

Dear Mr. Raby –

Attached please find the EPA's comments to the Draft EIS on the 11th proposed modification to a mine Plan of Operations submitted by Coeur Rochester.

Thank you for the opportunity to comment on this matter and please don't hesitate to call if you have any questions.

Respectfully,

Robin Truitt

NEPA Environmental Review Branch

Tribal, Intergovernmental and Policy Division

U.S. Environmental Protection Agency Region IX

75 Hawthorne Street, (TIP-2)

San Francisco, CA 94105-3941

(415) 972-3742

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

November 26, 2019

Mr. Jon Raby
Nevada State Director
Bureau of Land Management
1340 Financial Boulevard
Reno, Nevada 89520

Subject: Draft Environmental Impact Statement for the Proposed 11th Amendment to the Plan of Operations for the Coeur Rochester and Packard Mines, Pershing County, Nevada (EIS Number 20190253)

Dear Mr. Raby:

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement for modifications to the Coeur Rochester and Packard Mines Plan of Operations (Coeur POA11) pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. The EPA is a NEPA Cooperating Agency and has provided comments on prior amendments and administrative drafts.

The Proposed Action would further deepen and widen the Rochester and Packard pits and move, relocate or expand heap leach pads, waste rock dumps, haul and access roads, pipelines and processing facilities. This would result in extending the boundary by 7,209 acres, increasing surface disturbance primarily on public lands by 3,105 acres, and extending the life of the mine 10 years. Of note, expanded mining of the Rochester pit would extend the existing pit into the groundwater table and would require dewatering of four pits, ultimately resulting in a permanent pit lake post-closure. After dewatering ceases, groundwater levels are expected to rise to merge Pits 2 and 3 with the main Pit 1 to form a single 88-acre pit lake, 100-130 years in the future.

The Alternatives presented in this Draft EIS would mitigate past and proposed impacts to water but none of the alternatives would avoid or reduce impacts with a smaller footprint. Alternative I would permanently encapsulate Potentially Acid Generating (PAG) waste rock, while Alternative II would partially backfill 3 of the 4 newly created pit lakes and offer some acid mine drainage neutralization. The EPA recommends that these elements from both alternatives be adopted.

As discussed further in the attached Detailed Comments, the EPA's primary concern is that long-term monitoring, maintenance and mitigation needs would outlast the time and funds planned to evaluate and correct long-term impacts. The EPA recommends extending modeling of pit lake development well into the future (1,000 years) to more accurately predict when the pit lake could become a flow-through system and evaluate constituent concentrations to help predict future treatment options or eliminate exposure pathways. Further, the EPA recommends that the Final EIS include more information pertaining to the timing of PAG rock encapsulation or inundation and the ability of lining and cover

materials to retain or exclude waters, respectively. Finally, the EPA recommends that bypass, e-cell or diversionary structures be designed to accommodate a 500-year stormwater event.

Effective October 22, 2018, the EPA no longer includes ratings in our comment letters. Information about this change and the EPA's continued roles and responsibilities in the review of federal actions can be found on our website at https://www.epa.gov/nepa/epa-review-process-under-section-309-clean-air-act.

We appreciate the opportunity to review this Draft Environmental Impact Statement and are available to discuss our comments. When the Final EIS is released for public review, please send one hard copy and one CD to the address above (mail code: TIP-2). If you have questions, please contact me at (415) 947-4167 or Robin Truitt, the lead reviewer, at (415) 972-3742 or truitt.roberta@epa.gov.

Sincerely,

Jean Prijatel, Manager
Environmental Review Branch

Enclosure: EPA's Detailed Comments

Cc: Mr. David Kampwerth, Humboldt River Field Office
Ms. Kathleen Rehberg, Bureau of Land Management

U.S. EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE COEUR ROCHESTER AND PACKARD MINE POA 11, PERSHING COUNTY, NEVADA, NOVEMBER 25, 2019

Alternatives to the Proposed Action

The 'No Action' alternative serves as a benchmark from which to measure future impacts from the Proposed Action; Alternatives I and II would mitigate impacts from past and proposed activities. Alternative I would permanently dispose of PAG waste rock generated from past POA10 activity, while the Proposed Action would only temporarily store newly unearthed PAG material. Alternative II would minimize the magnitude of impacts resulting from pit lake development by partially backfilling Pits 2 and 3 with non-PAG materials, and limit the acid generating potential of the PAG waste rock backfilled into Pit 4 by adding lime.

For the Proposed Action, neither the Mitigation and Monitoring chapter nor Appendix B Environmental Protection Measures address PAG rock sequestration or long-term water quality impacts further except to rely on the establishment of biological means to inhibit metal and sulfate generation to groundwater should the pit lake become a flow-through system (pages 4-1, 4-2 and B-1 through B-6.). Alternatives I and II include opportunities to reduce or mitigate different mining impacts at closure and post-closure beyond what is in the Proposed Action.

> ***Recommendation***: The EPA recommends that the BLM incorporate the elements of Alternatives I and II described above as enforceable mitigation in Conditions of Approval to the POA11 Plan of Operations and Closure Plan.

Mitigation and Monitoring in the Development of Rochester Pit Lakes

Water Quality Impacts of Terminal Sinks

As acknowledged in the Draft EIS at page 3-92, Nevada regulations state that in addition to not degrading groundwater, pit lakes cannot pose an adverse threat to human, terrestrial, or avian life. The Proposed Action would cause four pit lakes to develop in the Rochester mining area. Modeling in the Draft EIS shows that as groundwater levels recover post-mining, the waters from main Pit 1 would rise to coalesce with waters of Pit 2 approximately 20 years post closure, then elevate to mix with Pit 3 approximately 130 years post closure (Draft EIS page 3-41 and page 5 of the Water Quality and Quantity Impact Analysis Report). Predicted to develop as terminal sinks, these pit lakes have the potential to present long-term water quality problems due to the presence of PAG rock in backfill and the pit walls and evapoconcentrated salts and metals.

The Proposed Action relies on the co-mingling of waters from Pits 1-3 to dilute contaminants to meet water quality standards and reduce toxicity levels. Constituents of potential ecological concern include cadmium, aluminum, copper, lead, fluoride and selenium that would evapoconcentrate over time, with cadmium exceeding Profile III standards into the modeled future (Water Quality and Quantity Impacts Assessment Report, pages 103-104). With respect to the potential for pit waters to be acidic, the Draft EIS describes Rochester Pit 1 as having the lowest concentration of PAG material on its pit walls and because it would refill 'quickly' with groundwater and cover the PAG rock, it is expected to have the 'best' water quality (page 45). Pit 2's pit walls are comprised of 45% PAG materials which would result in two decades of acidic water quality before its water combines with Pit 1 water. Pit 3's walls are 100% PAG at the surface diminishing to 25% PAG at depth, and would be open for over 100 years before combining with waters from Pits 1 and 2.

As Pit 4's waters are not expected to intermingle with the waters of Pits 1-3, closure would involve partially backfilling Pit 4 with up to 62% PAG material and amending it with lime to neutralize its acid generating potential under both the Proposed Action and Alternative II (page 3-45). Alternative II differs from the Proposed Action by proposing to partially backfill Pits 2 and 3 with non-PAG waste rock (pages ES-3 and ES-6). No fill would be added to Pit 1, the largest, deepest lake, nor would Pits 1-3 receive lime amendments under either the Proposed Action or Alternative II.

The EPA is concerned that the Draft EIS does not fully address the extent of the closure and post-closure impacts, obligations or remedies that would be needed to ensure long-term protection of water quality and wildlife. Prior to coalescing, Pits 2 and 3 are projected to exceed several of the Nevada Division of Environmental Protection's Profile III water quality reference values by 3 to 12 times while they remain open and undiluted for 17 to 130 years, respectively (Water Quality and Quantity Impacts Assessment Report ,pages 94-95, 103-105). During this time, the lakes would be attractive to migratory birds and other avian species and harmful effects to plant, aquatic, mammalian and avian species from excessive concentration of aluminum and other constituents in an open pit scenario cannot be ruled out (Ecological Risk Assessment pages 15, 17-18).

The Draft EIS relies heavily on long term monitoring to identify the development of a flow-through system and unacceptable contaminant and toxicity levels, yet proposed long-term monitoring requirements and funding fall far short of the period when the most adverse impacts would appear. For these reasons, the EPA recommends that modeling of constituent concentrations be extended to help predict future treatment options or eliminate exposure pathways.

Recommendations: We recommend the following information be included in the Final EIS to provide clarity regarding water quality impacts to terminal sinks and identify opportunities for mitigation of those impacts.

- Discuss whether the addition of lime or other amendments to Pits 2 and 3 would avoid 20 to 130 years of acidic, contaminated water and when the addition of such amendments would effectively avoid potential impacts to human, terrestrial or avian life.
- Discuss how evaporation concentrates Total Dissolved Solids and other salts and metals in pit lakes and what treatments or additives would be needed to meet water quality standards in the long term. Discuss how backfilling affects evaporation rates.
- Describe whether and when further study of species-specific toxicity might be warranted.
- Discuss what long-term monitoring and maintenance needs would be needed closure and post-closure and the adequacy of the monitoring and maintenance schedule to meet water quality standards in perpetuity. Discuss whether all long-term funding mechanisms need to be amended to cover these extended post-closure costs.

Potential for Contaminating Groundwater under a Flow-Through System

The type of state-prescribed water quality standards to analyze against expected pit lake water depends on whether the lake is a terminal hydrologic sink or a flow-through pit lake that discharges to groundwater. A flow-through pit lake is subject to both the groundwater provisions in Nevada Administrative Code 445A.424/445A.429 (comparison with Division Profile I reference values and natural background groundwater concentrations) and the surface water quality provisions in NAC 445A.121/445A.429 (Division Profile III and ecological risk assessment). Appendix F to the Draft EIS

concludes that the Rochester pits lakes are most likely to remain terminal sinks,[1] but if flow-through scenarios were to occur, they would develop centuries after the cessation of mining when depressed groundwater levels from mine pumping have recovered (page 3-43). Complexities in site hydrogeology, e.g. potential 'hydraulic communications' between bedrock and fault systems and uncertainties in predicted inflow rates and groundwater directions 'leave open the possibility' that portions of the Rochester pit lakes could result in a flow-through system and need to be analyzed using Profile I water quality standards (pages 3-42; 3-48).

Because the modeling extends out only 300 years with no definitive conclusions, EPA concurs with the BLM's[2] recommendation that the modeling period be extended to 1,000 years or run until the pit lake, or groundwater as applicable, is hydrogeochemically stabilized, or nearly so.[3] Although there are inherent uncertainties in any model, the period of prediction must be long enough to adequately show that pit lake water balance has reached steady state conditions.

Recommendations: The EPA recommends that additional modeling be performed – to further assess long term flow and water quality in the pit lake – and discussed in the Final EIS as follows:

- Extend the groundwater flow model through Year 1,000 to more clearly define the period when the elevation of the pit lake is expected to match the elevation of aquifers when fully recovered and to better predict the possibility that the pit lake evolves into a flow-through system. Analyze whether the pit lake elevation would remain under 6,200 feet – the predicted threshold for becoming a flow-through system under the 300-year model – for the life of the pit lake.
- If further geochemical modeling of groundwater quality post mining shows that Profile I water quality standards would be exceeded, discuss the treatment options that would be available. If warranted, reconsider analyzing the installation of a water treatment plant and use of rapid infiltration basins to recharge groundwater (page 2-4).
- Given that amending pit lake water with lime, phosphorus and/or nitrogen requires constant monitoring and addition of materials for decades (page 2-4), clearly disclose how long such monitoring and mitigation would be the responsibility of the applicant, what long-term funding mechanisms are available to pay for this extended monitoring and treatment, and which entity would likely assume those obligations after that period.
- Elaborate upon the 'biological means or other [mitigation] strategies,' that involve sulfur-reducing bacteria, geochemical sequestration of Acid Rock Drainage constituents, and biological ways to 'physically slow output to groundwater' that would be used to avoid releases of contaminated pit waters and improve water quality in a flow-through system (pages 4-1 and 4-2). Explain how this aquatic biota would be introduced or established and what conditions would promote or inhibit their functions.

Long term Management of PAG Materials

The Draft EIS indicates that the Proposed Action would expand the Rochester Pit into more sulfidic materials which may lower pH and create acidic conditions in pit lake water or runoff. If improperly stored, PAG rock oxidizes and can release aqueous metals, salts and acid as seepage under Rock Disposal Sites or to groundwater (pages 3-44 -3-45). The Proposed Action temporarily places newly unearthed PAG material in an unsaturated portion of the Rochester Pit and encapsulates it with 20 feet

[1] The hydrology model (Piteau Assoc. 2019) simulates lake filling to an elevation of 5,950' and asserts that lake level elevations would need to reach approximately 6,200 feet to become a flow-through system.

[2] Piteau Technical Memorandum, April 26, 2019 response to BLM's Data Adequacy Addendum, Comment A19

[3] Nevada Division of Environmental Protection's *Guidance for Geochemical Modeling at Mine Sites* Revision 00, November 2018 at page 11

of non-PAG materials to prevent oxidation (page ES-2). Further, the Proposed Action involves relocating Heap Leach Pad I and a portion of HLP II to HLP V, potentially exposing PAG rock and increasing the likelihood of further oxidation after placement (page ES-1).

Due to the potential that the West Rock Disposal Site could leak and degrade groundwater quality, Alternative I permanently places mined PAG material on a 50-foot non-PAG base covered with 20 feet of non-PAG material in an expanded West Rock Disposal Site. In-pit management would be the same as under the Proposed Action: cover with 20 feet of non-PAG materials to prevent oxidation and exposure to meteoric waters (pages ES-2 and 3-46).

Recommendations: The EPA recommends that the Final EIS:

- Clearly identify the periods of time where PAG materials will be exposed and when measures to reduce or limit the acid generating potential of these materials will be taken.
- Discuss the permeability of cover materials proposed to be used in the pits, and of both base and cover materials to be used in the Rock Disposal Sites. Compare the ability of such materials to prevent the infiltration of meteoric waters and seepage with other available liner or capping options.
- Identify the approximate period of time when in-pit PAG materials would be inundated, and PAG rock found in pit walls submerged, that would reduce or limit oxygenation of the reactive materials.
- Similarly, describe how long mined PAG materials would be exposed before being moved to permanent storage, covered or encapsulated.
- Publish with the Final EIS any existing plans to close, permanently store or otherwise manage the remaining PAG materials not managed under POA11 and its Alternatives.

Heap Leach Pad Fluids

The Proposed Action would remove the Stage I Heap Leach Pad and a portion of the Stage II HLP relocating spent ore to the Stage V HLP. Further, solution pipelines from the Stage III HLP would be relocated to the existing processing plant and a pipeline would be installed that connects the Stage IV HLP barren solution distribution pipeline to Stage VI HLP to meet process solution demands. Changes to these primary fluid management and bypass systems in such close proximity to intercepted groundwater and pit lakes continue to raise concerns about the ability of these systems to achieve the zero-discharge goal intended by design. A remedial groundwater pump back system to prevent the spread of an accidently-released contaminated plume is already in place, but it is not clear whether this well would need be operated indefinitely or would be funded for as long as it is required.

Neither the Draft EIS nor Water Quality and Quantity Impacts Analysis Report discuss closure and post-closure management of the heap leach facilities, e.g. the time required for the heap leach facilities to reach a rate of drain-down that can be managed in a fully passive manner. Given that the mine site is underlain by a fragmented network of shallow alluvial groundwater (page 3-44), the potential exists for acidic, contaminated heap leach seepage to overflow e-cells or overwhelm bypass systems once monitoring and maintenance ends. Should diversion and e-cell systems fail to contain heap leach residual drain-down solutions, then those solutions could potentially appear in downgradient springs and seeps, degrading water quality and exposing wildlife or livestock to acute or chronic toxicity.

Further, several government agencies are taking into consideration changing precipitation patterns to analyze impacts to water resources and designing erosion control, bypass and diversion features to withstand more severe precipitation events of longer frequency and duration. For example, the Federal

Energy Regulatory Commission and the Army Corps of Engineers are increasingly relying on 200-year or 500-year levels to simulate rainfall amounts and intensity to standardize dam safety and levee design. The US Geological Survey is testing 500-year levels on various soils to estimate infiltration/runoff rates and reduce erosion risks at hazardous waste dumps. In addition, the State of Nevada recently adopted and now enforces 'Closure 500' regulations to require that primary fluid management systems and other process components be designed to withstand a 500-year, 24-hour event at mine closure (NAC §445A.433 (2018)).

Recommendations: With regard to long term fluid management and segregation, the EPA recommends that the Final EIS:

- Disclose whether proposed closure e-cells would require excavation or system replacement post-closure, at what time intervals and expense.
- Include figures of the anticipated drain-down schedule for each heap-leach facility to identify how long active management and maintenance of process would be needed.
- Describe the groundwater remediation pump back well's effectiveness in containing the existing plume and closure and post-closure plans for long term operations, maintenance and funding.
- Identify design modifications that would be needed to accommodate future anticipated effects from storms of increased intensity and severity and consider upsizing the stormwater management channels and retention systems beyond the 100-year, 24-hour design to meet the 500-year stormwater event.

Drawdown and Groundwater Recharge

POA11 would include construction of a Stage VI HLP and expansion of the West, South and Packard Rock Disposal Sites which would reduce recharge and the quantity of water discharging to springs and surface streams fed by the hydraulically connected alluvial aquifers (page 3-28). As indicated in the Draft EIS, springs and riparian communities buried by Rock Disposal Sites would be permanently destroyed, and at least five artesian springs would be impacted by proposed HLPs as stormwaters are re-routed and infiltration is blocked (page 3-44). The maximum extent of the 10' groundwater drawdown contour is predicted to occur 30 years after the end of mining; however, it is not clear whether surface or spring/seep water levels would recover, or to what extent, post closure.

Recommendation: Expand upon previous modeling to include an analysis of whether or when springs, seeps or other surface water would recover, and to what levels, to inform any mitigation strategies addressing water supplies for migratory birds, wildlife or livestock.

Sean Cottle

From: Sean Cottle
Sent: Monday, October 21, 2019 12:29 PM
To: Sean Cottle
Subject: FW: [EXTERNAL] Fwd: public comment on federal register

From: Rehberg, Kathleen <krehberg@blm.gov>
Sent: Monday, October 21, 2019 11:00 AM
To: Matthew Smith <matthew.smith@empsi.com>; Jennifer Thies <jennifer.thies@empsi.com>
Subject: Fwd: [EXTERNAL] Fwd: public comment on federal register

Comment received.
Thanks,

Kathleen Rehberg
Assistant Field Manager - Minerals
Humboldt River Field Office
Winnemucca District BLM
775-623-1739

---------- Forwarded message ---------
From: **WDO_Webmail, BLM_NV** <blm_nv_wdo_webmail@blm.gov>
Date: Mon, Oct 21, 2019 at 7:53 AM
Subject: Fwd: [EXTERNAL] Fwd: public comment on federal register
To: Kathleen Rehberg <krehberg@blm.gov>

---------- Forwarded message ---------
From: **o** <bk1492@aol.com>
Date: Sat, Oct 19, 2019 at 10:21 AM
Subject: [EXTERNAL] Fwd: public comment on federal register
To: <krehberg@blm.gov>, <wfoweb@blm.gov>, <information@sierraclub.org>, <foe@foe.org>, <info@earthjustice.org>, <center@biologicaldiversity.org>, <scoops@huffpost.com>, <info@nyclass.org>
Cc: <INFO@peta.org>, <INFO@idausa.org>, <TIPS@therevelator.org>

i totally oppose any expansion of this mine. i also think a fund shuld be required immediately and a bond so that this company cleans up after itself. this is a very polluting company7 and probably intent on leaving the mess to the taxpayers citizens. 328 million american own this land. we get very little out of it and we have been left with total messses by far too many of these mining companies. i dont think we should issue any more permits on any national land to any mining companies. none at all. we have had enough land damaged by profiteers. they come in and ruin all life on earth forever or for centuries that nothing else can ever stay alive on that land. the wild horses are being driven off every acre tehy used to have to live in nevada.

WHAT BLM IS DOING TO THE WILD HORSES IN NEVADA AND THE WEST IS ABYSMAL, DESTRUCTIVE AND DISGUSTING. TO SLAUGHTER HORSES LIKE THAT IS A HORROR TO BEHOLD ,PARTICUARLY WHEN THIS AGENCY HAD MILLIONS UPON MILLIONS OF LETTERS FROM TEH CITIZENS OF THIS COUNTRY BEGGING FOR THE LIVES OF THOSE HORSES. THIS MINE IS BIG ENOUGH. NO EXPANSION. AND MAKE SURE THIS MINE PUTS ENOUGH MONEY ASIDES TO CLEAN UP ITS MESS. STOP STICKING IT TO TAXPAYERS.

https://www.youtube.com/watch?v=N1VEqeWFoKM

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BLM ARE ANIMAL KILLERS. MAKING MONEY OFF THE DEAD BODIES OF THE WILD HORSES. THGOSE WILD HORSES BELONG TO EVERY AMERICAN. STOP THE PERVERTS AT TEH BLM. AND STOP THIS PLAN. THIS COMMETN IS FOR THE PUBLIC RECORD. PLEASE RECEIPT. JEAN PUBLIEE JEANPUBLIC1@YAHOO.COM

[Federal Register Volume 84, Number 202 (Friday, October 18, 2019)]
[Notices]
[Pages 55979-55980]
From the Federal Register Online via the Government Publishing Office [www.gpo.gov]
[FR Doc No: 2019-22707]

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLNVW00000.L5110000.GN0000.LVEMF1805980.18X.MO#4500139740]

Notice of Availability of the Draft Environmental Impact Statement for the Proposed POA11 Project--Modification to the Plan of Operations for the Coeur Rochester and Packard Mines, Pershing County, NV

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of availability.

SUMMARY: In compliance with the National Environmental Policy Act of 1969, as amended, and the Federal Land Policy and Management Act of 1976, as amended, the Bureau of Land Management (BLM) Humboldt River Field Office, Winnemucca, Nevada has prepared a Draft Environmental Impact Statement (EIS) and by this notice announces the beginning of the public comment period to solicit public comments on the Draft EIS. The BLM is the lead agency in development of the Draft EIS and will be evaluating Coeur Rochester, Inc.'s (CRI) request for the proposed expansion of its silver mining operations at the existing Coeur Rochester and Packard Mines.

DATES: This notice initiates the public comment period for the Draft EIS. Comments may be submitted in writing until December 2, 2019. The date(s) and location(s) of any comment meetings will be announced at least 15 days in advance through local media, newspapers and the BLM website at: https://go.usa.gov/xPdjC. In order to be included in the Draft EIS, all comments must be received prior to the close of the 45-day public comment period. We will provide additional opportunities for public participation upon publication of the Final EIS.

ADDRESSES: You may submit comments related to the Coeur Rochester and Packard Mines Plan of Operations Amendment 11 (POA11) Project by any of the following methods:

Website: https://go.usa.gov/xPdjC.

Email: wfoweb@blm.gov; include ``Coeur POA11 EIS Comments'' in the subject line.
Fax: (775) 623-1740.
Mail: 5100 E Winnemucca Blvd., Winnemucca, NV 89445.

FOR FURTHER INFORMATION CONTACT: For questions about the proposed mine expansion contact Kathleen Rehberg, telephone: (775) 623-1500, email: krehberg@blm.gov, address: 5100 East

[[Page 55980]]

Winnemucca Boulevard., Winnemucca, Nevada 89445. Contact Ms. Rehberg to have your name added to our mailing list. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service (FRS) at 1-800-877-8339 to contact Ms. Rehberg during normal business hours. The FRS is available 24 hours a day, 7 days a week, to leave a message or question. You will receive a reply during normal business hours.

SUPPLEMENTARY INFORMATION: CRI has requested to expand its operations at the Rochester and Packard mines by modifying its approved Plan of Operations. The mine is located approximately 26 miles northeast of Lovelock, Nevada. The mine is currently authorized to disturb up to 2,203.1 acres (approximately 164.6 acres of private land and 2,038.5 acres of public land), which was analyzed in a series of EISs and Environmental Assessments beginning in 1986 through the latest EIS in 2015. The Proposed Action is to expand mining in both of CRI's current pits (the Rochester and Packard pits) and move, relocate, or expand heap leach pads, waste rock dumps, haul roads, access road, water pipeline, and processing facilities. The proposal would increase disturbance by 2,815.4 acres (435.2 acres on private land and 2,380.2 acres on public land).

Mining of the Rochester Pit would extend below the groundwater resulting in a permanent pit lake after closure. Additional, potentially acid generating material would be excavated and would be processed as ore or stored according to CRI's Waste Rock Storage Plan. The plan would also necessitate an upgrade in power distribution lines and a substation. With the proposed expansion, mine life would be extended to 2033, and would be followed by mine closure and reclamation.

The purpose of this comment period is for the public to review and provide comments on the Draft EIS. The Draft EIS, after scoping, has identified and analyzed impacts to the following resource areas: Air and atmospheric resources; cultural resources; noxious weeds, invasive species and non-native species; migratory birds; Native American religious concerns; wastes and materials (hazardous and solid); water quality (surface and ground); geology, minerals, and energy; lands and realty; paleontology; rangeland management; recreation; social values and economics; soils; special status species (plants and wildlife); transportation and access; vegetation; visual resources; and wildlife.

The Draft EIS describes and analyzes the Proposed Action's direct, indirect, and cumulative impacts on all affected resources. In addition to the Proposed Action, the following alternatives are also analyzed in the document: (1) Alternative 1, which is an alternate method to manage and store potentially acid generating material; (2) Alternative 2, which was developed to address and manage pit lake development and water quality; and (3) The No Action Alternative.

The BLM has consulted and continues to consult with Indian tribes on a government-to-government basis in accordance with Executive Order 13175 and other policies. Tribal concerns, including impacts to Indian trust assets and potential impacts to cultural resources have been analyzed in the Draft EIS. Federal, State, and local agencies, along with tribes and other stakeholders that may be interested in or affected by the Proposed Action that the BLM is evaluating, are invited to participate in the comment process.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be

aware that your entire comment--including your personal identifying information--may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Authority: 40 CFR 1501.7.

David Kampwerth,
Field Manager, Humboldt River Field Office.
[FR Doc. 2019-22707 Filed 10-17-19; 8:45 am]
BILLING CODE 4310-HC-P

Project: Coeur Rochester POA-11 Comments
Duncan Ranch
PO Box 1054
Lovelock, NV 89419
775-442-0113
jduncan59@sbcglobal.net

November 29, 2019

Humboldt Field Office : Ester McCullough and David Kampwerth
Attn: Coeur Rochester POA-11 Comments
5100 East Winnemucca Blvd.
Winnemucca, Nevada 89445
wfoweb@blm.gov

Dear Ester McCullough and David Kampwerth-

We are contacting you in response to Coeur Rochester's Expansion Environmental Impact Statement proposal comments. We oppose this expansion due to the loss of grazing acreage as well as how it will adversely affect the water in both the Limerick and Packard Basins.

According to Coeur Rochester POA-11 proposal, they are projecting they will affect 6,057 acres within the Limerick and Packard Basins. All 6,057 acres will dramatically affect our way of life as they are a part of our grazing permit in the Poker Brown-Coal Canyon Allotment.

The EIS also states that it will adversely affect 4 water sources within both Limerick and Packard Basins. Such as the Limerick Canyon Spring #4, McCarty Spring, Weaver Spring #2 and #3 as well as the Packard Flat Artesian Well.

As ranchers, we depend on both the water and acreage within our grazing allotment. The Duncan Family has lived on the Duncan Ranch since 1946. Our BLM allotment is the Coal Canyon-Poker Allotment in Lovelock, Nevada which we have had since 1946.

Sincerely,
Dan and Joan Duncan
Duncan Ranch

Lovelock Meadows Water
400 14th Street
P.O. Box 1021
Lovelock, Nevada 89419
775•273•2387 • Fax 775-273-1843

November 27, 2019

Bureau of Land Management
Winnemucca District – Humboldt River Field Office
5100 W. Winnemucca Blvd.
Winnemucca, NV 89445

Dear Ms. Rehberg,

We greatly appreciate this opportunity to comment on Coeur Rochester's POA-11 expansion plans through the EIS process.

During the last six months of working with Coeur Rochester's management personnel in regards to our concerns of protecting Basin 73A and our watershed's re-charge and overall capacity; some things have become very evident in our frequent discussions.

1) Our knowledge of Basin 73A is mostly historical with very little scientific information gathered in order to support all of our decisions regarding POA-11.
2) The idea of a heap leach pad and eventually the Pit Lake within our re-charge watershed is concerning to the Board of Trustees who are charged with protecting and maintaining the community's water supply.
3) As we assess the impacts of this project to our District we have to look for both the bad and good while trying to resolve any damaging impacts and improving on the beneficial possibilities of long term stability for our system.
4) Coeur Rochester has been involved in our community almost thirty years and have agreed to more involvement with the LMWD regarding this project (housing, monitoring wells, data acquisition, funding, water alternatives, etc.). But as management changes (both LMWD's and Coeur Rochester's) we want and need working agreements and relations to make this project totally successful.

Unfortunately these questions and concerns take time and effort to resolve and the Board realizes their responsibilities to answer our constituents concerns.

As always, we are concerned about any possible degradation of the re-charge source in Basin 73A which may ultimately adversely affect our ability to provide safe, clean, affordable, potable water to our community. We believe any potential degradation to our water source/supply should be addressed through the EIS process.

Sincerely,

Rachel King, Chairman
LMWD Board of Trustees

WMC
WOMEN'S MINING COALITION

December 2, 2019

Ms. Kathleen Rehberg
BLM Winnemucca District
Humboldt River Field Office
5100 E. Winnemucca Blvd.
Winnemucca, NV 89445
RE: Coeur POA11 EIS Comments

Dear Ms. Rehberg,

Thank you for the opportunity for the Women's Mining Coalition (WMC) to submit comments on the Coeur Rochester and Packard Mines, Plan of Operations, Amendment 11 Draft Environmental Impact Statement (DEIS). The WMC is a grassroots organization with members nationwide including the western states in the Great Basin and Rocky Mountain regions. WMC members work in all sectors of the mining industry including hardrock, industrial minerals, and coal; energy generation and mining-related distribution, manufacturing, transportation, and service industries.

The WMC has reviewed the DEIS and has concerns with the proposed monitoring requirement for seeps, springs, and non-mining wells within 5 miles of the model boundary listed on page 4-1 in the Water Resources/Geochemistry and Wildlife section of Chapter 4. The model boundary is the Water Quality CESA which was developed in coordination with the BLM and the NDEP, and approved in the groundwater model workplan for POA 11. The Water Quality CESA boundary was chosen based on hydrologic divides in many locations and for scientific reasons. Requiring monitoring in a 5-mile area around the Water Quality CESA for monitoring in all directions is arbitrary because seeps, springs, and non-mining wells in those locations may be in completely hydrologically disconnected from the Coeur Rochester Mine operations. There are no predicted impacts to seeps, springs, and non-mining wells outside the CESA according to the DEIS; therefore, the 5-mile buffer outside the Water Quality CESA is without scientific basis. The Women's Mining Coalition has concerns that this sets a precedent for mining industry projects that has no scientific value. It is recommended that the monitoring area remain the same as the Water Quality CESA.

In the DEIS, the description of the Proposed Action PAG management is not consistent with the Coeur Rochester POA 11 Waste Rock Management Plan (SRK 2018c), which makes it difficult to see why Alternative I - Management of PAG in the West RDS provides any benefit. The Proposed Action PAG management should be rewritten in the Final EIS to be consistent with the Coeur Rochester POA 11 Waste Rock Management Plan (SRK 2018c). Alternative I - Management of PAG in the West RDS described on page 2-3 in Section 2.1.2 specifies placement of PAG in dedicated PAG cells that will need to be rehandeled at closure. As an environmental safey practice, WMC discourages management of PAG that requires rehandling; therefore, the Proposed Action PAG management approach described in the Coeur Rochester POA 11 Waste Rock Management Plan (SRK 2018c) should be the preferred alternative for PAG management for POA 11.

WMC appreciates the opportunity to provide these comments and stands ready to work with BLM during the NEPA process for Coeur POA 11.

Respectively submitted,

Emily Arthun
WMC Coordinator

Matthew Smith

From: Kathleen Rehberg <krehberg@blm.gov>
Sent: Tuesday, December 3, 2019 12:45 PM
To: Jennifer Thies; Matthew Smith
Subject: Fwd: [EXTERNAL] "Coeur POA11 EIS Comments"

Sent from my iPhone

Begin forwarded message:

> **From:** "WDO_Webmail, BLM_NV" <blm_nv_wdo_webmail@blm.gov>
> **Date:** December 3, 2019 at 10:00:37 AM PST
> **To:** Kathleen Rehberg <krehberg@blm.gov>
> **Subject: Fwd: [EXTERNAL] "Coeur POA11 EIS Comments"**

---------- Forwarded message ---------
From: **Ann Carpenter** <ann.carpenter57@gmail.com>
Date: Mon, Dec 2, 2019 at 4:43 PM
Subject: [EXTERNAL] "Coeur POA11 EIS Comments"
To: <wfoweb@blm.gov>

Ms. Kathleen Rehberg

BLM Winnemucca District

Humboldt River Field Office

5100 E. Winnemucca Blvd.

Winnemucca, NV 89445

RE: Coeur POA11 EIS Comments

Dear Ms. Rehberg,

I appreciate the opportunity to submit comments on the Coeur Rochester and Packard Mines, Plan of Operations, Amendment 11 Draft Environmental Impact Statement (DEIS) document.

Throughout the DEIS, there are inconsistencies in the Environmental Consequences regarding which facilities are a temporary impact and which are a permanent impact. For example, on page 3-71 it says "Most of the disturbed surface under the No Action Alternative would be reclaimed, with the exception of open pits and the main access road to the mine facilities and the public access roads." Then on page 3-27 it says "Most of the disturbed surface under the No Action Alternative would be reclaimed, with the

exception of open pits, the main access road to the mine, closure e-cell ponds, closure stormwater diversion structures, and public access roads."

In our review of the DEIS we found these same inconsistences in the Environmental Consequences for the No Action Alternative, Proposed Action, and Cumulative Impacts throughout Chapter 3 of the document. It is unclear in this DEIS exactly what the Environmental Consequences are in terms of temporary impacts and permanent impacts from mine facilities. A thorough review should be completed of the DEIS and the Final EIS should clearly and consistently disclose the temporary and permanent effects from the mine facilities throughout Chapter 3 of the document.

Thank you for incorporating the changes above into the Final EIS.

Respectfully,

Ann Carpenter
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