

SUMMARY

The Elko District Office of the United States Department of the Interior Bureau of Land Management (BLM) received a revised Plan of Operations (the Genesis Project or Project) from Newmont Mining Corporation (Newmont) in November 2007, proposing an amendment to the Genesis-Bluestar Operations Area (NVN-70712). The Genesis Project includes expansion and development of open pit mines and associated support facilities located within the previously permitted boundary for the Genesis-Bluestar Operations area. The Genesis Project is located on public and private land in Eureka County, Nevada, approximately 20 miles north of Carlin, Nevada.

This Environmental Impact Statement (EIS) describes Newmont's Proposed Action, No Action Alternative, and environmental consequences that could result from implementation of these actions. Potential direct, indirect, and cumulative effects on the environment are analyzed in this EIS. Impacts described herein will form the basis for a BLM decision regarding the Proposed Action, No Action Alternative, and selection of appropriate mitigation measures.

PROPOSED ACTION

Implementation of Newmont's Proposed Action would include the following:

- Expansion of the existing Genesis open pit mine, disturbing 43 new acres, and reworking existing mine disturbances for a total of approximately 1,135 acres;
- Development and operation of the Bluestar Ridge open pit mine and construction of an associated haul and access road;
- Placement of waste rock generated from expansion of the Genesis Mine as in-pit backfill in the previously depleted Bluestar and Beast pits, and mined out portions of the Genesis pit;
- Installation of drain boreholes and pumping wells to dewater the Genesis east highwall;
- Vertical expansion of the Section 36 Waste Rock Disposal Facility and construction of an associated haul and access road;
- Vertical expansion of the Section 5 Waste Rock Disposal Facility;
- Classification and management of potentially acid-generating (PAG) rock, including additional testing and plans for modified classification and management, if necessary;
- Extension of mining employment (no additional employment) in the local area; and
- Revegetation of approximately 985 acres disturbed by mining and related activities (about 150 acres would remain as open pit and highwall) in the Genesis Project area.

With the exception of the proposed Bluestar Ridge Mine pit, all proposed activities described above would occur on approximately 1,100 acres within the Genesis-Bluestar Operations Area.

New surface disturbance associated with the Proposed Action includes 26 acres for the Bluestar Ridge Mine pit, nine acres to accommodate placement of waste rock as in-pit backfill of the depleted Bluestar and Beast Mine pits, and eight acres of access and haul roads (43 acres total). For the purposes of this EIS, the new surface disturbance (43 acres) includes seven acres of exploration roads and drill pads constructed under previous authorization in the proposed Bluestar Ridge Pit area.

The Proposed Action would modify the existing approved reclamation and closure plan to allow backfill of mined-out pits. Waste rock generated during expansion of the Genesis Pit would be used to completely backfill the Bluestar, Beast, and partially backfill the Genesis Pit, reducing the area that would have remained as open pits under the No Action Alternative by approximately 300 acres.

Approximately 450 million tons (Mt) of waste rock would be removed to extract 60Mt of ore over a twelve-year operational life. Approximately 48.3Mt of oxide leach ore would be placed on the existing North Area Leach Facility and 11.7Mt of mill and refractory ore would be hauled to Mill 5/6 in the South Operations Area.

A Waste Rock Management Plan describing the methods, procedures, design, monitoring, and reporting that Newmont would use in managing waste rock associated with proposed mine expansion of the Genesis Project has been submitted to the Nevada Division of Environmental Protection (NDEP) as an amendment to its Water Pollution Control Permit (WPCP NEV0087065). In addition, Newmont, BLM, and NDEP developed an Adaptive Management Plan (AMP) for Waste Rock to confirm predicted waste rock behavior associated with development of the proposed Genesis Project. The AMP identifies ongoing waste rock characterization work, future waste rock monitoring associated with the Project, and actions that could be employed to manage PAG waste rock should a revised method or increased capacity of the proposed plan be warranted.

Expansion of the Genesis Pit would require dewatering that part of the Genesis Pit lying east of the Gen Fault, a north-south trending fault structure that spans the eastern portion of the Genesis Pit. The portion of the pit west of the Gen Fault lies within the groundwater drawdown area associated with ongoing dewatering activities at Barrick's nearby Goldstrike Operations (Betze Pit and Meikle Underground Mine) and Newmont's Leeville Mine and would not require dewatering. Current dewatering has lowered the regional groundwater table on the west side of the Gen Fault to a level where additional dewatering to accommodate Genesis Pit expansion is not necessary.

Variations in water levels separated by the Gen Fault are indicative of compartmentalization of groundwater in the Genesis Pit east highwall. Dewatering the east wall would involve construction of drain boreholes and pumping wells. Currently, up to 35 drains and ten wells, combining to pump up to 250 gallons per minute (gpm) for up to ten years, are expected to be necessary to dewater the Genesis Pit east highwall to allow the east highwall to be safely laid back. The number of wells and drains may be modified as dewatering experience is gained.

Water produced from pumping on the east side of the Gen Fault would be distributed through existing buried pipelines to Newmont's North Area Leach operations, Barrick's processing facilities, and to the Deep Post/Deep Star underground mining operation. Water produced via drains would infiltrate into permeable, dewatered carbonate rock beneath the Genesis Pit. All dewatering operations require permitting by the State of Nevada.

Continued development of the Genesis Project would require excavation and placement of approximately 450Mt of waste rock. Nearly 80 percent (355Mt) of waste rock generated over the life-of-mine would be used to backfill the Beast, Bluestar, and portions of the Genesis pits. Approximately 95Mt of waste rock would be placed as lifts on top of the existing Section 5 (41Mt) and Section 36 (54Mt) Waste Rock Disposal facilities.

PAG waste rock at Genesis is expected to total approximately 28Mt or six percent of total waste rock to be removed during mining. Waste rock with a Net Carbonate Value (NCV) less than zero and any waste rock with a paste pH of less than 6 is classified as PAG. Conversely, waste rock with an NCV greater than or equal to zero and with a paste pH of 6 or higher is classified as non-PAG. PAG waste rock would be segregated and placed in mined-out portions of mine pits (above pre-mining groundwater levels) and in the Section 5 and Section 36 Waste Rock Disposal facilities, and encapsulated with a minimum ten-foot thick layer of non-PAG acid-neutralizing waste rock.

To check existing results from waste rock classification analyses for the Proposed Action, a supplemental testing program would be initiated. If results from supplemental testing differ from existing analyses, classification and management of waste rock (up to an additional 100Mt of PAG) mined under the Proposed Action (up to 128Mt) may be modified as determined by the BLM and the NDEP using the guidance established in an AMP created specifically for this Project and included as part of the Waste Rock Management Plan for the Genesis Project.

Surface water control structures (e.g., berms and ditches) would be constructed as appropriate to preclude meteoric water from flowing into the proposed Bluestar Ridge Pit. These control structures would remain in-place over the operational life of the Project and as permanent features after final reclamation and mine closure. Sediment control measures have been implemented, as necessary to reduce soil movement within the site and to minimize off-site effects. These structures are designed and constructed to allow access for maintenance throughout the life of the Project. Soil collected in these structures would be periodically removed and placed in the soil stockpile or on reclaimed areas. Sediment control structures would be removed once vegetation has stabilized on reclaimed areas.

Existing ancillary facilities in the North Operations Area complex (e.g., maintenance shops, fueling areas) would be used to support mining activities at the Genesis Project. No new ancillary facilities would be needed to serve the Proposed Action.

All non-hazardous solid waste generated at the Genesis Project would be disposed in an existing NDEP approved Class III waived landfill located in the Genesis-Bluestar Operations Area. Hazardous wastes would not be generated at the proposed Genesis Project. Wastes associated with ore processing would be administered under either the North Operations Area - a Conditional Exempt Small Quantity Generator of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) (40 CFR Part 260-270), or the South Operations Area, which is a Large Quantity Generator of hazardous waste as defined by RCRA.

Reclamation would include:

- Regrading waste rock disposal facilities, haul roads, and stockpile areas;
- Drainage control to channel run-off away from open pits and to minimize erosion;
- Replacing more than 622,000 cubic yards (cy) of salvaged growth media;
- Hauling approximately 3.0 million cubic yards (Mcy) of Tertiary Carlin Formation material from the East Lantern Waste Rock Disposal Facility (about one-half mile south of the Genesis Project) for use as growth media;
- Revegetation; and
- Monitoring of reclamation and water control structures.

The reclamation schedule includes concurrent reclamation during operations and post-mining recontouring and revegetation totaling approximately 985 acres. Approximately 150 acres would remain as highwall and open pit. The Genesis Project includes approximately 300 acres of additional reclamation compared to the No Action Alternative as a result of backfilling and reclamation of existing pits within the mining area.

PROJECT ALTERNATIVES

To this point, neither the BLM, nor any cooperating agency nor any commenting public has identified a reasonable alternative which would reduce or eliminate impacts resulting from implementation of the Proposed Action. Therefore, the only alternative discussed in detail in this EIS is the No Action Alternative. Five other alternatives were considered but eliminated from detailed analysis as discussed in Section 2.4. If an alternative is proposed, which is feasible, reasonable, and addresses a substantive impact, BLM will analyze that alternative.

NO ACTION ALTERNATIVE

Under the No Action Alternative, the Proposed Action would not be approved. Newmont would not receive authorization to use public land to conduct additional mining in the Genesis-Bluestar Operations Area as proposed by the Genesis Project amendment. Current operations could continue until the limits of existing authorizations are reached. A pit lake would develop in the Genesis Pit over the next 400 years, approximately 685 disturbed acres would be reclaimed (300 acres less than the Proposed Action). Newmont would reduce Carlin work force employment levels by 211 in 2010 with reductions in employment levels reaching 1,164 in 2016 compared to the Proposed Action.

Newmont would have the option of submitting a revised Plan of Operations (POO) for the Genesis Project addressing those issues that resulted in selection of the No Action Alternative. The revised POO would be reviewed for conformance to statutes and regulations and a new National Environmental Policy Act (NEPA) analysis would be completed where appropriate.

MAJOR ISSUES

Major issues identified by the agencies during review of the Genesis Project Plan of Operations Amendment and during public scoping include the following and are addressed in respective sections of the EIS:

- Social and economic impacts to the local and regional economy from labor income, tax revenues, and continued employment resulting from the Proposed Action;
- Potential impacts of dewatering compartmentalized groundwater east of the Gen Fault on the regional water system; and
- Classification and management of potentially acid-generating (PAG) rock.

IMPACTS

The following is a summary of potential impacts, by resource, resulting from the Proposed Action and No Action Alternative. Mining activities under the Proposed Action would occur over a twelve-year period from 2010 to 2021, with reclamation activities occurring both concurrently and continuing after mining ceases. Under the No Action Alternative, mining operations are expected to cease in 2010 followed by reclamation.

AIR QUALITY

Proposed Action

Gaseous criteria air pollutant emissions such as sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and carbon monoxide (CO) typically result from combustion related activities from diesel engines used to power mining equipment and haul trucks. Ambient monitoring of gaseous emissions at the Genesis Project is not required under permits issued by the Nevada Division of Air Pollution Control. Operations at the Genesis Project would be conducted under existing Air Quality Permit No. AP 1041-0402.02.

Mining would continue in open pits with fugitive dust emissions controlled at the point of generation. Ore and waste rock would be drilled and blasted in sequential benches to facilitate loading and hauling. Haul trucks enter and leave the pit traveling on main haul roads to the waste rock disposal facilities, pit backfill areas, Mill 5/6 complex in the South Operations Area, or the North Area Leach Facility.

Fugitive dust emissions would be generated from wind erosion of disturbed areas and road dust. All haul roads would be maintained on a continuous basis for safe and efficient haulage and to minimize fugitive dust emissions. Generation of fugitive dust from ore handling activities would be controlled using Best Management Practices (BMPs), which could include direct water application, use of approved chemical binders or wetting agents, water spray, and revegetation of disturbed areas concurrent with operations.

On July 18, 1997, EPA promulgated a revised National Ambient Air Quality Standard (NAAQS) for PM_{10} . The effective date of this rule is November 21, 2008 which requires states to complete a State Implementation Plan to implement PM_{10} rules. The State of Nevada has submitted a plan to comply with the 1997 PM_{10} NAAQS, but as of the date of this document the EPA has not acted on the plan. The Genesis Project is located within an area classified by NDEP as an Attainment Area indicating air pollution levels in the area do not exceed ambient standards.

Approximately 4Mt of run-of-mine oxide ore associated with the Genesis Project would be placed annually on Newmont's North Area Leach Facility (a total of 48Mt over the twelve-year life-of-mine). Based on the average mercury content of Genesis ore (4.8 parts per million or ppm), a small amount of mercury would load to the carbon columns during the leaching circuit each year of operation. The impregnated carbon would be shipped to the Mill 5/6 complex for stripping and recovery of gold, silver, and mercury. The carbon regeneration procedure also results in recovery of mercury.

Approximately 6.7Mt of refractory ore from the Genesis Project would be shipped to the South

Operations Area Mill 6 for roasting. Refractory ore would be mined and processed during an eight year period within the twelve-year Project life (837,500 tons annually). Based on the average mercury content of Genesis ore, approximately 8,040 lbs. of mercury would be associated with the refractory ore shipped to Mill 6 for processing.

Emission factors based on 2008 source testing for Newmont's South Operations Area indicates that 99.89 percent of the mercury present in the ore is retained or removed through emission controls at the roaster and carbon regeneration. As a result, the average annual mercury emissions from 46,440 pounds of available mercury (38,400 lbs associated with leach ore and 8,040 lbs associated with refractory ore) would be 51.2 lbs. Given that the mercury content of Genesis Project ore is low (4.8 ppm) compared with other ore sources, when combined with control technology, processing Genesis refractory ore as a batch or blended with other ore would not increase annual mercury emissions from the Mill 5/6 facility, but would extend the period of emissions and increase the total amount of mercury emitted from Mill 5/6.

No Action Alternative

The No Action Alternative would avoid emissions resulting from twelve years of mining activity, including removal and placement of 450Mt of waste rock and processing of 60Mt of ore. Emissions associated with currently authorized mining activities and reclamation would continue until completion, approximately 2010 for mining and approximately 2015 for major reclamation activities.

GEOLOGY AND MINERALS

Proposed Action

Approximately 450Mt of waste rock would be mined and placed in either the Section 36 or Section 5 Waste Rock Disposal facilities or backfilled into existing pits. Approximately 60Mt tons of ore would be mined and processed, of which 48Mt would be placed on the North Area Leach Facility and 12Mt processed at the Mill 5/6 facility in the South Operations Area.

The excavation and exposure of waste rock and ore to oxygen and precipitation during mining operations and thereafter, could result in formation of acidic water where sulfide minerals, and to a lesser extent sulfate minerals, exist within the rock. Such reactions could result in leaching of metals from the waste rock and contamination of both surface water and groundwater. However, geochemical modeling of the proposed encapsulated PAG rock has concluded that no meteoric water or groundwater would contact PAG rock, thus preventing the geochemical reactions that produce water contamination or acid rock drainage. PAG material exposed in pit highwalls would be covered by in-pit backfill.

In response to concerns from the Environmental Protection Agency (EPA), Newmont, BLM, and NDEP developed an AMP to provide additional testing of waste rock to determine if previous testing results were accurate. The AMP identifies additional waste rock characterization work, future waste rock monitoring associated with the Project, and actions that would be employed to manage additional PAG waste rock should a revised waste rock classification system, resulting in additional PAG tonnage, be warranted.

Supplemental rock characterization and confirmation testing associated with the AMP would be

completed within the first year of the Genesis Project. Should results of the testing indicate the necessity of implementing a revised PAG management method, Newmont would initiate the requisite engineering design. Fundamentally, the revised PAG management method would involve expansion of the proposed PAG cells and possible additional PAG cells, depending on the tonnage involved. The complete AMP is included as Appendix A.

After completion of supplemental waste rock testing, waste rock monitoring would revert to the Genesis Project Waste Rock Management Plan, which is a component of Newmont's North Area Leach Operations Water Pollution Control Permit. The Waste Rock Management Plan would be continued throughout the life of the mine once the AMP is completed.

No Action Alternative

Implementation of the No Action Alternative would result in completion of mining under current authorizations and closure plans and avoid any additional impacts to public land. It would also eliminate recovery of approximately 60Mt of ore from the geologic resource, and the gold reserve intended to be mined would remain in-place. Pit backfill associated with the Proposed Action would not occur resulting in about 450 acres remaining as open pits and leaving access to whatever resources exist in those pits. The recovery of the pit lake would then eventually reduce access to those resources, increasing costs for future mining and thereby make it increasingly unlikely that the resources could be mined in the future.

WATER QUANTITY AND QUALITY

Proposed Action

Surface Water

The Proposed Action would not result in a modification of surface water conditions in the Project area because no natural undisturbed drainages currently exist within the footprint of the Proposed Action. Runoff from precipitation in the Project area would be collected in ditches and diverted to sediment ponds, with final use for mining-related activities. Ditches upgradient from disturbed areas would also be used to divert runoff from undisturbed areas around the mine site. Sediment control structures would remain active during the post-closure period until reclamation is complete.

The Genesis Pit would be backfilled with waste rock to a level above the predicted final post-mine recovered groundwater level. Therefore, no pit lake would form under the Proposed Action. The Bluestar and Beast pits would also be backfilled with waste rock. The Bluestar Ridge Pit would be above the final recovered groundwater level. Some ponding of water could be expected in the bottom of the Bluestar Ridge and the remnant Genesis pits in response to rain events or snowmelt run-off. PAG rock would not be encountered in the Bluestar Ridge Pit.

Groundwater

The proposed dewatering program for the Genesis Pit, required to safely expand mining operations, would result in lowering the water table in siliceous Vinini Formation rocks along the east side of the Gen Fault. This groundwater is not in direct communication with the regional groundwater system in the carbonates, which is currently being dewatered by operations at Barrick's Goldstrike Operations and Newmont's Leeville Mine. Thus the dewatering would not affect the regional groundwater system. The use of boreholes to permit groundwater from the Vinini to drain directly into the carbonates below is not expected to adversely impact groundwater quantity or quality. The amount of water drained would be small relative to the regional groundwater system as to have no measurable impact on quantity. Plugging the boreholes as required by Nevada state regulations after dewatering operations cease would reinstate the current groundwater situation of no or minimal communication between groundwater in the Vinini and the regional carbonate groundwater system.

Groundwater in the Vinini Formation east of the Gen Fault does not supply water to any seeps, springs, streams, or wells in the Project area. Dewatering for the Genesis Pit expansion would have no effect on surface water features or water rights.

Results of the updated Carlin Trend groundwater flow model show that the additional groundwater pumping and dewatering in the Vinini Formation east of the Genesis Pit would not measurably change the ten-foot drawdown isopleths for regional dewatering from current model predictions. During recovery of the regional groundwater level in the carbonates after cessation of mine dewatering in the northern Carlin Trend, groundwater would eventually rise into the backfilled Genesis Pit and contact waste rock. After recovery of water levels in the northern Carlin Trend is complete by about 2400, groundwater in the Genesis area is predicted to flow northward toward the nearby Betze/Post pit lake, which will begin to develop around 2030. All other mine pits at the Genesis Project site would be completed above the final recovered groundwater level. Backfilling would prevent development of a pit lake that would occur under the No Action Alternative.

Geochemical modeling of groundwater in the backfilled Genesis Pit and beneath waste rock disposal facilities predicts that groundwater would not become acidic as a result of the Genesis Project. PAG waste rock would be placed in encapsulation cells located above the expected recovery groundwater level in waste rock disposal facilities, including backfilled portions of the Genesis Pit. As the water table rebounds in the backfilled Genesis Pit, constituents in the waste rock released/dissolved during initial saturation would be relatively concentrated compared to groundwater beyond the confines of the Genesis Pit. Release of constituents to groundwater would steadily decrease over time and water quality would return to pre-mining water quality conditions due to dilution and attenuation by the large volume of carbonate rocks in the backfill and surrounding the backfilled pit. Because this groundwater would be isolated from the surface, it would not be the source for seeps or springs, nor would it be pumped for any purpose. The temporary concentration of constituents is not considered to be an impact of concern.

No Action Alternative

Surface Water

Effects to surface water resources for the No Action Alternative would be similar to the Proposed Action described above, except that the existing mine pits would not be backfilled and the Bluestar Ridge Pit would not be constructed. The possibility of ephemeral ponding of acidic water in the existing pits would continue and could require preventive/remedial treatment which would consist of placing limestone rock in the areas where such water was ponding as the limestone would neutralize any acidity. Approximately 450 acres of open pits (Bluestar, Beast, and Genesis) would remain and collect runoff which would be subject to infiltration and evapotranspiration.

A pit lake having a surface area of about 41 acres would form in the Genesis Pit to an elevation of about 5250 feet above mean sea level (amsl) as a result of the recovered water table in carbonate rocks. This lake would have no outlet to surface water, but would be subject to water loss through evaporation and limited groundwater flow northward toward the Betze Pit lake. Elevated levels of some metals above drinking water standards are predicted for final pit lake water quality.

If the No Action Alternative is selected, a review of the pit lake water chemistry would be completed and a possible Ecological Risk Assessment developed. Many wildlife and plant species have high tolerance for elevated toxin levels, but the areas of future concentration of pit lakes may introduce wildlife populations to sustained exposure to toxic components.

Groundwater

Potential impacts to groundwater quality would be similar to those described above for the Proposed Action with respect to potential for generating acid and releasing metals to groundwater. For the No Action Alternative, the acidity and release of constituents would result primarily from precipitation interacting with PAG material in pit walls rather than interaction between rebounding groundwater and backfilled waste rock.

The Genesis Pit lake is not expected to begin forming from the rebounding regional water table until about 2130. When groundwater levels reach equilibrium at an elevation of 5225 feet amsl, the regional groundwater flow system will flow from the Genesis area north toward the Betze/Post Mine area. The amount of groundwater flow from the Genesis Pit to the regional groundwater flow system is predicted to be low (one to two gpm). Model predictions show that 90 percent of the pit lake infilling would be completed by 2350. As the pit lake develops, evapoconcentration would result in a long-term increase of concentrations of some constituents. Precipitation of some solutes would occur with resulting decreasing concentrations. Overall, the pit lake is predicted to be alkaline with some metals (i.e., arsenic, beryllium, antimony, selenium, and thallium) predicted to exceed drinking water standards. Pit lake water would affect groundwater quality by increasing the concentration of constituents to slightly above that of pre-mining concentrations. This effect would be limited to the area immediately north of the pit lake, in the direction of groundwater flow. Limited flow (one to two gpm), combined with dilution from mixing with other groundwater, would reduce concentration levels to slightly greater than pre-mining concentrations.

SOIL RESOURCES

Proposed Action

The proposed Genesis Project would result in 43 acres of new disturbance. Impacts to soil occur in two separate stages during mining operations: 1) soil loss during salvaging, when growth media is stockpiled and stabilized in stockpile areas, and 2) loss between final redistribution and completion of reclamation. Most impacts to soil would occur during salvage and stockpile operations. Erosion during and after redistribution of growth media would have a greater effect on final reclamation.

Impacts to soil would include modification of chemical and physical characteristics, loss of soil to wind and water erosion, and decreased biological activity. Chemical changes would result from mixing surface soil with subsoil during salvaging operations. Impacts on physical characteristics of soil during salvage, stockpiling, and redistribution would include mixing, compaction, and pulverization from equipment and traffic. Soil mixing would reduce organic material and increase coarse fragments in the surface soil.

Water erosion could occur during heavy precipitation or run-off events due to exposed soil, fine soil texture, soil surface conditions, and slope. Newmont would continue to maintain the existing sediment control system (run-off control ditches and sediment ponds) to capture soil and sediment that moves from the disturbed area during precipitation events over the life of the Project. Once vegetation is established and sediment run-off stabilizes, sediment control ponds would be removed. Run-on diversion channels and ditches would remain as permanent features after final reclamation and mine closure.

As a result of salvage and stockpiling, growth media would have lower organic content. Soil biological activity would be reduced or eliminated during stockpiling as a result of anaerobic conditions created in deeper areas of stockpiles. Redistribution of soil during reclamation would result in decreased quantity and quality due to compaction from loading, hauling, and placement activities. Soil loss would continue after placement until vegetation is established. Compaction would be reduced by scarifying soil after placement.

The proposed Bluestar Ridge Mine would remain as an open pit following cessation of mining operations. Soil salvaged during development of the Bluestar Ridge Mine pit would be used during reclamation of associated haul roads and the Section 5 Waste Rock Disposal Facility.

In-pit backfill of the Beast, Bluestar, and partial backfill of the Genesis Pit would reestablish about 300 acres of land surface that would be reclaimed with placement of growth media and seeding. Newmont would haul approximately 3.0Mcy of Tertiary Carlin Formation material from the East Lantern Waste Rock Disposal Facility for use as growth media in reclamation of disturbed areas (approximately 985 acres) in the Genesis-Bluestar Operations Area that are not currently under reclamation. With the exception of highwalls that would remain in the Genesis Pit, this material would be combined with previously salvaged growth media to provide two feet of cover over disturbed areas. The East Lantern Waste Rock Disposal Facility is located about one-half mile south of the Genesis Project.

No Action Alternative

Soil resources in the proposed Genesis Project area would not be impacted by implementation of the No Action Alternative since no ground disturbance of undisturbed areas associated with mining activities would occur. Impacts to soil associated with previously authorized ground disturbing activities in the area would continue. Under the No Action Alternative approximately 450 acres would remain as open pits and would not be revegetated. Transport of Tertiary Carlin Formation material from the East Lantern Waste Rock Disposal Facility is not expected.

VEGETATION

Proposed Action

Approximately 43 acres of vegetation in the Project area would be directly affected as a result of excavation of the Bluestar Ridge Mine pit and construction of haul roads. About seven acres of the 26 acre Bluestar Ridge Mine footprint have been previously disturbed by exploration activities (e.g., roads and drill pads). The Bluestar Ridge Mine would remain as an open pit following completion of mining operations; approximately 17 acres associated with haul roads, and exploration activity in the Bluestar Ridge area would be revegetated. The proposed reclamation plan would have a net increase of about 300 acres that would receive growth media and seeding over the No Action Alternative due to the reclamation of backfilled pits. Disturbed areas would be reclaimed and revegetated, restoring habitat for wildlife and serving to partially re-establish connections between habitat areas that are currently separated by the concentration of mining activity in the Carlin Trend. This revegetation would initially be a grass dominated community as opposed to a previously shrub dominated community. This would change land use patterns for the area in terms of species utilization.

Concurrent revegetation during and after mining would likely reestablish permanent and stable vegetation cover within five to ten years, assuming livestock use in the area is deferred and noxious weeds are controlled. The plan's seed mix has been shown to be well suited for the existing climate conditions and has worked well on previous reclamation.

Special-Status Plant Species

No special status plant species would be affected by the Proposed Action.

Invasive, Non-Native Species

Disturbed areas would be susceptible to invasion by undesirable, non-native species (weeds). Noxious weeds would be controlled by an existing weed control program during and after mining operations. Adjacent areas located outside of the Project area would continue to be a source of noxious weeds.

No Action Alternative

Approximately 685 acres of existing reclaimable disturbance would be revegetated. Existing growth media (approximately 622,000cy) would provide over six inches of cover material for revegetation. The

intent of revegetation and impacts from weeds would be the same as for the Proposed Action. Upon completion of existing authorized mining operations approximately 450 acres would remain as open pits and not be revegetated.

Special Status Plant Species

Special status plant species would not be affected by implementation of the No Action Alternative.

Invasive, Non-native Species

Under the No Action Alternative, control of invasive, non-native species would continue under the existing weed control program.

TERRESTRIAL WILDLIFE

Proposed Action

The Proposed Action would result in direct loss of 43 acres of sagebrush/grassland habitat, of which 17 acres would be reclaimed as grassland habitat and 26 acres would remain as an open pit (Bluestar Ridge Pit). An additional 300 acres, compared to the No Action Alternative would be reclaimed and available for wildlife habitat due to the backfilling of existing mine pits. Direct loss of habitat would eliminate forage, cover, breeding sites for small mammals and birds, and nesting cover. Terrestrial wildlife species currently using this habitat would be displaced or killed unintentionally. The proposed addition of 43 acres of disturbance to the existing Genesis-Bluestar Operations Area is not expected to result in a substantive adverse effect on wildlife numbers in the general area.

Impacts of dust, exhaust fumes, and other air pollutants on wildlife may result in temporary displacement due to reduced palatability of vegetation. Impacts would occur primarily downwind from construction and mining activity. Human presence and noise impacts would not change from current conditions. No hazardous wastes would be used in the proposed expansion that could cause an additional risk to wildlife.

Big Game Species

Mule deer are present in the Genesis-Bluestar Operations Area primarily in spring and fall. The general area is located in transition range used by mule deer migrating between high-elevation summer range (Tuscarora Mountains) to the north and low-elevation winter range to the south (Dunphy Hills and southern end of Tuscarora Mountains). Seasonal timing, duration, and routes of mule deer migration and use of transitional range between winter and summer habitat has been affected by ongoing mining activities in the Carlin Trend, which includes the Genesis-Bluestar area. Movement along the western slopes of the Tuscarora Mountains has been inhibited by mining activity. Historic migration routes have been abandoned; deer movement has been effectively restricted to a few key migration routes, including the Lantern Mine area and near the crest of the Tuscarora Mountains just east of the Leeville mine. Lower elevation areas adjacent to the western slopes of the Tuscarora Mountains have been burned by lightning-caused wildfires resulting in removal of large areas of sagebrush and important browse species.

Potential impacts to mule deer, pronghorn, and elk would include the incremental long-term reduction of 43 acres of potential forage and the extended impacts to 2,000 acres during the twelve-year mine life. Habitat fragmentation associated with 43 acres of additional disturbance would increase in the short-term; however, backfilling and reclamation of 300 acres of existing mine pits would restore land surface that would provide habitat supporting wildlife and livestock grazing uses over the long term as compared to the No Action Alternative.

Small Game Species

The Proposed Action would have a similar impact on small game species (e.g., chukar, mourning dove, pygmy rabbit, and black-tailed rabbit) as described for big game with the permanent loss of 26 acres of vegetation associated with the Bluestar Ridge Pit. This acreage loss would be offset by backfill and reclamation of 300 acres of existing mine pits compared to 450 acres of open pits that would remain under the No Action Alternative. In-pit backfilling of mine pits would reestablish land surfaces that would be reclaimed to a desired plant community. Impacts to small game populations would include limited direct mortalities from mining operations, habitat loss or alteration, incremental habitat fragmentation, and animal displacement. Indirect impacts could include increased noise, additional human presence, and the potential for increased vehicle-related mortalities.

Nongame Species

Potential impacts to nongame species (e.g., small mammals, passerine, raptors, amphibians, and reptiles) would be similar to those described above for small game species.

Migratory Birds

Direct loss of habitat would eliminate forage, hiding cover, breeding sites, and nesting cover for birds. Potential impacts to migratory birds would be similar to those described above for small game species.

Special Status Species

The Proposed Action is not expected to impact any special status species because it is unlikely there are any special status species in the area due to the lack of water, lack of preferred habitat, and ongoing mining activities. Special Status Species that could utilize the undisturbed habitat identified in the proposed action are pygmy rabbits, bats, eagles, hawks and other raptors, grouse, shrews, and passerine species.

No Action Alternative

Under the No Action Alternative, potential impacts to terrestrial wildlife and special status wildlife species from development of 43 acres of sagebrush/grassland habitat would not occur. Approximately 450 acres encompassing the Beast, Bluestar, and Genesis pits would not be backfilled and would remain as open pits. A pit lake of about 41 acres would eventually begin to form in the Genesis Pit about 100 years after cessation of dewatering activities at the Betze/Post and Leeville mines. There is no established requirement for an Ecological Risk Assessment (ERA) for the pit lake as the ERA requirement did not exist when the mine was permitted. If the No Action Alternative is selected, BLM will petition NDEP for an ERA reevaluation for pit lake quality. The pit lake would be on private land.

SOCIAL AND ECONOMIC RESOURCES

Proposed Action

All of the work force for the Genesis Project would be from the existing Newmont work force in the Carlin Trend. The Proposed Action, together with other Newmont activities, would provide for long-term operations in the area, with potential for stable employment levels for approximately twelve years. The Project would create more than 9,700 man years of employment over the twelve-year life, representing more than one-third of all mining related jobs in the Elko, Spring Creek, and Carlin area in 2016.

Based on the average annual salary (\$79,500) for mine workers, the proposed Project would continue employment producing an average of more than \$54 million in annual mining wages and \$23 million in annual indirect wages. Thus direct and indirect employment provided by the Genesis Project would average 1,271 jobs and \$77 million in annual wages, representing more than five percent of all jobs in Elko County. Continued mine employment at the Genesis Project would maintain quality-of-life for workers and their families and help to maintain the economy of the local area which is highly dependent on mining with some estimates indicating more than two-thirds of wages in the local area are directly or indirectly related to mining. Tax revenues to support local and state government run parallel with employment. Tax revenue for both Eureka and Elko County would be generated by the Genesis Project.

At the end of the Genesis Project, if no replacement employment is available, the remaining jobs associated with the Genesis Project will be lost. This effect is similar and perhaps identical to the No Action Alternative, but the additional twelve years of employment would allow additional time for new industry to develop in the Elko area and perhaps provide alternative employment when mining at the Genesis Project winds down.

No Action Alternative

Under the No Action Alternative, employment at Newmont would decrease by 211 jobs in 2010 and there would be 1,164 fewer jobs at Newmont in 2016, representing almost one-third of all mining jobs currently expected to exist in the local area if the Proposed Action were to be approved. Related impacts would include increased unemployment, reduced wages spent in the local economy, decreased revenue to local and state jurisdictions, increased stress on public assistance programs, and decreased quality-of-life for some residents. Ongoing mineral exploration and development throughout northern Nevada may offer employment opportunities in the region thereby offsetting the effect of the No Action Alternative.

SUMMARY OF POTENTIAL IMPACTS

A comparison of impacts associated with the Proposed Action and No Action Alternatives is contained in **Table S-1**.

AGENCY PREFERRED ALTERNATIVE

The agency preferred alternative is the Proposed Action, which is the revised Genesis Project proposed in November 2007 as modified during the review process to address various concerns. One such concern was the inadequate supply of growth media, which resulted in a modification of the proposed Project: Newmont proposes to haul 3.0Mcy of Carlin Formation material from the East Lantern Mine Waste Rock Disposal Facility to the Genesis Project area for reclamation.

TABLE S-1 Summary Comparison of Alternatives		
Resource	No Action Alternative	Proposed Action
Mining Operations	Approximately 2.6Mt of run-of-mine oxide ore will be placed on the North Area Leach Facility. Newmont does not anticipate processing any oxide mill or refractory ore during the remaining mine life under authorized operations.	Removal of 450Mt of waste rock and 60 Mt of ore over a twelve-year mine life.
	About 450 acres remaining as open pits	Backfill of additional 300 acres of mine pits
	Formation of pit lake of about 41 acres	Elimination of pit lake
Reclamation Activities	About 450 acres of open mine pits would remain and not be revegetated	Revegetation of additional 300 acres that would have remained as open pits
	Disturbed areas would be reclaimed in accordance with existing approved plans.	All disturbed areas not currently under reclamation would be covered with 2-feet of Carlin Formation growth media.
Air Quality	Sulfur dioxide (SO_2), carbon monoxide (CO) oxides of nitrogen (NO_x), volatile organic compounds (VOCs) and particulate emissions will continue to be generated until currently permitted mining activities cease in 2010.	Gaseous and particulate emissions would be extended for twelve years. Approximately 65,000 tons of SO_2 would be emitted annually from approximately 5.87 million gallons of diesel fuel consumed annually.
Greenhouse Gas	Approximately 4,100 tons of CO_2 would be emitted annually from consumption of 370,000 gallons of diesel fuel	Approximately 65,000 tons of CO_2 would be emitted annually from approximately 5.87 million gallons of annual diesel fuel consumption.

TABLE S-1 Summary Comparison of Alternatives		
Resource	No Action Alternative	Proposed Action
Mercury Emissions	No oxide mill or refractory ore will be mined at Genesis or processed at Mill 6 during the remaining mine life (ending 2010).	Emission factors based on 2008 source testing (Newmont 2009) for Newmont's South Operations Area indicates that 99.89 percent of the mercury present in the ore is retained or removed through emission controls at the roaster and carbon regeneration. As a result, the average annual mercury emissions from 46,440 lbs. of available mercury in Genesis ore would be 51.2 lbs. Given that the mercury content of Genesis Project ore is low (4.8ppm) compared with other ore sources, when combined with control technology, processing Genesis refractory ore as a batch or blended with other ore would not increase annual mercury emissions from the Mill 5/6 facility but would increase total emissions due to the processing of gold from the 60 million tons of ore from the project.
Geology and Minerals	Approximately 450 acres of mine pits will remain open. 60Mt of ore and 450Mt of waste rock would not be mined. Mining would end in 2010.	Waste rock would be used to backfill mined-out pits or placed in waste rock disposal facilities. Backfilling would reduce access to remaining resources.
	Potentially acid generating (PAG) waste rock (if any) will be placed in an encapsulation cell constructed at the Section 36 Waste Rock Disposal Facility.	An expected 28Mt of PAG waste rock would be encapsulated in cells constructed within backfilled portions of mine pits and in the Section 5 and Section 36 Waste Rock Disposal facilities.
Surface Water and Groundwater Quantity and Quality	No perennial or ephemeral flowing streams or drainages are located within the footprint of existing permitted activities.	No perennial or ephemeral flowing streams or drainages are located within the footprint of the Proposed Action.

TABLE S-1 Summary Comparison of Alternatives		
Resource	No Action Alternative	Proposed Action
	<p>The existing Genesis Pit lies within the regional groundwater system which is being dewatered due to ongoing dewatering activities at Barrick Goldstrike Operations and Newmont's Leeville Mine.</p>	<p>Pumping (up to 250 gpm) would occur in compartmentalized areas of the Vinini Formation. The groundwater at this location is not in direct communication with the regional groundwater system and thus pumping would not impact the regional groundwater system.</p>
	<p>A pit lake (about 41 acres) would begin forming in the Genesis Pit approximately 100 years after cessation of regional mine dewatering. Due to evaporation and water reactions with the pit walls, the lake would exhibit decreased water quality, compared to pre-mining groundwater water quality. Water in the pit lake would eventually mix with adjacent groundwater. Predicted water quality effects would be minimal and would not represent an environmental impact of concern.</p>	<p>A pit lake would not develop because of backfilling. As the regional groundwater system rebounds following cessation of regional dewatering, waste rock backfill in the Genesis Pit would react with incoming groundwater and temporarily result in relatively high concentrations of constituents including sulfates and metals. These constituents would be diluted by increasing volumes of rebounding groundwater and attenuation by the large volume of carbonate rock in the backfill. The temporary higher concentrations are not expected to have any environmental impact.</p>
Soil Resources	<p>Reclamation of 685 acres of disturbance would begin in 2010. Approximately 622,000cy of growth media will provide a minimum of 6 inches of cover material for revegetation.</p>	<p>There would be 43 acres of new disturbance. Concurrent reclamation of some parts of the operations would occur during mining operations. 985 acres of disturbance would be in reclamation by 2021. About 3.0Mcy of growth media (Carlin Formation) would be hauled from the East Lantern Waste Rock Disposal Facility to provide two feet of cover over the 985 acres, including 300 acres of backfilled pits. Approximately 150 acres of open pits and highwall would not be reclaimed.</p>

TABLE S-1 Summary Comparison of Alternatives		
Resource	No Action Alternative	Proposed Action
Vegetation	Revegetation of 685 acres of disturbance would begin in 2010, with 450 acres remaining as open pits.	43 acres of existing pre-mining vegetation would be disturbed. Approximately 985 total acres would be reclaimed and revegetated, 300 more acres than the No Action Alternative. Revegetation, except for concurrent reclamation, would occur about twelve years later than the No Action Alternative. All 985 acres would be covered with two feet of growth media.
	<p>All disturbed areas are potentially subject to invasion by noxious/non-native weeds.</p> <p>An ongoing weed control program is expected to eradicate noxious weeds and limit the spread of non-natives.</p>	Invasive, non-native species may spread to newly disturbed areas. An ongoing weed control program would be expected to eradicate noxious weeds and limit the spread of non-native species.
Terrestrial Wildlife	<p>Reclamation of disturbance would begin in 2010. , restoring approximately 685 acres as habitat, but leaving 450 acres as open pits.</p> <p>No impacts to special status wildlife species.</p>	43 acres of sagebrush/grassland habitat would be disturbed. Reclamation in the Project area, except for concurrent reclamation, would be delayed by up to twelve years, extending fragmentation of wildlife habitat.
		<p>No impacts to special status wildlife species.</p> <p>Backfilling mine pits would provide a net increase of about 300 acres that would be reclaimed for wildlife habitat.</p>

TABLE S-1 Summary Comparison of Alternatives		
Resource	No Action Alternative	Proposed Action
Social and Economic Resources	Newmont's Carlin workforce would be reduced by 211 employees beginning in 2010 increasing to a loss of 1,164 jobs by 2016 relative to employment levels that would be supported by the Proposed Action. Related impacts include reduced wages spent in the local economy, decreased revenue to local and state government, increased stress on public assistance programs, and decreased quality-of-life for some residents.	Newmont employs about 1300 workers in surface operations in the Carlin Trend, many of which would work at the Genesis Project during the twelve-year mine life thereby helping to maintain a stable economy in the local area. No additional employees would be hired for the Genesis Project. Tax revenues to local and state government would be maintained.