

## Executive Summary

On May 30, 2007, Newmont Mining Corporation (Newmont) submitted a proposed amendment to the Plan of Operations (POO) (NVN 067930 [07-3A]) and Permit for Reclamation (#0223) for the Phoenix Copper Leach Project to the Bureau of Land Management (BLM) Mount Lewis Field Office of the Battle Mountain District, in compliance with 43 Code of Federal Regulations (CFR) 3809 and 3715. Revised plans were submitted on January 24, 2008; September 1, 2010; and October 29, 2010. Newmont proposes to expand and operate the existing Phoenix Mine to include copper leaching/beneficiation of copper oxide rock material that previously has been permitted for disposal on currently permitted waste rock facilities (WRFs). The proposal also includes the expansion of the existing Phoenix Mine POO boundary to encompass approximately 902 additional acres of land. The majority of the proposed facilities would occur in areas that previously have been approved for surface disturbance as analyzed in the Phoenix Project Final Environmental Impact Statement (EIS).

The proposed project area is located in Lander County, approximately 12 miles southwest of the Town of Battle Mountain, Nevada, in Townships 30 and 31 North, Range 43 East Mount Diablo Base Line Meridian. Approximately 194 acres of the proposed new disturbance area would be located on public lands administered by the BLM Mount Lewis Field Office, while approximately 708 acres would be on private lands owned by Newmont.

The proposed project would include the construction and operation of a new copper beneficiation facility, modification of existing mine components, and expansion of the proposed project boundary. Proposed project components would include:

- Expansion of the existing POO boundary;
- Development and operation of two copper heap leach facilities (HLFs);
- Construction of six new process ponds;
- Construction and operation of a copper solvent extraction-electrowinning facility;
- Designation of a new optional use area (OUA) (Section 5 OUA) that could be developed as a copper HLF and borrow area;
- Establishment of an additional clay borrow area;
- Development of new water monitoring wells;
- Construction of a new haul road, pipeline and utility corridor; and
- Development of a new production well.

Construction and operation of the proposed project is anticipated to begin in 2012, following receipt of all required permits and approvals. Active mining and processing for the project would last approximately 24 years. Overall closure and reclamation activities are anticipated to extend approximately 13 years beyond the operational phase.

### Geology and Minerals

Direct impacts of the Proposed Action on geologic and mineral resources would include: 1) the generation and permanent placement of up to a maximum of approximately 158 million tons of spent ore; and 2) the recovery of approximately 245 million pounds of copper.

The proposed project would result in approximately 902 acres of new surface disturbance. Disturbance associated with the reclaimed heap leach pads and use of borrow material (Section 5 OUA and Section 15/16 Borrow Area) (totaling approximately 852 acres) would permanently alter the natural topographic and geomorphic features within the study area.

#### Geologic Hazards and Geotechnical Considerations

There are no known active or potentially active faults or natural land sliding in the immediate vicinity of the proposed facilities. Therefore, the risk of facility damage from fault rupture or landslides is not anticipated.

The results of the slope stability analysis for the Phoenix Copper HLF indicate that the static factors of safety for the proposed HLF were calculated to be 1.9 for a 300-foot-high leach pad and should be stable under static loading conditions.

A pseudostatic and deformation analysis for the proposed Phoenix Copper HLF indicate that the facility is expected to be stable during an operational basis earthquake design EISMic event (moment magnitude of 5.4 located approximately 9 miles from the study area) and that the calculated factor of safety would be 1.5 or greater. The analysis also indicates that the probability of a catastrophic slope failure during the post-closure period would be low.

The results of the slope stability analysis for the proposed Reona Copper HLF indicate that the static factors of safety for the HLF were calculated to be 1.6 for a 300-foot-high pad and should be stable under static loading conditions.

A pseudostatic and deformation analysis for the proposed Reona Copper HLF, using the same assumed operational basis earthquake and maximum design earthquake, indicate that the facility would be stable under an operational basis earthquake design and the calculated factor of safety would be 1.1 or greater. The analysis also indicates that the probability of a catastrophic slope failure during the post-closure period would be low.

#### Mineral Resources

Existing geologic and mineral resource information suggests the placement of the proposed facilities would not preclude future access to any known or inferred mineable ore.

### **Water Resources and Geochemistry**

#### Groundwater Pumping

A new groundwater production well would be constructed in the northwest corner of Section 8 to supply water for the copper heap leach process included in the Proposed Action. The new production well would have a planned maximum flow rate of 1,000 gallons per minute (gpm) and a nominal flow of 600 gpm. The total estimated groundwater that would be used for the proposed project would be approximately 23,000 acre-feet. Groundwater pumping of the proposed production well is not expected to affect perennial flows in Willow Creek.

#### Process Facilities

Proposed facilities included in the Proposed Action would be designed, constructed, operated, and monitored in accordance with the Nevada Division of Environmental Protection (NDEP) and BLM permit requirements and associated plans and procedures. Temporary and permanent diversion channels designed to convey the 100-year, 24-hour storm event would be constructed around the proposed Reona and Phoenix copper HLFs to capture and divert sheet flow generated from upgradient source areas around the facilities. The proposed process facilities would be constructed

and operated as zero-discharge facilities, as defined through the Water Pollution Control Permit (WPCP) review and approval process by the NDEP.

Copper Heap Leach Facilities. Geochemical testing results indicate that the leachate from the proposed HLFs (during the copper leaching process) would be strongly acidic and have high concentrations of metals. Under the Proposed Action, the facility would be designed in accordance with standard geotechnical design practices; would include a composite liner and leak detection system; and would be designed, constructed, and operated in accordance with NDEP requirements for a zero discharge facility. Therefore, significant impacts to surface water and groundwater quality from these facilities are not anticipated during construction and operation.

Closure and Post-closure Impacts. A Final Plan for Permanent Closure of the copper heap leach pads, detailing draindown, solutions management, and any necessary management requirements for any long-term effluent discharge and closure, would be developed 2 years prior to project closure in accordance with NDEP requirements (Nevada Administrative Code 445A.446 and 445A.447) and Nevada BLM's Reclamation/Closure Policy for Hardrock Mining Activities (Instruction Memorandum 2004-065).

Two closure options for the proposed copper HLFs are described in the Proposed Action. Under Closure Option 1, the heap leach pads would be covered with either a 5-foot engineered evapotranspiration (ET) alluvial cap; Closure Option 2 would consist of an engineered synthetic liner with an ET alluvial cap. At the early stages of closure, the draindown would be managed by active evaporation at the top of the copper heap leach pads using evaporators. Once draindown flow rate is reduced to relatively low flow rates, the draindown would be managed by passive evaporation in a series of specially designed evaporation ponds (E-ponds).

The proposed design of the E-ponds and procedures for E-pond closure and replacement would provide for management of leachate generated from the HLFs in the closure and post-closure period (under either Option 1 or Option 2) and prevent the solution from infiltrating to the groundwater system or impacting surface water resources. Mineral precipitate that forms through evaporation in the E-ponds would be contained within the lined and covered E-ponds. Therefore, construction, operation, and closure of the copper HLFs and E-ponds are not expected to impact water resources.

#### Natomas Waste Rock Facility

There is no proposed change in the design of the previously permitted Natomas WRF; however, development of the proposed project would reduce the volume of material, and reduce the ultimate height of the previously permitted Natomas WRF that was evaluated as part of the Phoenix Project 2002 EIS. The reduction in the final elevation of the Natomas WRF would result in a slight reduction in the estimated precipitation amount and net infiltration rate. An additional change would include the use of alluvium as cover material for reclamation rather than oxide waste rock material that was assumed in the original analysis. The BLM approved the use of alluvium as part of the approved Phoenix Mine Waste Rock Management Plan.

The overall modeling results for the Natomas WRF indicate that the reduced configuration would have little effect on the time required for meteoric water to infiltrate through the facility and underlying bedrock and reach groundwater. Therefore, the change in the configuration of the Natomas WRF resulting from the Proposed Action is not expected to change the timing of potential impacts to groundwater quality that was previously addressed in the Phoenix Project EIS.

#### Section 5 Optional Use Area

Surface water resources in Section 5 OUA are limited to small ephemeral channels crossing the alluvial fan system. The proposed project area is underlain by alluvium sediments. Available

information suggests that the thickness of the alluvial sediments and depth to groundwater is greater than 100 feet throughout the area.

Reclamation of the borrow area would be planned in accordance with a reclamation plan permit application, which would undergo a review and approval process by the NDEP and BLM in accordance with the agency Memorandum of Understanding for reclamation and water quality management. Site drainage and storm water pollution prevention would be part of the construction, operation, and reclamation objectives. Therefore, based on the current designs and regulatory requirements, no significant impacts to surface water quantity or quality are currently anticipated for this area.

#### Other Flooding, Erosion, Sedimentation, and Runoff Related Impacts

No impacts to delineated flood hazard Zone A areas would occur under the Proposed Action. Zone A delineations identify locations where flooding from a 100-year, 24-hour runoff event is expected. Due to the zero-discharge requirements for managing and monitoring process fluids, Newmont would avoid most potential impacts to surface water quality. No waters of the United States (U.S.) would be affected by the Proposed Action.

The planned storm water diversions around the proposed Reona and Phoenix Copper HLFs may have relatively sharp bends or steep channel gradients. Estimated peak flows and velocities resulting from a 100-year, 24-hour storm event have been used for designing the diversion channels and riprap lining for the channels. In the unlikely event of a channel failure, storm water at the proposed Phoenix Copper HLF would disperse onto the adjacent alluvial fan, whereas overflow from the Reona diversion channel would disperse to the existing tailings storage facility. Newmont would undertake diversion repairs immediately. Minimal impacts to surface water quantity or quality would occur in either case.

Measures to control runoff, run-on, and erosion and sedimentation from mining and processing facilities, including drainage management and reconstruction, is part of ongoing and planned reclamation and stabilization programs that would help decrease surface water impacts within the proposed POO boundary and downstream.

#### Willow Creek Flooding and Channel Migration

The active floodplain for Willow Creek is located west of the proposed Phoenix Copper HLF. Willow Creek in this area is characterized as a largely incised braided channel that experiences seasonal, ephemeral flow. Evaluations to assess: 1) the potential risk of flooding from the 100-year, 24-hour runoff event occurring in the Willow Creek watershed; and 2) the potential risk of channel migration along Willow Creek to affect the facility proposed Phoenix Copper HLF indicated that the site would not be subject to flooding during the 100-year, 24-hour event.

An evaluation of the geomorphic conditions indicated that the proposed Phoenix Copper HLF footprint is located east of the area that is subject to channel migration. The northwest corner of the proposed Phoenix Copper HLF is the portion of the pad that is situated closest to the channel migration area. In this area, the proposed HLF would be situated approximately 8 to 15 feet higher than, and east of a well defined slope that bounds the channel migration area. The results of the evaluation conclude that "channel avulsion or erosion is not anticipated to occur in magnitudes that would endanger or undercut the Phoenix Copper HLF during operational or closure timeframes." Therefore, potential impacts due to flooding, erosion, or deposition along Willow Creek are not anticipated.

#### Spills and Release-related Impacts

With respect to the potential for impacts from spills and releases, the Emergency Response Plan describes procedures Newmont would use to respond to such occurrences, if needed. Reagents used for the copper recovery primarily would consist of sulfuric and hydrochloric acids. These would be

managed by monitoring from central control rooms. Controls would consist of primary and secondary containment, pumps, and backups within the process flow circuit. Additional sumps and portable pumps and pipelines would provide contingency controls. Based on existing and proposed response programs, minimal impacts to surface water quality are anticipated from spills and releases at the mine site.

A maximum of 50,000 gallons per day of sulfuric acid is anticipated to be delivered to the proposed project by truck. Assuming that the acid is purchased from a chemical supplier in the Town of Battle Mountain, it would be transported up the Lower Reese River Valley on State Highway (SH) 305 to the project area. If a spill occurred in transport, the likelihood of significant surface water quality impacts would be low. Each truck would transport approximately 2,500 gallons per load. The overall route is generally 2.5 to 5 miles away from the Reese River, and primarily crosses porous alluvial fan sediments. Most channels that are intercepted by the road are ephemeral. Because of these factors, it is likely that a spill of sulfuric acid in transport would seep into the ground before reaching a waterbody. Subsequent clean-up efforts and attenuation within calcareous soils would further minimize the potential for significant impacts to surface water quality.

Additional reagents and chemicals that would be trucked to the mine site include an organic copper solvent extractant (e.g., Cognis LIX-984), a diluent such as SX-12 (a solvent extraction grade of kerosene), and liquid cobalt sulfate heptahydrate for use in the copper electrowinning circuits. Both the extractant and diluent have specific gravities less than 1.0 (likely to float on a water surface), and both are biodegradable. Cobalt sulfate heptahydrate is toxic to aquatic organisms and may cause long-term adverse effects in an aquatic environment. Given the semi-arid setting, transportation safety protocols, Newmont's Emergency Response program, and the general lack of surface waterbodies in the area, there is little risk of significant impacts to surface water quality from these materials.

## **Soils and Watershed**

### Soils and Reclamation

Implementation of the Proposed Action would result in the disturbance and loss of native soil profiles and related productivity on approximately 902 acres of proposed new surface disturbance, including 200 acres for the proposed Phoenix Copper HLF, 398 acres for the proposed Section 5 OUA, 254 acres for the proposed Section 15/16 Borrow Area, and 50 acres for the proposed haul road and utility corridor.

Native soil materials would be salvaged, to the extent possible, and used in site reclamation when their characteristics are suitable for adapted plant growth and where they could be safely salvaged. Replacement of growth media is proposed for major disturbances associated with the Proposed Action.

Implementation of concurrent reclamation to the extent possible, and installation of surface water and erosion controls, where needed, would minimize soil loss and erosion. As a result, significant impacts related to soil loss and erosion are not anticipated.

Impacts to the quality of native soils from project-related disturbance would be reduced based on Newmont's commitment to reclaim project components and successfully restore productive post-mining land uses. These objectives would be attained through the use of best management practices, as well as the use of site-adapted plant species for reseeding. Newmont has committed to seeding with a saline and sodium tolerant seed mixture for reclamation of project disturbances. The proposed seed mixture provides native species well adapted to the soils and are anticipated to successfully stabilize the disturbance area and provide a self-sustaining and diverse native plant community.

Based on state and federal reclamation requirements, it is likely that decreases in soil quality would not limit the attainment of overall post mining land use objectives. As a result, significant effects on the

desired post-mining site productivity from soil quality impacts are not anticipated. Implementation of the project's Reclamation Plan would mitigate the loss of native soils and create productive post-mining land uses, primarily grazing and wildlife habitat.

Newmont would rely on alluvium obtained from the proposed Section 5 OUA and existing South OUA for reclamation growth media. As described in the Reclamation Plan, the OUAs are capable of providing up to 9,476,692 cubic yards of alluvium for reclamation capping purposes. The successful use of the alluvial material in the reclamation program would be dependent on its ability to support the establishment and long-term productivity of desirable revegetated plant species.

### Watershed

The proposed disturbance area would occur on a system of coalescing alluvial fans occurring within Buffalo Valley, an enclosed administrative basin (Hydrographic Area 131) within Hydrographic Basin 10 of Nevada's Central Region. Examination of the proposed project configuration indicates that little or no obstruction of existing alluvial fan drainages would occur from the placement of proposed facilities. Project related disturbance activities would affect approximately 0.3 percent of this watershed.

Storm water runoff from the proposed project site and components would be controlled in accordance with state and federal regulations pertaining to storm water management and pollution prevention. The project would be operated as a zero-discharge facility, as defined through the WPCP review and approval process by the NDEP.

Post-mining recontouring, reclamation, enhancement of drainage features, and long-term access restrictions would facilitate stabilization of the mine site. After proposed operations cease, reclamation and closure plans would be implemented, in accordance with permit requirements. After the cessation of operations, the successful implementation of the proposed reclamation plan would mitigate watershed impacts over the long term. No significant impacts to existing watershed conditions would be anticipated.

## **Vegetation**

### Plant Communities

Under the Proposed Action, the project would disturb or remove a total of approximately 902 acres of vegetation as a result of proposed disturbance activities in the proposed POO boundary expansion areas.

The proposed construction, operation, and maintenance activities would result in the direct removal of herbaceous and woody vegetation and fragmentation of native plant communities. Indirect impacts may result from the introduction or spread of noxious weeds and invasive species, potentially resulting in the reduction of native plant communities and available forage.

Project-related activities would result in the conversion of shrub-dominated vegetation cover types to herbaceous-dominated cover types in the short term. Over the long term, shrub species would become re-established and increase in abundance in the disturbance area as a result of reclamation and natural recolonization. Reclamation would be completed on approximately 902 acres (100 percent) of the proposed new disturbance area and would include measures to stabilize the growth media, reduce soil erosion, and minimize the potential for the establishment of noxious weeds and invasive species.

Revegetation activities would be modified based on the results observed during reclamation monitoring. The proposed seed mix and/or application rates may be modified as necessary based on any refinements of the reclamation program, and the information obtained from reclamation test plots.

Modifications to the proposed seed mix would be made only after consultation and approval by the appropriate agencies. Based on implementation of the proposed reclamation plan, no significant impacts to plant communities are anticipated as a result of the proposed project.

No wetlands or perennial or intermittent streams, seeps, or springs were identified in the study area. As a result, no impacts to wetlands vegetation would occur under the Proposed Action.

#### Special Status Plant Species

No special status plant species were found in the study area during the biological surveys; therefore, significant impacts to these special status plant species are not anticipated as a result of project construction and operation.

#### Noxious Weeds and Invasive Species

Under the Proposed Action, surface disturbing activities would disturb or remove a total of approximately 902 acres of vegetation. Implementation of Newmont's reclamation plan and weed management plan would reduce the potential introduction and spread of noxious and invasive weed species in the proposed disturbance areas.

#### **Wildlife and Fisheries Resources**

The proposed project would result in the long-term reduction of approximately 902 acres of wildlife habitat, including approximately 648 acres of shadscale saltbush–budsage/grassland and 254 acres of black greasewood/shadscale saltbush habitat. The disturbance associated with the proposed project would be reclaimed incrementally, to the extent possible. Herbaceous habitats would recover within 3 to 5 years following reclamation, whereas shrub-dominated habitat would require up to 25 years to reach maturity.

#### Terrestrial Wildlife

Game Species. Potential direct impacts to mule deer would include the incremental long-term reduction of potential forage and the incremental increase of habitat fragmentation from vegetation removal associated with the Proposed Action. This anticipated loss of habitat would result in a small, incremental reduction in the amount of available habitat and is expected to have little impact on the existing low deer population densities that occur in the project vicinity. Although designated mule deer summer and winter range occur north of the project boundary on Battle Mountain, no BLM- or Nevada Department of Wildlife (NDOW)-designated mule deer movement corridors or seasonal habitats would be directly impacted from project activities. Therefore, impacts to deer populations are not expected to be significant.

Potential direct impacts to pronghorn would include the incremental long-term reduction of approximately 413 acres of pronghorn year-long range; however, no NDOW-designated pronghorn winter range would be directly impacted from project activities; therefore, impacts to pronghorn populations are not expected to be significant.

Impacts to mountain lions would not be expected to be significant, based on the low densities of individuals in the project vicinity.

Direct impacts to small game species (e.g., greater sage-grouse, chukar, mourning dove) would include the incremental long-term reduction of approximately 902 acres of potentially suitable habitat. Impacts also would include displacement from the disturbance areas and increased habitat fragmentation, until vegetation is re established. In most instances, suitable habitat adjacent to disturbance areas would be available for use by these species; however, displacement would increase competition and could result in some local reductions in wildlife populations if adjacent habitats are at carrying capacity. Potential impacts also could include nest abandonment or loss of eggs or young.

The lack of known breeding sites (e.g., greater sage-grouse leks) and water sources that would support brooding birds limit the overall habitat quality for greater sage-grouse, mourning dove, Hungarian partridge, and chukar. Therefore, potential effects to small game species from mine development are not expected to be significant.

Nongame Species. Direct impacts to nongame species (e.g., small mammals, passerine, raptors, and reptiles) would include the incremental long-term reduction of approximately 902 acres of potentially suitable habitat. Impacts also would include displacement from the disturbance areas and increased habitat fragmentation, until vegetation was re-established. In most instances, suitable habitat adjacent to disturbance areas would be available for use by these species; however, displacement could result in some local reductions in wildlife populations if adjacent habitats are at carrying capacity. Potential impacts also could include nest and burrow abandonment or loss of eggs or young. These short-term losses may reduce productivity for that breeding season but would cease following successful reclamation; therefore, impacts to nongame species are not expected to be significant.

Migratory Birds. Potential direct impacts to bird species would include the long-term loss of approximately 902 acres of potentially suitable breeding and foraging habitat; however, this loss is expected to have little effect on local bird populations, based on the amount of suitable breeding and foraging habitat in the surrounding area. Potential direct impacts to breeding birds (including raptors) would be minimized by avoiding habitat removal between March 1 and July 31, and the implantation of breeding bird surveys and appropriate mitigation, as needed, in coordination with the BLM, U.S. Fish and Wildlife Service, and NDOW.

Installation of new 0.2-mile 120-kilovolt (kV) and 2-mile 13.8-kV electrical powerline segments incrementally would increase electrocution and collision potential for migrating and foraging bird species (e.g., raptors and migrating birds). Based on Newmont's commitment to design and construct powerlines in accordance with applicable electrocution and collision protection guidelines, impacts to migratory birds (including raptors) from electrocution and collision would be low.

Human Presence and Noise. Potential noise and human presence impacts to wildlife species from the implementation of the Proposed Action is expected to be negligible since the Proposed Action is located at an existing mine site where human activity associated with mining operations currently occurs. Additionally, Newmont would require a mandatory employee education program for all personnel in order to minimize wildlife/vehicle-related collision impacts during project operations.

Water Management Activities. To minimize potential wildlife mortalities from exposure to processing solutions, 8-foot-high chain-link fencing would be installed around process ponds (including the raffinate pond), and netting, pond covers, or floating "bird balls," as appropriate, would be installed over ditches and ponds that would contain leach solutions to minimize potential impacts to volant (flying) and terrestrial wildlife. The proposed copper HLFs would be designed and constructed as zero discharge facilities to minimize the potential for release of process solutions outside of the appropriately protected containment areas. Drip emitters would be buried where practical and the heaps would be scarified to minimize ponding and pooling of process solutions. Based on Newmont's applicant-committed environmental protection measures, potential impacts to wildlife resources from exposure to process solutions are not expected to be significant.

Aquatic Species. There are no anticipated impacts to aquatic resources from the proposed project due to a lack of perennial water sources within the study area.

Special Status Species. Impacts to special status wildlife species from surface disturbance would parallel those described above for terrestrial wildlife, including the long-term reduction of approximately 902 acres of wildlife habitat, approximately 648 acres of shadscale saltbush-budsage/grassland, and 254 acres of black greasewood/shadscale saltbush habitat.

Based on implementation of applicant-committed environmental protection measures, as described in Chapter 2.0, Section 2.5, no adverse effects to sensitive raptor species are anticipated, and the potential for impacts to sensitive bird species related to exposure to process solutions are not expected to be significant.

*Bats.* Direct impacts to bat species would include the long-term disturbance of 902 acres of foraging habitat, including approximately 648 acres of shadscale-budsage/grassland and 254 acres of black greasewood/shadscale habitat; however, due to limited roosting habitat within the study area, impacts to sensitive bat species are not expected to be significant.

*Pygmy Rabbit.* No direct impacts to the pygmy rabbits are anticipated due to the lack of suitable habitat within the disturbance area. Impacts to this species would be limited to increased human presence and noise effects, if present. Based on Newmont's environmental protection measure of conducting pygmy rabbit surveys prior to surface disturbance and the overall availability of suitable habitat in the project vicinity, these impacts would not be considered significant.

*Bald Eagle.* No bald eagle nest sites occur within the study area. Occurrence by this species would be limited to migrating and dispersing individuals. Impacts would include the long-term reduction of approximately 902 acres of potential foraging habitat, until reclamation was completed and vegetation re-established. Indirect impacts associated with mine-related noise and human presence currently occurs at the mine site and would continue under the proposed project. Based on implementation of Newmont's environmental protection measures, the lack of existing nest sites within the project boundary, and the existing level of activity at the mine site, potential impacts to this species as a result of the proposed project are not expected to be significant.

*Swainson's Hawk.* No Swainson's hawk nests have been identified in the study area. In addition, no suitable nesting habitat (i.e., trees, large shrubs, cliffs) occurs within the proposed disturbance areas. Direct impacts would include the long-term reduction of approximately 902 acres of potential foraging habitat, until reclamation was completed and vegetation re-established; however, this impact would be considered not significant based on the overall availability of suitable foraging habitat in the vicinity of the study area. Indirect impacts would continue to result from mine-related noise and human presence. Based on implementation of Newmont's environmental protection measures, the lack of existing nest sites within the project vicinity, and the existing level of activity at the mine site, potential impacts to this species as a result of the proposed project are not expected to be significant.

*Ferruginous Hawk.* No active ferruginous hawk nests have been identified within the study area; however, ferruginous hawks have been observed nesting north of the study area on Battle Mountain and immediately south of the existing tailings facility. Based on Newmont's environmental protection measures, including conducting raptor nest surveys and implementing mitigation measures, as applicable, impacts to breeding birds would not be significant. Direct impacts would include the long-term reduction of approximately 902 acres of potential foraging habitat, until reclamation was completed and vegetation re-established; however, this impact would be considered not significant based on the overall availability of suitable foraging habitat in the vicinity of the study area. Indirect impacts would continue to result from mine-related noise and human presence. Based on implementation of Newmont's environmental protection measures, the lack of active nest sites within the study area, and the existing level of activity at the mine site, potential impacts to this species as a result of the proposed project are not expected to be significant.

*Golden Eagle.* No golden eagle nests have been identified within the study area; however, golden eagles have been observed nesting north of the study area on Battle Mountain. Based on Newmont's environmental protection measures, including conducting raptor nest surveys and implementing mitigation measures, as applicable, impacts to breeding birds would not be significant. Direct impacts would include the long-term reduction of approximately 902 acres of potential foraging habitat, until reclamation was completed and vegetation re-established; however, this impact would be considered

not significant based on the overall availability of suitable foraging habitat in the vicinity of the study area. Indirect impacts would continue to result from mine-related noise and human presence. Based on implementation of Newmont's environmental protection measures, the lack of existing nest sites in the project vicinity, and the existing level of activity at the mine site, potential impacts to this species as a result of the proposed project are not expected to be significant.

*Prairie Falcon.* No prairie falcon nest sites have been documented in the project vicinity; however, this species has been documented nesting north of the study area. Based on Newmont's environmental protection measures, including conducting raptor nest surveys and implementing mitigation measures, as applicable, impacts to breeding birds would not be significant. Direct impacts to migrating and foraging falcons would include the long-term reduction of approximately 902 acres of potential foraging habitat, until reclamation was completed and vegetation re-established. Indirect impacts would continue to result from mine-related noise and human presence. Based on the implementation of Newmont's environmental protection measures, the lack of existing nest sites in the project boundary, and the existing level of activity at the mine site, potential impacts to this species as a result of the proposed project are not expected to be significant.

*Greater Sage-grouse.* No BLM- and NDOW-designated core breeding habitats, lek sites, or NDOW-designated seasonal habitats have been identified in the study area. As a result no direct impacts to breeding greater sage-grouse would be anticipated from the Proposed Action. Greater sage-grouse may utilize upland habitats in the project vicinity, especially within suitable habitat along Willow Creek. It is anticipated that nesting and brooding activity would be low, due to the limited availability of surface water and riparian vegetation in the study area. Therefore, based on the lack of suitable habitat in the study area, and the existing level of activity at the mine site, potential impacts to this species as a result of the proposed project are not expected to be significant.

*Burrowing Owl.* This species has been observed in the study area in past years, although no burrowing owl nest sites were documented. Vegetation that would be disturbed as a result of the proposed project would be suitable habitat for foraging birds in the study area; however, based on Newmont's environmental protection measures, including conducting raptor nest surveys and implementing mitigation measures, as applicable, impacts to breeding birds would not be significant. Direct impacts to this species would include the long-term reduction of approximately 648 acres of potential shadscale saltbush budsage/grassland and 254 acres of black greasewood/shadscale saltbush habitat, until reclamation was completed and vegetation re-established. Indirect impacts would continue to result from mine related noise and human presence. Based on implementation of Newmont's environmental protection measures and the existing level of activity at the mine site, potential impacts to this species as a result of the proposed project are not expected to be significant.

*Long-eared Owl.* This species has been recorded nesting north of the study area at higher elevations on Battle Mountain but has not been documented nesting in the study area. No suitable breeding habitat (i.e., trees, large shrubs) is present in the study area. Therefore, impacts to breeding birds as a result of proposed mine-related activities would not be anticipated. Direct impacts to this species would result from the long-term reduction of approximately 902 acres of potential foraging habitat. These impacts would be considered not significant based on the overall availability of suitable habitat in the vicinity of the project. Indirect impacts would continue to result from mine-related noise and human presence. Based on the implementation of Newmont's environmental protection measures, the overall availability of suitable habitat in the vicinity of the project, and the existing level of activity at the mine site, potential impacts to this species as a result of the proposed project are not expected to be significant.

*Short-eared Owl.* Impacts to breeding birds as a result of proposed mine-related activities could occur based on potentially suitable breeding habitat (e.g., open shrublands) in the study area; however, based on Newmont's environmental protection measures, including conducting raptor nest surveys and implementing mitigation measures, as applicable, impacts to breeding birds would not be

significant. Direct impacts to this species would result from the long-term reduction of approximately 902 acres of potential foraging habitat, until reclamation was completed and vegetation re-established. These impacts would be considered not significant based on the overall availability of suitable habitat in the vicinity of the project. Indirect impacts would continue to result from mine-related noise and human presence. Based on implementation of Newmont's environmental protection measures and the existing level of activity at the mine site, potential impacts to this species as a result of the proposed project are not expected to be significant.

*Pinyon Jay.* This species has been documented north of the study area on Battle Mountain. Based on the presence of marginal habitat (shrublands) within the study area, direct impacts to breeding pairs (if present) as a result of proposed mine-related activities could include abandonment of a breeding territory or nest site or the potential loss of eggs or young, which would reduce productivity for that breeding season. To minimize these impacts, Newmont has committed to avoiding habitat removal, to the extent possible, between March 1 and July 31 or, alternately, conducting breeding bird surveys and implementing appropriate mitigation in coordination with the BLM and NDOW. Direct impacts to foraging birds would result from the long-term reduction of approximately 902 acres of foraging habitat, until reclamation was completed and vegetation re-established. Indirect impacts would continue to result from mine-related noise and human presence. Based on the implementation of Newmont's environmental protection measures, the overall availability of suitable habitat in the vicinity of the project, and the existing level of activity at the mine site, potential impacts to this species as a result of the proposed project are not expected to be significant.

*Juniper Titmouse.* Based on the lack of potentially suitable breeding habitat, direct impacts to breeding pairs as a result of proposed mine-related activities would not occur. Direct impacts to foraging birds would include the long-term reduction of approximately 902 acres of foraging habitat, until reclamation was completed and vegetation re-established. Indirect impacts would continue to result from mine-related noise and human presence. Impacts would be considered not significant based on implementation of Newmont's environmental protection measures, the overall availability of suitable habitat in the vicinity of the project, and the existing level of activity at the mine site.

*Loggerhead Shrike.* Potentially suitable breeding habitat for this species is present in the study area. Direct impacts to breeding pairs (if present) as a result of proposed mine-related activities and the applicable environmental protection measures to minimize these impacts would parallel those described above for the pinyon jay. Direct impacts to this species would include the long-term reduction of approximately 902 acres of potential breeding and foraging habitat, until reclamation was completed and vegetation re-established. Indirect impacts would continue to result from mine related noise and human presence. Impacts would be considered not significant based on implementation of Newmont's environmental protection measures, the overall availability of suitable habitat in the vicinity of the project, and the existing level of activity at the mine site.

*Vesper Sparrow.* Potentially suitable breeding habitat for this species is present in the study area. Direct impacts to breeding pairs (if present) as a result of proposed mine-related activities and the applicable environmental protection measures to minimize these impacts would parallel those described above for the pinyon jay. Direct impacts to this species would include the long-term reduction of approximately 902 acres of potential breeding and foraging habitat, until reclamation was completed and vegetation has re established. Indirect impacts would continue to result from mine-related noise and human presence. Impacts would be considered not significant based on implementation of Newmont's environmental protection measures, the overall availability of suitable habitat in the vicinity of the project, and the existing level of activity at the mine site.

*Black Rosy-finch.* Based on the lack of suitable breeding habitat, direct impacts to breeding pairs as a result of proposed mine-related activities would not occur. Direct impacts to foraging birds would include the long-term reduction of approximately 902 acres of winter/transitional habitat, until reclamation was completed and vegetation re-established. Indirect impacts would continue to result

from mine-related noise and human presence. Impacts would be considered not significant based on implementation of Newmont's environmental protection measures, the overall availability of suitable habitat in the vicinity of the project, and the existing level of activity at the mine site.

### **Range Resources**

Direct impacts to range resources would result from the project-related long-term removal of grazing on approximately 194 acres of BLM-administered land. Livestock distribution may be affected as a result of the proposed mining-related activity in areas where livestock currently use the Copper Canyon Allotment. The effects to livestock distribution also would affect the utilization of available forage in the long term. Indirect impacts may include the introduction or spread of noxious weeds and invasive species potentially resulting in the reduction of available forage quality and quantity.

No modification of seasonal stocking rates would be anticipated as a result of project implementation within the Copper Canyon Allotment. The long-term loss of 15 animal unit months (AUMs) would represent less than 1 percent of the total permitted use.

Reclamation would be completed on approximately 194 acres (or 100 percent) of the total proposed disturbance area on BLM-administered lands. All areas would be fenced and excluded from grazing for the duration of proposed leaching and reclamation activities. Satisfactory revegetation (i.e., soil stabilization through the presence of adequate plant cover) of disturbed areas on BLM-administered lands would increase plant cover and provide an adequate amount of forage to recover the 15 AUMs affected by project-related activities. Livestock grazing would resume after revegetation was complete and upon the removal of the perimeter fence around the Proposed Action disturbance areas. As a result, no significant impacts to available forage or AUMs would occur as a result of the Proposed Action.

No water-related range improvements were identified within the study area; therefore, no significant impacts to water-related range improvements would occur as a result of the Proposed Action. No significant impact to the Copper Canyon Allotment would occur as a result of the Proposed Action.

### **Paleontological Resources**

Potential direct impacts to paleontological resources from implementation of the Proposed Action would be limited to areas of disturbance; potential indirect impacts could result from potential increased accessibility to fossil beds from improved access to remote areas and subsequent illegal collecting.

The Quaternary-age alluvial deposits within the proposed disturbance areas are considered as Condition 3 for paleontological sensitivity and are unlikely to produce vertebrate or invertebrate fossils. In addition, an assessment of paleontological resources found no known vertebrate or invertebrate localities within the study area. Therefore, because there are no known or suspected unique or site-specific paleontological resources in the study area, there would be no significant impacts to paleontological resources anticipated under the Proposed Action.

If paleontologically unique or site-specific fossiliferous deposits (particularly vertebrate fossils) are encountered during construction, operation, or reclamation of the proposed project, measures would need to be taken to evaluate the paleontological resource.

### **Cultural Resources**

Cultural resources inventories were conducted within the area of potential effects for the Proposed Action. Based on the results of these inventories, no archaeological sites or isolated finds are recommended as eligible for the National Register of Historic Places (NRHP); 1 of the 3 loci is

recommended as a contributing component of the previously recorded NRHP-eligible site. Final determination of eligibility will be decided by the BLM. In accordance with the Programmatic Agreement (PA), unavoidable adverse effects to historic properties would be mitigated through implementation of a treatment plan.

Indirect effects, such as illegal collecting of artifacts and inadvertent damage to archaeological sites, could occur in the study area due to an increase in the number of workers during construction. In accordance with the 1994 PA, Newmont would ensure that all of its personnel, and the personnel of its contractor, are directed not to engage in the illegal collection of historic and prehistoric materials. This protection measure would reduce, but not completely eliminate, the potential for illegal collecting of artifacts and inadvertent damage to archaeological sites.

If previously unknown cultural resources are discovered during construction, all construction activities would cease within 300 feet of the discovery and the BLM authorizing officer (AO) would be notified of the find. Steps would be taken to protect the resource from vandalism or further damage until the BLM AO can evaluate the nature of the discovery. If the previously unidentified cultural resource is determined eligible to the NRHP or unevaluated, adverse effects would be mitigated as outlined in the PA. Construction would not resume in the area of the discovery until the BLM AO has issued a notice to proceed.

If construction or other project personnel discover what may be human remains, funerary objects, or items of cultural patrimony on BLM-administered land, construction would cease within the vicinity of the discovery, and the BLM AO would be notified of the find. The location of the find would not be publically disclosed, and the remains would be secured and preserved in place. Any discovered Native American human remains, funerary objects, or items of cultural patrimony found on federal land would be handled in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA). Non-Native American human remains would be handled in accordance with Nevada state law. Construction would not resume in the area of the discovery until the BLM AO has issued a notice to proceed.

If human remains and associated funerary objects are discovered on private land during construction activities, construction would cease within the vicinity of the discovery and the county coroner or sheriff would be notified of the find. Treatment of any discovered non-Native American human remains found on private land would be handled in accordance with Nevada Revised Statute (NRS) 440.025; Native American human remains found on private land would be handled in accordance with NRS 383.150.

### **Native American Traditional Values**

To date, no traditional cultural properties or places of cultural and religious importance to the tribes have been identified in the study area through tribal consultation/coordination or cultural resource inventory of the project APE; however, tribal representatives who participated in the August 2008 field tour expressed concern with mining (in general) and its impact on natural resources.

Tribal consultation/coordination currently is ongoing and would continue through project completion. If a traditional cultural property or place of cultural and religious importance is identified by tribal representatives, and avoidance is not feasible, specific operating procedures, stipulations, or mitigation measures would be developed in consultation/coordination with the affected tribal groups with the goal of reducing or eliminating impacts to the identified site. Per the 1994 PA, if mitigation is required at a traditional cultural property or place of cultural and religious importance, a treatment plan would be reviewed and approved by the BLM, State Historic Preservation Office, Advisory Council on Historic Preservation, and Newmont. Tribal representatives would be asked to participate in the development of any such treatment plan.

If construction or other project personnel discover what may be Native American human remains, funerary objects, or items of cultural patrimony on BLM-administered land, construction would cease within the vicinity of the discovery, and the BLM AO would be notified of the find. The location of the find would not be publically disclosed, and the remains would be secured and preserved in place. Treatment of Native American human remains, funerary objects, or items of cultural patrimony found on federal land would be handled in accordance with the NAGPRA.

If Native American human remains and associated funerary objects are discovered on private land during construction activities, construction would cease within the vicinity of the discovery and the county coroner or sheriff would be notified of the find. The location of the find would not be publically disclosed, and the remains would be secured and preserved in place. Treatment of any Native American human remains found of private land would be handled in accordance with NRS 383.150.

### **Air Quality**

Estimates of the emission rates for five criteria air pollutants (particulate matter less than 10 microns in diameter [ $PM_{10}$ ]; particulate matter less than 2.5 microns in diameter [ $PM_{2.5}$ ]; carbon monoxide [CO]; sulfur dioxide [ $SO_2$ ]; and oxides of nitrogen [ $NO_x$ ]), the two criteria air pollutant precursors ( $NO_x$  and volatile organic compounds), and the greenhouse gas (GHG) carbon dioxide were made from each emission unit for all five applicable criteria air pollutant regulatory time periods (1-hour, 3-hour, 8-hour, 24-hour, and annual).

The emission rates for  $PM_{10}$ , CO,  $NO_x$ , and  $SO_2$  specified in the current NDEP-Bureau of Air Pollution Control (BAPC) Class II Air Quality Operating Permit for the proposed project were used for the permitted emission units which would be operational during Year 2016.  $PM_{2.5}$  emission rates for these permitted sources were calculated from the NDEP-BAPC permitted  $PM_{10}$  emission rates using  $PM_{2.5}/PM_{10}$  ratios developed from the emission factors found in the current versions of U.S. Environmental Protection Agency AP-42. The maximum modeled pollutant concentrations would be in compliance with state and national Ambient Air Quality Standards. Fugitive dust and vehicle exhaust from mining activities and equipment would be managed under the Class II operating permit.

No individual hazardous air pollutants (HAP) would be emitted in a quantity greater than the major source limit of 10 tons per year (tpy). Also, the combined HAP emissions are less than the major source limit of 25 tpy. Therefore, the Proposed Action would not constitute a major HAP source.

GHG emissions associated with the Proposed Action would contribute approximately 14,757 tpy from fuel combustion and 21,473 tpy from electrical power for a total of 36,230 tpy of GHG.

### **Land Use and Access**

#### Land Use

The Proposed Action would increase surface disturbance in the study area by approximately 902 acres; 194 acres (21 percent) are BLM-managed public land and 708 acres (79 percent) are Newmont-owned private land. Approximately 398 acres of the proposed new disturbance area would be associated with the Section 5 OUA and haul road and utility corridor, which is surrounded on three sides by currently approved mine facilities or activities. An additional 254 acres of new disturbance would occur in Sections 15 and 16, which lie between the approved tailings and clay borrow areas at the south end of the currently approved mine.

The Proposed Action would be consistent with BLM plans and policies that designate land use within the study area as open for mineral exploration and development, as stated in the Shoshone-Eureka Resource Area Resource Management Plan. Although Lander County does not have jurisdiction to regulate land use on federal lands, the proposed project would be consistent with the county's

preference for “multiple use” management and retention of existing mining areas as expressed in the 2005 Policy Plan for Federally Administered Lands. The Proposed Action would comply with adopted plans and policies of potentially affected governmental entities.

New project-related surface disturbance would reduce the amount of land available for livestock grazing, dispersed recreation, and wildlife habitat, although the loss would be minimal in the context of the overall area, particularly considering the current limited use levels. The proposed surface disturbance would constitute approximately 0.8 percent of the 106,430-acre Copper Canyon Allotment. The public/private breakdown would be 194 acres of public land disturbance, or 0.3 percent of the total 61,730 acres of public land, and 708 acres of private land disturbance, or 1.6 percent of the total 44,700 acres of private land.

No conflicts with existing rights-of-way (ROWs) have been identified for the Proposed Action. Most of the ROWs and use authorizations within the proposed and existing disturbance area exist to serve the mining activities. An existing county road (N-48143) has been replaced by the rerouted Willow Creek Road (N-84251).

Post-reclamation land uses of the proposed disturbance areas would be returned to open space, grazing, dispersed recreation, and wildlife habitat. These uses would be consistent with local and BLM land use plans and guidelines.

#### Access

Transportation safety concerns related to highway traffic generated by the Proposed Action would be minimal. Lines of sight at intersections are unobstructed and sight distances are ample. Development of the proposed project would have no effect on the physical characteristics of the major intersections or SH 305. The increase in traffic would be minimal, remaining well within the capacity of the roadways as noted above. The mix of heavy vehicles in the traffic stream would not change substantively. As such, any increase in the risk of traffic accidents would be minor and proportional to the overall increase in traffic.

Based on this analysis, development of the proposed project would not significantly affect highway traffic in the mine vicinity. Any degradation in roadway safety conditions would be minimal.

Access to public and private lands in the project vicinity would be minimally affected by the proposed project.

Based on the analysis and assumptions noted above, the effects of the proposed project on land use and access in the study area would be considered minor.

### **Recreation and Wilderness**

#### Recreation

Under the Proposed Action, surface disturbance at the Phoenix Mine would increase by approximately 902 acres, 194 acres (21 percent) of which would be on BLM-administered public land and 708 acres (79 percent) would be on Newmont-owned private land. Approximately 398 acres of the proposed new disturbance area would be associated with the Section 5 OUA and haul road and utility corridor, which would be surrounded on three sides by currently approved mine facilities or activities. The remaining 254 acres would be in Sections 15 and 16, which lie between the currently approved tailings and the clay borrow areas at the south end of the currently approved mine.

The potentially affected lands do not offer unique recreational opportunities and would not affect developed or high concentration undeveloped recreation facilities or resources. The acreage of public lands affected would be minor in the context of the currently approved mine disturbance. It also would

be a small fraction of the acreage available for recreational activities in the project vicinity and region, which has abundant public open space lands available for dispersed recreational opportunities. Although no specific recreational use data are available for the public lands directly affected by the Proposed Action, the number of dispersed recreationists affected is expected to be minimal, and what little displacement may occur would not create overuse of other areas or degradation of the resource. Therefore, significant impacts would not occur from the displacement of dispersed recreationists under the Proposed Action.

Adverse impacts to big and small game populations are not anticipated as a result of implementation of the Proposed Action. Consequently, adverse impacts to hunting opportunities are not expected. Additionally, no adverse impacts to fisheries located at Willow Creek are expected as a result of operations under the Proposed Action.

Developed recreational facilities in the region and in the Town of Battle Mountain are not expected to be adversely affected through implementation of the Proposed Action. The Proposed Action would result in a temporary (12 months) increase in population of approximately 73 persons during construction (a 5.3 percent increase from the estimated 2007 county population) and a permanent increase in population of approximately 60 persons during operations (a 0.7 percent increase from the 2009 Lander County population). Facilities at the Mill Creek Recreation Area, located approximately 24 miles south of the Town of Battle Mountain, could experience increased use during project construction and operation. Other regional recreational facilities such as Willow Creek also would likely experience minor increased demand during project construction and operation. Developed recreational facilities in the region would be expected to accommodate increased demand for recreation from this level of growth and are not expected to be adversely impacted by the influx of people.

Recreational facilities located within the Town of Battle Mountain would be able to absorb any extra demand placed on them as a result of the anticipated new residents to the area. Consequently, significant impacts to developed recreation facilities would not occur under the Proposed Action.

#### Wilderness

Implementation of the Proposed Action would have no impact on wilderness or wilderness study areas (WSAs). The closest WSA is approximately 15 miles to the west (China Mountain WSA), and it is not anticipated that project-related disturbance would be visually or audibly discernible from the WSA.

#### **Social and Economic Values**

Under the Proposed Action, construction is expected to begin late in the first quarter of 2012, with construction completed and operations beginning approximately 1 year later, during the first quarter of 2013. Construction would be completed by a contractor with an estimated average work force of 150, and a brief peak work force of 250 occurring in the third quarter of 2012. Approximately 40 to 50 additional operations workers would be hired for the proposed project beginning during construction so they would be familiar with the project and trained to begin commissioning and production as soon as construction is completed. For calculation purposes, this analysis assumes that 48 additional operations workers would be hired. The existing work force of approximately 460 people would continue working at the existing Phoenix Project operations, resulting in a total of approximately 508 operations employees at the mine site. The 48 new workers for the proposed project would be employed for approximately 22 years. It is expected that the 460 workers currently on-site would continue through mining operations, and the work force then would be cut to approximately 150 for closure and reclamation activities.

### Population

In-migrating construction workers and their families would number approximately 73 persons. This number of people would represent a 0.3 percent increase over the 2009 population estimated at approximately 23,693 for the two-county study area. If the new population is distributed similar to the existing work force, approximately 39 persons would locate in the Town of Battle Mountain vicinity, representing an increase of 1.3 percent, and 30 would locate in and near Winnemucca where they would represent an increase of 0.4 percent of the community's population.

In-migrating operation workers and their families would number approximately 60 persons. This increase would represent a 0.3 percent increment over the 2009 study area population. Again, if distributed similar to the existing work force, 32 new people in the Town of Battle Mountain area would represent an increase of 1.1 percent of that community's population. The new population would be 25 in Winnemucca, representing 0.3 percent of the 2009 population in the Winnemucca area.

The project-related population increase would be well below the 5 percent impact significance threshold for the study area, even if the entire increase occurred in the Town of Battle Mountain.

### Income and Employment

The direct work force increase for construction of the proposed project would peak at approximately 250 workers for a few weeks and would average 150. Indirect employment generated by the project is projected at 30 to 50 additional jobs. Approximately 70 percent of construction-related jobs (direct and indirect) are expected to be filled from the local work force, leaving a demand for 54 to 90 workers from outside the local area.

The peak direct construction employment increment would represent a 2.9 percent increase over total employment in the study area. Total peak direct and indirect employment would be 3.3 percent of existing total employment. The current availability of unemployed workers in Lander and Humboldt counties suggest that there would be adequate numbers of workers to fill most of the construction jobs. It is expected, however, that at least some of the needed jobs would have to be filled from outside the area if specific job skills are required for certain jobs.

The direct operations work force increase for the proposed project would be approximately 48 workers. Indirect employment generated by the activity is projected at 36 additional jobs, raising the total to 84 jobs. Local labor is projected to meet 60 percent of the direct project-related jobs, and 70 percent of the indirect jobs, leaving a demand for 22 workers from outside the local area, although continuing high unemployment rates locally could reduce that number.

The direct employment increment would represent a 0.5 percent increase over existing total employment in the study area. Total direct and indirect employment would be 0.8 percent of existing total employment. There are more than enough unemployed workers in Lander County to fill the needs of the proposed project, if the unemployed individuals have the appropriate skills to fill the jobs. It is expected, however, that at least some of the needed jobs would have to be filled from outside the area, as indicated in the assumptions noted above.

The estimated annual operations payroll for the proposed project, including benefits, would be approximately \$5.5 million. Each \$1.00 in direct earnings would indirectly generate an additional \$0.37 in earnings to other workers in the local economy. Consequently, the annual indirect impact on earnings would be approximately \$2.0 million, yielding a combined annual indirect impact of approximately \$7.5 million. The portion spent locally would constitute an economic benefit accruing from the project to the local economy.

### Housing

Project-related demand for housing during operations is estimated at up to 27 units. Both Lander County and Humboldt County had relatively high estimated vacancy rates in 2007. The Battle Mountain community alone had an estimated 339 vacant units. With this many units vacant, it is anticipated there would be no issues accommodating the housing needs of project related workers and their families.

### Community Facilities and Services

Generally, existing utilities and emergency response services should have few, if any, difficulties accommodating the estimated 73 to 124 new people during construction, and 60 new operations-related people the proposed project would bring to the study area. It is expected that the proposed project would have only minor and insignificant effects on public services and facilities in the study area.

### Public Education

No effects to school enrollment are anticipated during construction, as it is anticipated that construction workers would be unlikely to move their families to the area for the relatively short period of time they would be at the mine site. During operations, the proposed project would increase the school-age population in the study area by an estimated 11 students. This would increase enrollment in study area schools by less than 1 percent. The number of new students would be greatest in the Town of Battle Mountain.

### Public Finance

Newmont estimates the proposed project would generate approximately \$0.8 million in net proceeds of mines taxes during the first year of production, which would be distributed among Lander County, the school district, the hospital district and the state. That amount would rise to a peak of slightly over \$2.0 million in the Year 4, would decline gradually to approximately \$1.1 million in the Year 8, and would then vary from \$0.4 million to \$1.3 million through Year 21 before tailing off to zero by the last year of the project. These estimates would be over and above the net proceeds taxes paid for the on-going Phoenix Project operations, which would average approximately \$3.3 million per year during the life of the proposed project. Existing operations at the Phoenix Project began in March 2006, but did not pay net proceeds taxes until 2009 because of a combination of development costs exceeding revenues and the lag from the time of assessment to the time of tax payment. Net proceeds can vary substantially from year-to-year, depending on production volumes, mineral prices, and annual production costs.

Newmont would continue to pay ad valorem property taxes on the assessed value of the mining property. These taxes would lag behind net proceeds taxes due to standard assessment procedures, but would be more consistent over the life of the project. Newmont (2011b) estimates general property tax payments for the proposed project would be approximately \$0.4 million in Year 2 and \$1.1 million in the Year 3. They would then remain between \$1.1 million and \$0.9 million for the life of the project, averaging slightly over \$0.9 million per year. As with net proceeds taxes, property taxes would be in addition to the average of \$2.9 million per year expected to be paid for previously permitted, on-going Phoenix Project operations.

Sales and use taxes for the proposed project would average slightly over \$600,000 per year, with periodic peaks near or above \$900,000 approximately every 5 years. The incremental increase attributable to the proposed project would be a modest 7 percent above the annual average of \$8.3 million projected for on-going operations.

The proposed project would be expected to pay approximately \$36,000 per year in business tax, a minor increase over the approximately \$415,000 annual business tax projected for the existing Phoenix Project.

It is projected that the proposed project would pay a total of over \$2.4 million annually in local and state taxes in these four major tax categories. This would be an increase of 16.4 percent over the \$14.9 million annual average projected for the existing Phoenix Project.

### Social Conditions

It is estimated that project construction could add up to 73 people to the study area; however, the increase would be short-term and unlikely to affect the social or governmental character of the study area.

With an expected project-related population increase during operations of 60 people in a community that has grown slowly since the 2000 census, it is not anticipated that the growth would cause any disruption in social or governmental structures.

### **Visual Resources**

Viewpoints affected by the proposed project would include portions of Interstate 80, SH 305, Buffalo Valley Road, and Willow Creek Road. Of these, SH 305 (northbound), Buffalo Valley Road, and Willow Creek Road were identified as key observation points (KOPs), due to their close proximity, use volume, and sensitivity of viewers.

#### SH 305 Northbound (KOP-1)

A moderate increase in the extent of visible mine features would occur following development of the Proposed Action. The change would be most noticeable in the area of the proposed Phoenix Copper HLF on the west side of the existing Phoenix Mine. In this visual resource management (VRM) Class IV area, the significance of the visual impacts as seen from KOP-1 under the Proposed Action would be moderate and would conform to the management guidelines for the area.

#### Buffalo Valley Road (KOP-2)

It is estimated that the degree of the visual impact as observed from KOP-2 under the Proposed Action would be moderate due to the extent of the currently permitted disturbance and the allowable change within the VRM Class IV designation.

#### Willow Creek Road (KOP-3)

Under the Proposed Action, the extent and scale of development substantially would increase as observed from this KOP. Dominating this view would be Phases 2 and 3 of the Phoenix Copper HLF. This expansion would be apparent to the casual viewer in comparison to the natural peaks and mine features south and east of these facilities. From this KOP, the existing high voltage transmission line in the foreground contributes relatively strong line contrasts. The scale and extent of the Proposed Action would dominate the scene and result in a moderate degree of visual contrast as seen from KOP-3.

It is estimated that the degree of the visual impact as observed from KOP-3 under the Proposed Action would be moderate due to the extent of existing disturbance and the allowable change within the VRM Class IV designation.

### **Environmental Justice**

The analysis indicates that the potential effects of the Proposed Action would not be expected to disproportionately affect any particular population. Although the Town of Battle Mountain does have a higher percentage of American Indians than the state reference population, there is no indication that

they would suffer disproportionate effects of the Proposed Action. Potential environmental effects that may occur at a greater distance would affect the Town of Battle Mountain's population equally, without regard to minority status or income level.

## **Hazardous Materials and Solid Waste**

### Transportation

Hazardous substances would be transported by commercial carriers or vendors in accordance with the requirements of Title 49 of the CFR. Carriers would be licensed and inspected as required by the Nevada Department of Transportation and the U.S. Department of Transportation.

In order to evaluate the potential impact of the transportation of hazardous materials to the mine site, the risk of a transportation accident resulting in a release of hazardous materials was evaluated. Accident rates derived from national statistics for truck accidents that involve hazardous materials indicate that accident rate for corrosive materials was 0.13 per million miles traveled. Based on this information, there would be a low probability of an accident involving the release of hazardous materials during the operational period of the proposed project. A similar evaluation performed for the diluent indicated that probability of an accident and a release of the material over the lifetime of the project is very low.

### Storage and Use

Newmont has developed an Emergency Response Plan to respond to spills of hazardous materials at the mine site. Operations conducted in accordance with this plan would ensure that impacts from spills would be minimized and the spilled materials contained and removed. Newmont would have the necessary spill containment and cleanup equipment available on site, and personnel would be able to respond quickly.

Hazardous substances would be handled in accordance with applicable Mine Safety and Health Administration or Occupational Safety and Health Administration regulations (Titles 29 and 30 of the CFR). The hazardous materials used for the proposed project would be handled as recommended on the manufacturer's Material Safety Data Sheets. Based on the facility's design features and the implementation of the Emergency Response Plan, the probability of a major release occurring at the mine site during the life of the proposed project is considered to be low.

### Potential Effects of a Spill

The environmental effects of a release would depend on the material released, the quantity released, and the location of the release. Potential spills could range in magnitude from a few gallons of material spilled during transfer operations at the mine site to the loss of several thousand gallons into a riparian drainage as a result of a transportation accidental release.

A large-scale release of hazardous material would have implications for public health and safety depending on the location of the release. Under the Proposed Action, the probability of a release along a transportation route is very small, and the probability of a release within a populated area is smaller, and the probability of a release involving an injury or fatality is smaller still. As a result, it is not anticipated that a release involving severe effects to human health or safety would occur during the life of the project.

The release of a hazardous material or waste into a sensitive area (e.g., stream, wetland, or populated area) is assumed to be very unlikely.

### Response to a Spill

In the event of a hazardous materials release en-route to the mine site, the transportation company would be responsible for response and cleanup. Hazardous materials transporters are required to maintain an Emergency Response Plan, which details the appropriate response, treatment, and cleanup for a material spilled onto land or into water. Specific procedures would be developed for fuels, acids, and other hazardous materials.

### Solid Waste

The proposed project would generate non-hazardous solid waste in the form of crud solids and montmorillonite clay. This waste material would be placed on the heap leach pads. In addition, empty material containers would be cleaned and disposed of in the on-site landfill or other permitted disposal site.

The lead sludge would be shipped back to the anode supplier for recycling. It is estimated that 15,000 pounds, or 60 drums, per year would be generated from the proposed project.

### Technologically Enhanced Naturally Occurring Radioactive Materials

There is a low potential for the concentration of technologically enhanced naturally occurring radioactive materials (TENORM) as a result of the proposed copper leaching and extraction; however, if TENORM were to be concentrated, it has the potential to occur in leached materials, processing wastes, and process piping and equipment. Newmont has committed to quarterly testing and monitoring for uranium, radium, and gamma ray activity at various process areas. In addition, Newmont has committed to gamma ray monitoring of E-ponds during closure operations. Monitoring will occur quarterly when workers are performing regular maintenance or monitoring of E-ponds. A one-time gamma meter measurement survey would occur at each E-pond upon closure. The monitoring would provide an indication if TENORM is being concentrated over time. No thresholds of radioactivity are currently proposed and if radioactivity is shown to increase over time, the BLM would consult with appropriate state and federal regulatory agencies to determine a course of action that would be protective of public health and environment as part of ongoing operations or actions to be implemented during reclamation.