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

March 23, 2009

John F. Ruhs, Manager
Ely District Office
Bureau of Land Management
HC33 Box 33500
Ely, NV 89301

Subject: Draft Environmental Impact Statement for the Bald Mountain Mine North Operations Area Project, White Pine County, Nevada [CEQ # 20080518]

Dear Mr. Ruhs:

The U.S. Environmental Protection Agency (EPA) has reviewed the above referenced document. Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) NEPA Implementation Regulations at 40 CFR 1500-1508, and our NEPA review authority under Section 309 of the Clean Air Act. We appreciate the extensions BLM has granted us on the comment due date for this Draft Environmental Impact Statement (EIS).

EPA has rated this Draft EIS as EO-2 – Environmental Objections - Insufficient Information (see enclosed "Summary of Rating Definitions and Follow-Up Action"). The proposed project would expand and combine the existing Bald Mountain and Mooney Basin gold mines into one project area to be administered under one Plan of Operation called North Operations Area. Our rating is based on indications, from the limited geochemical characterization in the Draft EIS, that waste rock from several pits could generate leachate with high concentrations of metals and metalloids, and degrade water quality if the leachate should reach groundwater or surface waters, or if pit lakes would form. Such significant impacts must be avoided in order to provide adequate protection for the environment. We also have concerns regarding the project's potential impacts to air quality, and potential impacts associated with a lack of suitable soil for reclamation. The Draft EIS does not contain sufficient information for us to fully assess the environmental impacts that should be avoided in order to fully protect the environment. We recommend the Final EIS include additional information regarding geochemical characterization of waste rock, potential impacts to water and air resources, mitigation and monitoring, and closure and reclamation.

In addition to the proposed action, the Draft EIS evaluates the Partial Backfill Alternative (Alternative A), the Mooney Basin Heap Leach Pad Alternative

(Alternative B), and No Action. Relative to the proposed action, BLM's preferred alternative, Alternative A, would significantly reduce the disturbance footprint of several waste rock disposal areas. If a pit lake would form in the Top Pit and cause an adverse ecological risk or degradation of adjacent groundwater, EPA recommends that Alternative A also include backfilling of the Top Pit to preclude the formation of a pit lake. In addition, it appears from the Draft EIS that combining Alternative B with Alternative A would further reduce the disturbance footprint. EPA recommends BLM consider combining these two alternatives to benefit resources in the project area. Furthermore, we recommend that BLM evaluate a conveyor alternative in more detail and consider incorporating this into the project if resources would be better conserved and/or protected. Our detailed comments are enclosed.

We appreciate the opportunity to review this Draft EIS, and request a copy of the Final EIS when it is filed with our Washington, D.C. office. If you have any questions, please call me at (415) 972-3843, or have your staff contact Jeanne Geselbracht at (415) 972-3853.

Sincerely,

/s/ Kathleen M. Goforth for

Enrique Manzanilla, Director
Communities and Ecosystems Division

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Enclosures: EPA's Summary of Rating Definitions and Follow-Up Action
EPA's Detailed Comments

Cc: David Gaskin, Nevada Division of Environmental Protection
Christine Hansen, U.S. Army Corps of Engineers, Reno

Bald Mountain Mine North Operations Area Draft EIS
EPA Comments – March, 2009

Water Resources

Water Quality Impacts

The Draft EIS (p. 3-33) states that the waste rock would not leach waters that are high in acidity or metals content. However, neither the Draft EIS nor the *Baseline Geochemical Assessment for the Proposed Bald Mountain Mine North Operations Area Expansion* (Schafer, 2008) referenced in the Draft EIS provides sufficient information regarding waste rock geochemistry to support this conclusion. In addition, some information in the Draft EIS appears to contradict it.

For example, the Draft EIS (p. 3-15) states that there would be no impacts to surface water quality from the Top Pit waste rock. However, Meteoric Water Mobility Procedure (MWMP) results in Appendix D indicate that numerous Top Pit samples exceeded water quality standards for several metals and metalloids, and two samples were above 10 times the drinking water standard for mercury. In addition, several samples from the Bida Pit also exceeded water quality standards for several metals. One sample exceeded the mercury drinking water standard by 40 times, and one sample exceeded the copper aquatic life standard by 80 times. Some Saga pit samples also exceeded water quality standards, and nickel exceeded the drinking water standard by more than 20 times in one sample. Some samples from these pits also indicate some potential for acid generation. However, the Draft EIS does not provide mass balance information for each pit and waste rock disposal area to indicate whether there is sufficient acid neutralizing material in each of these areas to adequately neutralize and isolate any acid generating waste rock. The waste rock dumps must be properly designed to prevent generation of leachate, but it is unclear how this will be accomplished.

> **Recommendation:** The Final EIS should describe how the waste rock dumps will be designed to prevent generation of leachate that could degrade surface water or groundwater quality. (See also our comment on appropriate growth medium below). Individual plans should be specifically developed for waste rock from those pits with higher potential for acid generation and metals leaching. The Final EIS should specify how and where waste rock from these pits would be disposed, specify the acid neutralization potential the surrounding waste rock would need to meet for this purpose, and clarify whether sufficient neutralizing material would be available when it would be needed for this purpose. The Final EIS should also describe how waste rock facilities would be designed to ensure against leaching of contaminants that are mobile under non-acidic conditions.

> **Recommendation:** The Final EIS should include a map showing the location of pits and waste rock facilities (indicating areas with higher contaminant leaching potential) and intermittent streams and areas with shallow groundwater.

Recommendation: The Final EIS should describe all surface water and groundwater monitoring that would be required for this project, as well as mitigation measures that would be implemented if water quality is degraded.

The Draft EIS (2-33) states that the open pits would not encounter the deeper groundwater aquifer because the current pit configurations lie above the potentiometric surface. However, the 7000-foot potentiometric surface appears to bisect the Top Pit, which would be excavated to an elevation of 6,500 feet above mean sea level (Draft EIS, Table 2-6). It appears, therefore, that a deep pit lake would form here. Test results from a number of Top Pit samples indicated low neutralization potential and generated leachate with high concentrations of arsenic, mercury, nickel, zinc, and other pollutants.

Recommendation: The Final EIS should provide a detailed discussion, including an ecological risk assessment, regarding the potential for, and impacts of, a post-mining pit lake in the Top Pit. The discussion should address the chemistry of Top Pit wall rock and how it would affect pit water quality. The Final EIS should identify measures to mitigate all potential adverse impacts of a pit lake in the Top Pit. If a pit lake would potentially adversely affect biological resources, EPA recommends the FEIS thoroughly evaluate an alternative that involves backfilling the pit with appropriate waste rock to preclude the formation of a pit lake. The discussion should identify waste rock specifications (e.g., geochemistry, amount, depth, cap/cover) for backfilling and justify such specifications.

Recommendation: The Final EIS should discuss whether pit water would flow through the pit into adjacent groundwater. If pit water would degrade groundwater, the Final EIS should describe how groundwater would be affected, and identify effective mitigation measures.

The potentiometric surface (7,000 to 7,500 feet above mean sea level) also appears to bisect the Sage Flat Pit, which would be excavated to an elevation of 7,150 feet above mean sea level. This pit would be backfilled under Alternative A. However, it is unclear from the Draft EIS whether it would be backfilled to above the potentiometric surface, precluding pit lake formation.

Recommendation: The Final EIS should provide the specifications for backfilling the Sage Flat Pit and indicate whether a post-mining pit lake is expected to form above the backfill. If so, the Final EIS should provide a detailed discussion, including an ecological risk assessment, regarding the impacts of a pit lake in the Sage Flat Pit. The discussion should address the chemistry of Sage Flat Pit wall rock, how it would affect pit water quality, and whether water would flow through the pit into groundwater. If pit water would affect groundwater, the Final EIS should describe how groundwater would be affected and how impacts would be mitigated. If a pit lake would potentially adversely affect biological resources, EPA recommends the Final EIS thoroughly evaluate backfilling the pit to preclude the formation of a pit lake.

Geochemical Characterization

The Draft EIS and Schafer (2008) provide limited information on geochemistry within the project area. No mineralogic information is presented, which causes uncertainty about the acid generating potential (AGP) and acid neutralizing potential (ANP) of the material. Furthermore, the mineralogic sources of contaminants of concern, including arsenic, antimony, copper, and zinc, are unknown. Additional information is needed to more reliably predict the long-term leaching ability of the mined materials. There may be relationships between the results of kinetic tests, acid-base accounting (ABA) tests, MWMP, and whole rock analysis that could help establish methods for easily identifying high contaminant leaching materials in the field. However, several questions exist regarding geochemical characterization of the waste rock, which need to be answered before these relationships can be identified.

Kinetic Tests. The results of the ABA testing (Schafer, 2008, Appendix B) suggest that the vast majority of samples have high neutralizing ability and low acid generation potential. However, the kinetic testing was conducted on samples within only a narrow range of ABA values, so the long-term leaching ability of all rock types or geochemical test units is unknown. Only three composite samples were subjected to kinetic testing, and the tests lasted for only 20 weeks. Samples with both low ANP and low AGP can take substantially longer to generate acid than rocks with more moderate ANP and AGP values. Very low amounts of sulfate were released compared to the amount of pyritic sulfur in the samples (Schafer, 2008, p. 29). This result demonstrates that much more acid generation could have occurred if the samples had been run for longer than 20 weeks. Longer kinetic testing would help determine the longer-term leaching ability of contaminants of concern and the longer-term acid-generation potential of mined materials at the project site. The results of the kinetic tests are also not addressed in the Draft EIS.

> **Recommendation:** Kinetic tests should be run on the full range of rock types and ANP:AGP ratios in the project area. Tests may need to be run for one year or longer. Concentrations of contaminants of concern should be measured to assess the long-term ability of the materials to produce acid and leach contaminants. This information should be used to verify and update the relationships between the results of kinetic tests, ABA tests, MWMP, and whole rock analysis to establish more reliable methods for easily identifying high contaminant leaching materials in the field.

ABA Tests. It appears that Schafer (2008) used the modified Sobek method for calculation of AGP. However, it is unclear whether the modified Sobek or the original Sobek method was used for determination of ANP. If the original Sobek method was used, the neutralization potential is likely overestimated. The exact method used to calculate ANP needs to be clarified. In either case, the mineralogic basis for the ANP was not evaluated. In addition, Schafer (2008) usually presented the ABA results in terms of net neutralization potential (NNP) rather than ANP:AGP ratios. ANP:AGP ratios are preferred because they apply over a wider range of values. In addition, Schafer (2008) used the Net Carbonate Value (NCV) test to assess acid-generation potential, but did not conduct NCV and Sobek methods on any of the same samples to determine whether the conversion factor used was appropriate.

Schafer (2008, p. 13) states that the NCV results showed that of the 1,547 samples tested, 51 had NNP values less than 0, and 55 had ANP/AGP ratio less than 1.2:1. It is unclear why BLM standard categories for NNP and ANP/AGP screening were not used (i.e., uncertain range for NNP is –20 to +20 kg/t as $CaCO_3$, and for ANP:AGP ratio is 1:1 to 3:1). Using the too-low cutoff values, 28.5% of the Saga waste rock had low NNP (Schafer, 2008, p. 13). If more appropriate cutoff values were used for net neutralizing material, for example, a higher percentage of the Saga material would be considered potentially acid-generating than is estimated in the Draft EIS.

> **Recommendation:** The Final EIS and Schafer report should clarify the method used to calculate neutralization potential. If the modified Sobek method was not used, the values for ANP and NNP are likely overestimated, and the AGP is higher than reported. The ABA results (using the Sobek method) should also be presented in ANP:AGP ratios. A number of split samples should be subjected to both the Sobek (modified for ANP calculation) and NCV tests to determine whether application of the conversion factor between Sobek and NCV results is valid.

MWMP. Results from the MWMP tests showed that a number of samples leached elevated concentrations of arsenic, antimony, and mercury under neutral pH conditions. MWMP results also showed that metals that were less enriched (such as copper, zinc, and sometimes lead) were more mobile than the results of the whole rock analysis might suggest (DEIS, Appendix D; Schafer, 2008, Appendix B). Schafer (2008) states that the mobility of metals is low at Bald Mountain because of the low rainfall, pervasive alkaline conditions, and the abundance of iron, which can adsorb oxyanions such as arsenic and antimony (p. 22). However, the results from the MWMP and kinetic tests (Schafer, 2008, Appendices B and C) show that iron leachate values are low, with many values below detection and very few values above 1 mg/L. Therefore, iron may not provide much adsorption capability. There seems to be very little relationship between the ABA results and the MWMP metal/metalloid values. Therefore, the results from static ABA testing may not provide a good indication of the contaminant leaching potential and the need for special handling for this part of the project.

Whole Rock Analysis. The results from the whole rock analysis and MWMP tests show that all rock types are especially enriched in arsenic, antimony, and mercury, all of which can easily leach under neutral pH conditions, and that metals such as copper, zinc, and lead can be mobile and at high concentrations in certain areas. Saga and Top areas have higher concentrations of arsenic, antimony, and mercury than other areas. For example, approximately 50% of the samples from these pit areas had mercury concentrations above 1 mg/kg, and concentrations reached as high as 10 to 50 mg/kg (background or unenriched values are ~0.07 to 0.35 mg/kg for all rock types) (Schafer, 2008, p. 26). Carbonates were highly enriched in antimony (over 100 times higher than background values); arsenic, tellurium, cobalt, mercury, thallium (between 10 and 99 times higher than background); and somewhat enriched in elements such as niobium, selenium, and copper (two to ten times higher than background) (Schafer, 2008, Figure 21 and Appendix B). Clastic rocks were highly enriched in antimony (1,000 times background), highly enriched in arsenic (almost 300 times background), and somewhat enriched in cobalt, mercury, and nickel (between three and 10 times background) (Schafer, 2008, Figure 23 and Appendix B). Elements enriched in intrusive rocks included arsenic and antimony (over 100 times background), selenium, tellurium (between 10 and 100 times background), and mercury and thallium (between two and 10 times background) (Schafer, 2008, Figure 25 and Appendix B).

> **Recommendation:** The Final EIS should include additional geochemical analysis on the mineralogy of the mined material, the availability of acid-generating and acid-neutralizing minerals, and the material's ability to leach contaminants. The percent of calcite, dolomite, and siderite should be determined in samples from all waste rock and pit locations (or geochemical test units). All test data should be made available electronically (e.g., in Excel or Access), and relationships between leachate concentrations and ABA, sulfide, or other measurements made easily in the field should be evaluated.

> **Recommendation:** The Final EIS should include a map and cross-sections depicting the locations of static and/or kinetic test samples, and should describe and discuss the extent to which they are representative of the pits and proposed pit expansion areas. The Final EIS should provide a more detailed characterization of waste rock geochemistry, including a mass balance of waste rock from each pit and existing waste rock dump identifying how much is potentially acid generating, potentially acid neutralizing, or inert.

<u>Existing Water Resources</u>

According to the Draft EIS (3-13), most springs in the area meet Nevada water quality standards with the exception of arsenic, which exceeds standards in most springs. The Draft EIS (3-28) presents data from 2005 through 2007 to demonstrate background arsenic values in various groundwater monitoring wells. However, neither referenced water quality data from 1994 and 1995 nor earlier (1980's) data are not provided as a comparison to the 2005 to 2007 data to verify that impacts are not the result of mining.

> **Recommendation:** The Final EIS should provide earlier monitoring data to substantiate that present background arsenic concentrations were not caused by previous mining activities. Similarly, other potential contaminants (e.g. antimony, mercury, selenium, nitrates) should be evaluated comparing early data with more current data to demonstrate whether or not impacts from previous mining have occurred.

According to the Draft EIS (3-33), impacts to groundwater quality as a result of the proposed action are not anticipated, based on no detected impacts under the current operations. Schafer (2008) also notes that seepage or flow has not been observed from the existing waste rock dumps since inception of operations in the early 1980's. However, data are insufficient to support this conclusion because efforts have not been made to detect and monitor waste rock seepage beyond that of visual observations.

In addition, the Draft EIS (3-16) states that Cherry Spring has recently exhibited water levels well below ground surface although there was flow in the past, and the current water level and cause of the decrease are not known at this time. The proposed project would cover 65.1 acres of the 130.5 acre recharge area for Cherry Spring.

> **Recommendation:** The Final EIS should provide and evaluate all water monitoring data for the entire mine area to distinguish baseline conditions versus any water quality and quantity impacts from mining thus far. A map should be provided showing the monitoring locations, and trend analysis should be conducted. The adequacy of the existing monitoring system to detect leachate and impacts to water resources should be evaluated and modified as necessary, and this should be addressed in the Final EIS. Additional leachate collection features may be needed, for example at the toe of rock disposal areas, along with additional surface water/stormwater and groundwater monitoring in drainages potentially affected by those areas.

With the exception of Cherry Spring, it is difficult to discern the juxtaposition of water resources and mine facilities in the Draft EIS. A map that depicts existing and proposed mine facilities, including run-on/run-off channels and diversions, and water resources as they would look before, during, and after the proposed mining operations would facilitate an understanding of the various alternatives' potential impacts to water resources.

> **Recommendation:** The Final EIS should include a large-scale map that includes existing and proposed mine facilities as well as water resources as they would look before, during, and after the proposed mining operations.

<u>Clean Water Act Section 404</u>

The Draft EIS (p. 3-3) indicates there may be no waters of the U.S. in the project area, and a survey of surface waters in the area has been submitted to the U.S. Army Corps of Engineers for concurrence and approval.

> **Recommendation:** The Final EIS should provide the results of the U.S. Army Corps of Engineers' jurisdictional delineation for the project site.

If it is determined that there are jurisdictional waters within the project area, a Clean Water Act (CWA) Section 404 permit will be necessary for any discharges of dredged or fill material into these waters, including wetlands and other special aquatic sites, and EPA will review the project for compliance with *Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials* (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the CWA. Any permitted discharge into waters must be the Least

Environmentally Damaging Practicable Alternative available to achieve the project purpose.

> **Recommendation:** If, under the proposed project, dredged or fill material would be discharged into waters of the U.S., the Final EIS should discuss alternatives to avoid those discharges and demonstrate the project's compliance with the 404(b)(1) Guidelines. In addition, the Final EIS should identify and commit to any required mitigation for impacts to waters of the U.S.

Soil Resources

The Draft EIS (p. 3-51) indicates that approximately 7.7 to 12.8 million cubic yards of growth medium would be available for salvage from the 3,920 acres of proposed disturbance. The document also indicates, however, that 91 percent of the proposed action area contains soil associations that are not suitable for growth medium. It is unclear how much suitable and highly suitable soil will be available for reclamation, how much additional soil amendment may be needed to improve growth medium to a suitable condition, where additional soil amendment would be obtained if needed, and the impacts associated with using this additional material (e.g., borrow area locations and acreages, etc.).

> **Recommendation:** The Final EIS should clarify how much suitable and highly suitable soil will be available for reclamation and how much additional soil amendment may be needed to improve growth medium to a suitable condition, as well as identify where additional soil amendment would be obtained if needed.

Although evaporation and transpiration can be employed with the goal of zero-discharge, it is difficult to achieve this if the appropriate amount and type of cover and growth medium are not used. The Draft EIS indicates that 6 to 12 inches of growth medium would be placed on facilities during reclamation. It is unclear that this is an adequate thickness for a cover that would not only accommodate successful revegetation, but act as a store-and-release cover as well. In light of the geochemistry data provided in Appendix D, it appears meteoric water should be precluded from infiltrating waste rock dumps and leach pads to the extent possible.

> **Recommendation:** The Final EIS should discuss how the appropriate thickness of growth medium was determined and whether it will effectively preclude meteoric water from infiltrating waste rock dumps and leach pads. We recommend growth medium be of sufficient thickness to accomplish this. The Final EIS should identify how much growth medium will be needed for this purpose and discuss whether it will be available.

Air Resources

Mercury Emissions Controls

Table 3-19 in the Draft EIS (p.3-122) identifies existing mercury emissions controls for each thermal unit at the mine, as well as the proposed Nevada Maximum Achievable Control Technology (NvMACT) for mercury for these thermal units. The Draft EIS states that installation of these NvMACT controls would reduce mercury emissions from 57.4 pounds/year to 14.2 pounds/year. Fugitive sources at the mine would also contribute 0.27 pounds/year. In a discussion of unavoidable adverse impacts on page 3-165, the Draft EIS states that these fugitive and thermal sources at the mine would emit 57.7 pounds/year of mercury. It is unclear when the identified controls would be installed and the estimated 43.2 pounds/year reduction would be realized.

> **Recommendation:** The Final EIS should indicate when the additional mercury controls would be installed and the estimated mercury reductions realized.

Particulate Emissions Mitigation Measures

The Draft EIS provides direct and indirect criteria air pollutant emissions estimates associated with the mine. We recommend BLM consider including measures to reduce emissions of diesel particulate matter (DPM) from fugitive sources at the mine.

> **Recommendation:** We recommend the following DPM emission reduction measures.

- Use particle traps and other appropriate controls to reduce emissions of DPM and other air pollutants. Traps control approximately 80 percent of DPM, and specialized catalytic converters (oxidation catalysts) control approximately 20 percent of DPM, 40 percent of carbon monoxide emissions, and 50 percent of hydrocarbon emissions;
- Use diesel fuel with a sulfur content of 15 parts per million or less, or other suitable alternative fuel, which substantially reduces DPM emissions. This standard will be required after June 2010. (See http://www.clean-diesel.org/nonroad.html);
- Minimize construction-related trips of workers and equipment, including trucks and heavy equipment;
- Lease or buy newer, cleaner equipment (1996 or newer model);
- Employ periodic, unscheduled inspections to ensure that construction equipment is properly maintained at all times and does not unnecessarily idle, is tuned to manufacturer's specifications, and is not modified to increase horsepower except in accordance with established specifications.

Closure, Reclamation and Post-Closure

According to the Draft EIS (p. 2-19), post-closure fluid monitoring would continue for a minimum of five years for each closed component. However, the Draft EIS (p. 2-49) also states the period needed to manage draindown solutions ranges from several years to 20 years. While it is helpful to know the minimum monitoring requirements, it is most important to determine the maximum requirements for the purpose of determining long-term treatment; corresponding operations, maintenance, and monitoring requirements; and respective bonding.

> **Recommendation:** EPA believes a conservative approach to long-term requirements should be adopted by BLM. This would include requirements for monitoring and treatment as necessary as long as draindown solutions or leachate is discharged, and would assume this is required for up to 20 years for the purposes of closure planning and bond determination.

According to the Draft EIS (pp. 2-49, 2-50), information from the site closure studies of five closed heaps within the mining district has been used to determine that the heaps can be safely closed. At four of the five mines, this included vadose zone infiltration systems for residual drain down solutions, and this approach appears to be intended for closure of the existing and proposed leach pads. The Draft EIS indicates that the ore and waste rock that would be excavated under the proposed project are similar to material currently being mined. Therefore, it should be feasible to make a reasonable prediction of the residual heap leach draindown chemistry now, rather than waiting until two years before heap closure.

> **Recommendation:** The Final EIS should provide a reference for information on leach pad closures in the district and make it available for evaluation. The Final EIS should also provide a detailed description of the subsurface in the vicinity of the Bald Mountain and Mooney Basin leach pads and discuss the predicted interactions of residual draindown in the subsurface.

It is unclear from the Draft EIS what post-operation surveillance would be required to ensure that neutralization and/or stabilization of mining waste sites has been effective.

> **Recommendation:** We recommend that the Final EIS discuss commitments for post-operation surveillance to ensure that neutralization and/or stabilization of mining waste sites has been effective. Describe the mitigation actions that would be taken should destabilization or contamination be detected, and identify who would be responsible for these actions.

The EIS provides the public the opportunity to weigh in on the adequacy of the bond amount. The viability of the bond can be a critical factor in whether or not a project is environmentally acceptable. Therefore, this information should be disclosed in the EIS.

> **Recommendation:** The Final EIS should identify the bond amounts for each closure and reclamation activity at all of the proposed project facilities. Identify who would be responsible for any post-closure cleanup actions should they be necessary.

The Draft EIS does not discuss whether long-term post-closure operations and maintenance or monitoring may be necessary for this project.

> **Recommendation:** The Final EIS should discuss whether long-term post-closure operations and maintenance or monitoring may be necessary, describe these activities, indicate the projected costs for these activities, and discuss any requirements BLM would impose on the mine operator to establish a trust fund or other funding mechanism to ensure post-closure care, in accordance with 43 CFR 3809.552(c). The financial assurance necessary to fund post-closure activities must be kept current as conditions change at the mine, and BLM should ensure that the form of the financial assurance does not depend on the continued financial health of the mine operator or its parent corporation. If a trust fund would be needed, the Final EIS should include a general description of the trust fund. The mechanics of the fund are critical to determining whether sufficient funds would be available to implement the post-closure plan and reduce the possibility of long-term contamination problems.

Project Alternatives

Relative to the proposed action, BLM's preferred alternative, Alternative A, would significantly reduce the disturbance footprint of several waste rock disposal areas. It appears from the Draft EIS that combining Alternative B with Alternative A would further reduce the disturbance footprint, which would result in the disturbance of fewer acres of pristine habitat in the Mooney Basin.

> **Recommendation:** EPA recommends BLM consider selecting a combination of Alternatives A and B as its preferred alternative to benefit resources in the project area.

The Draft EIS (p. 2-69) states that conveyors to transport ore were eliminated from further analysis because the disturbance from conveyors would be the same as, or greater than, the disturbance from the Proposed Action and, therefore, conveyors offer no additional benefit. We do not believe the short discussion in the Draft EIS supports this conclusion. For example, it is unclear why maintenance roads along the conveyors would disturb as many acres as mining haul roads. In addition, the Draft EIS does not evaluate nor compare the energy use and air emissions of haul roads versus conveyors. This information is needed to determine if incorporating this alternative into the project would further reduce resource impacts.

Recommendation: The Final EIS should describe acreages that would be needed for maintenance roads along conveyors and compare them to acreages of haul roads the conveyors would replace. A map depicting the conveyors and the roads they would replace would be useful. The Final EIS should also estimate and compare the energy consumption and air pollutant emissions, including greenhouse gas emissions, associated with using haul roads versus conveyors to transport ore to processing facilities. If resources would be better conserved and/or protected with a conveyor alternative, we recommend BLM consider incorporating this into the project.

The differences between leach pad configurations and sizes under the proposed alternative and Alternative B are not discernable from the maps in Chapter 2 of the Draft EIS.

Recommendation: The Final EIS should clarify how the leach pads would be reconfigured and downsized under Alternative B.