



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

August 2, 2010

Ken Miller, Manager  
Elko District Office  
3900 Idaho Street  
Elko, NV 89801-4211

Subject: Leeville Project Final Supplemental Environmental Impact Statement (SEIS), Elko County, Nevada [CEQ# 20100238]

Dear Mr. Miller:

The U.S. Environmental Protection Agency (EPA) has reviewed the Leeville Project Final Supplemental Environmental Impact Statement (SEIS). Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) Regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act (CAA).

Together, the Leeville Project Final Supplemental Environmental Impact Statement (SEIS) and the 2002 Leeville Project Final Environmental Impact Statement (EIS) constitute the overall Leeville Project EIS. In our April 29, 2002 comments on the Leeville Project Final EIS and our November 9, 2007 comments on the Draft SEIS, we expressed our concerns about the project because the site geochemistry indicates the potential for adverse impacts to water quality over the long term. We do not believe the project includes sufficient measures to ensure against the generation of contaminated acidic or neutral leachate.

While we understand that the Leeville project has been ongoing for several years, the Bureau of Land Management's (BLM) preparation of this SEIS provided an opportunity for reevaluation of, and adjustments to, some project components that we believe, to date, remain unaddressed and pose threats to environmental resources. Several questions remain regarding the sufficiency of the geochemical characterization conducted for this mine, and we believe the potential impacts of waste rock on water resources may be significantly under-predicted. Furthermore, we are concerned that, after mine dewatering in the area ceases, formerly saturated lands below TS Ranch Reservoir will dry up, and up to 10,000 acres of irrigated agricultural lands could be taken out of production. This could result in adverse impacts to soil, air, and biological resources.

We urge BLM to ensure protection of all environmental resources, both during mine operation and after mine closure, by immediately pursuing updated geochemical testing at the mine using Nevada BLM's 2010 Rock Characterization and Water Resources Analysis Guidance for Mining Activities, and updating facilities designs, controls, and mitigation measures to

prevent uncontrolled contaminated leachate from waste rock, tailings, and underground mine workings. We believe a reassessment of the geochemistry and, subsequently, the facilities designs may result in the need for an updated reclamation bond and the establishment of a long-term trust fund for post-closure management. The ROD should specify in detail how and when the geochemistry information will be updated to support development of appropriate and protective measures at the mine, and commit to updating the bond and establishing long-term financial assurance, if necessary, based on the findings of the updated assessment. The ROD should also include a plan to successfully transition the Boulder Valley wetlands and irrigated crop lands to appropriate endemic vegetation when infiltration and irrigation activities end. Our detailed comments are enclosed.

We appreciate the opportunity to review this Final SEIS, and would like to continue working with you to ensure protection of water resources in the project area. We also request a copy of the Record of Decision when it becomes available. 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, Manager  
Environmental Review Office

Enclosure: EPA Detailed Comments

cc: David Gaskin, Nevada Division of Environmental Protection

**Leeville Final SEIS**  
**EPA Comments – August, 2010**

**Waste Rock Geochemistry and Water Quality**

EPA continues to be concerned that the acid-base accounting used in the geochemical analysis may underestimate the amount of potentially acid generating (PAG) waste rock at the mine. We believe the procedure Newmont Mining Corporation (Newmont) used to composite all the rock for each rock type or formation under-represents the total amount of PAG waste rock from different areas within given rock types or geologic formations, and much uncertainty regarding the capacity of the waste rock to generate contaminated acidic and neutral leachate still exists. It does not appear, however, that any kinetic tests have been conducted to better characterize the waste rock. We also remain concerned that the Leeville waste rock dump is not designed to ensure prevention of contaminated acidic and neutral leachate. Therefore, we believe that the mine may be under-bonded and establishment of a long-term trust fund for post-closure monitoring and management may be necessary.

**Recommendation:** We strongly recommend that BLM immediately pursue updated geochemical testing of waste rock, tailings, ore, and wall rock at the mine using Nevada BLM's 2010 Rock Characterization and Water Resources Analysis Guidance for Mining Activities and, based on the results, update facilities designs, controls, and mitigation measures to prevent uncontrolled contaminated leachate from waste rock, tailings, and the underground mine. We believe a reassessment of the geochemistry and, subsequently, the facilities designs may result in the need for an updated reclamation bond and the establishment of a long-term trust fund. The Record of Decision (ROD) should provide the existing geochemistry, specify in detail how and when this information will be updated to support development of appropriate and protective measures at the mine, and commit to updating the bond and establishing long-term financial assurance based on the findings of the updated assessment. EPA believes the updated design, reclamation and closure plan, and updated cost estimate should be developed as soon as possible, rather than after mine closure, while the company still has a strong financial interest in the mine and when early and adequate contribution into a long-term trust fund can assure that funds will be available to cover the full cost of implementing the plan for as long it will be needed.

**Conversion of Wetlands and Irrigated Crop Land**

The FSEIS (p. 2-28 and 3-29 to 3-41) provides updated information on the mine dewatering and discharge rates for the Leeville Mine and specifies where that water is used and/or discharged. Approximately 20,000 acre-feet per year are discharged from the Leeville project to the TS Ranch Reservoir (and subsequently the Boulder Valley wetlands) and Boulder Valley irrigation projects. Up to 23,000 acre-feet per year are discharged from the Betze pit to the TS Ranch Reservoir (and subsequently the Boulder Valley wetlands), Boulder Valley irrigation projects, and other groundwater and surface water areas. For many years, EPA has expressed concern that, after dewatering in this area ceases, formerly saturated lands below TS Ranch Reservoir will dry up, and up to 10,000 acres of irrigated agricultural lands could be taken out of

production by Newmont.<sup>1</sup> This could result in adverse impacts including accelerated eolian or surface water erosion, fugitive dust emissions, fire, and noxious/invasive species infestations. The Betze Pit Expansion Draft SEIS states that, during the transition of these lands from wetland species or irrigated crops to upland salt-tolerant species, there may be a need to assist in the establishment of salt-tolerant species by seeding and the control of noxious/invasive species to control undesirable species and fugitive particulate emissions. The Betze Pit Expansion Final SEIS (p. 2-4) indicates that Barrick Goldstrike Mines, Inc. (BMGI) and Newmont have a contractual agreement that requires all lands be “reclaimed to conform to applicable standards and other reclamation standards ordinarily employed by BGMI and Newmont.” Because that statement was extremely vague and did not appear to commit either company to activities to assist in a successful species transition on the affected lands, we recommended that the Betze Pit Expansion ROD include a specific plan to successfully transition these lands at the end of infiltration activities. An adaptive management approach with specific monitoring, seeding, and weed control measures and triggers may be appropriate.

**Recommendation:** We urge BLM to work with both companies to develop a plan to successfully transition these lands to appropriate endemic vegetation at the end of infiltration and/or irrigation activities and include it in the Leeville ROD. The plan should identify who would be responsible for conducting and funding these activities, the amount of funding needed, and how funding for these activities would be assured (e.g., included in the reclamation bond).

### **Air Modeling**

The cumulative air analysis provided in the Leeville Final SEIS appears to be identical to the analysis that was provided in the Final SEIS for the South Operations Area Project Amendment (SOAPA). Below, therefore, we reiterate our comments on that analysis<sup>2</sup>.

We note that projections for PM<sub>2.5</sub> (particulate matter smaller than 2.5 microns) concentrations have been added to the Final SEIS. PM<sub>2.5</sub> modeling should be conducted in accordance with EPA’s March 23, 2010 memorandum, "Modeling Procedures for Demonstrating Compliance with PM<sub>2.5</sub> NAAQS" (available at <http://www.epa.gov/ttn/scram/>). We have the following comments regarding the PM<sub>2.5</sub> analysis conducted for this Final SEIS.

While it appears fence line receptors were included in the source-specific modeling (Final SEIS, p. 3-19), it is not clear whether the cumulative modeling included fence line receptors. Without them, the 1000-meter spacing appears too sparse to adequately capture maximum concentrations.

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<sup>1</sup> EPA comment letters on the Betze Project Final SEIS (Lisa B. Hanf to Kirk Laird, February 7, 2003), Betze Pit Expansion Draft SEIS (Kathleen M. Goforth to Kirk Laird, October 2, 2008) and Final SEIS (Kathleen M. Goforth to Kirk Laird, April 27, 2009).

<sup>2</sup> EPA comment letter on the South Operations Area Project Amendment Final SEIS (Enrique Manzanilla to Ken Miller, August 2, 2010).

SOAPA fence line receptors should be included in the cumulative modeling, or at least a far tighter receptor grid near it (e.g., 100-meter receptor spacing or less).

In lieu of PM<sub>2.5</sub> modeling, PM<sub>10</sub> modeling was performed and the results scaled in ways that are not sufficiently justified in the Final SEIS. It is not clear why a monitored ambient PM<sub>2.5</sub>/PM<sub>10</sub> ratio was deemed sufficient for this purpose, and the difference between that 0.428 ratio and the cited 0.10 - 0.15 ratios for fugitive dust from mining operations suggests that sources other than fugitive dust are affecting the monitor. Nor is the 0.85 ambient ratio between 98th percentile and maximum PM<sub>10</sub> sufficiently justified for scaling PM<sub>2.5</sub> modeling results. Finally, it is not clear that the distant Great Basin National Park monitor is adequate as a PM<sub>2.5</sub> background concentration.

**Recommendation:** For the 24-hour PM<sub>2.5</sub> National Ambient Air Quality Standard (NAAQS), PM<sub>2.5</sub> modeling should be conducted using a receptor grid with closer spacing where appropriate, PM<sub>2.5</sub> emissions for the various sources, and an appropriate PM<sub>2.5</sub> background concentration. The PM<sub>2.5</sub> modeling procedures memo referenced above calls for using the maximum from the source, added to a monitored value that applies the 3-year 98th percentile form of the standard, although alternative approaches can be considered if justified.

We also wish to alert you that recent guidance on the new 1-hour NO<sub>2</sub> NAAQS is available in a June 29, 2010, EPA memorandum, "Guidance Concerning the Implementation of the 1-hour NO<sub>2</sub> NAAQS for the Prevention of Significant Deterioration Program" (available at <http://www.epa.gov/ttn/scram/>). We recommend BLM refer to this guidance for future NO<sub>2</sub> analyses.