UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 6
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March 4, 2016

Mr. Doug Haywood, Project Manager
Las Cruces District Office
Bureau of Land Management
U.S. Department of the Interior
1800 Marquess Street
Las Cruces, NM 88005

RE: Detailed Comment Letter for Copper Flat Copper Mine Draft Environmental Impact Statement (DEIS) in Sierra County, New Mexico

Dear Mr. Haywood:

In accordance with our responsibilities under Section 309 of the Clean Air Act (CAA), the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) regulations for implementing NEPA, the U.S. Environmental Protection Agency (EPA) Region 6 office in Dallas, Texas, has completed its review of the DEIS prepared by the U.S. Department of Interior, Bureau of Land Management (BLM).

The Copper Flat Copper Mine Project re-establishes a poly-metallic mine and processing facility on BLM-managed public land near Hillsboro, New Mexico. The Proposed Action and alternatives includes an open pit mine, flotation mill, tailings storage facility, waste rock disposal areas, a low-grade ore stockpile, and ancillary facilities. The Proposed Action will produce 17,500-ton per day (tpd). Additional alternatives are identified for rates of 25,000 tpd and 30,000 tpd (Preferred Alternative). The "No Action" Alternative describes conditions expected to occur if there would be no new mining activity.

BLM identified Alternative 2 as the Preferred Alternative for the proposed project. Based on our review, EPA rates the DEIS as "EC-2" (Environmental Concerns and Requests Additional Information). EPA's Rating System Criteria can be found here: http://www.epa.gov/oecaerth/nepa/comments/ratings.html. Detailed comments are enclosed with this letter for your consideration.

Thank you for the opportunity to comment on the DEIS. If you have any questions or concerns, please contact Kimeka Price at (214)665-7438 or via email at price.kimeka@epa.gov for assistance.

Sincerely,

William K. Hayden, Acting Chief
Special Projects Section
Compliance Assurance
and Enforcement Division

Enclosure

DETAILED COMMENTS
ON THE
DRAFT ENVIRONMENTAL IMPACT STATEMENT
FOR THE
BUREAU OF LAND MANAGEMENT
COPPER FLAT COPPER MINE PROJECT
IN
SIERRA COUNTY, NEW MEXICO

EPA offers the following comments for BLM's consideration in preparation of the FEIS:

Environmental Justice (EJ) and Surrounding Communities

In Table ES-3 Summary of Impacts, environmental justice impacts are identified as significant under Alternatives 1 and 2. In the DEIS, it does not appears BLM took the necessary measures to identify each EJ community nor identify the impact totality as required by Executive Order 12898. Under the Environmental Justice Section, BLM's averaging methodology may not accurately illustrate the environmental justice communities and populations within, near, and adjacent to proposed project boundaries.

The DEIS states that disproportionately high and adverse effects to low-income populations are anticipated, and overall impact to low-income populations would be significant, of minor intensity, medium (localized) extent, medium- to long-term, and probable. However, there appears to be no supporting documentation to adequately support BLM's environmental justice impact analysis.

In Section 3.23.3 Mitigation Measures, the DEIS identifies potential mitigation measures could include job training, benefit package to employees, and best management practices to minimize impacts to air or water quality for low-income populations. Thus, it is unclear what mitigation measures are committed to and will be implemented.

Recommendation:

BLM's methodology to determine local environmental justice community and populations should not utilize averaging. The FEIS should identify each environmental justice community within, near, and adjacent to the proposed project boundaries, pursuant to Executive Order 12898.

The FEIS should incorporate the environmental justice analysis in Section 3.23 and provide specific discussion regarding the impacts and mitigation of the mining operation on the EJ population and its commitment to implementing the mitigation measures.

Financial Assurance

In Section 2.1.15, the DEIS discusses reclamation and closure of the proposed action. However, it does not appear to disclose financial assurance information that are likely to be required. The availability of adequate resources to ensure effective reclamation, closure, and post-closure management is a critical factor in determining the significance of the proposed project's potential impacts. The FEIS should incorporate a discussion of financial assurance.

Climate Change and Sustainability

The DEIS quantifies emissions from criteria pollutants and includes a qualitative discussion of climate change impacts associated with the development, operation, closure and reclamation of the proposed action and alternatives but does not estimate GHG emissions from the proposed action or alternatives. The DEIS determined that the direct, indirect, and cumulative impacts from the proposed action and alternatives would have short and medium-term minor adverse impacts to climate change and would make a small contribution to the overall cumulative effect of climate change.

Section 3.3.3 of the DEIS does not identify or discuss mitigation measures beyond regulatory requirements described in the proposed action to reduce or minimize the proposed project's greenhouse gases. Lastly, the DEIS determined that it is unlikely that global climate will change dramatically enough over the life of the project to impact project activities.

Recommendation:

We recommend the FEIS estimate the GHG emissions associated with the proposal and its alternatives. Example tools for estimating and quantifying GHG emissions can be found on CEQ's NEPA.gov website[1]. These emissions levels can serve as a basis for comparison of the alternatives with respect to GHG impacts.

We recommend the FEIS describe measures to reduce GHG emissions associated with the project, including reasonable alternatives or other practicable mitigation opportunities and disclose the estimated GHG reductions associated with such measures. For example, we offer the following potential measures for the BLM's consideration:

- Use conveyors rather than haul trucks where possible, e.g., for transporting ore to processing areas and the heap leach facility;
- Incorporate alternative energy components into the project such as on-site distributed generation systems, solar thermal hot water heating, etc.;
- Incorporate recovery and reuse, leak detection, pollution control devices, maintenance of equipment, product substitution and reduction in quantity used or generated;

[1] https://ceq.doe.gov/current_developments/GHG_accounting_methods_7Jan2015.html

- Include use of alternative transportation fuels, electric vehicles, etc., during construction and operation if applicable; and
- Commit to using high efficiency diesel particulate filters on new and existing diesel engines to provide nearly 99.9% reductions of black carbon emissions.

EPA further recommends that the FEIS and ROD commit to implementation of reasonable mitigation measures that would reduce or eliminate project-related GHG emissions.

We recommend considering climate adaptation measures based on how future climate scenarios may impact the project in the FEIS. The National Climate Assessment (NCA), released by the U.S. Global Change Resource Program[2], contains scenarios for regions and sectors, including energy and transportation. Using NCA or other peer reviewed climate scenarios to inform alternatives analysis and possible changes to the proposal can improve resilience and preparedness for climate change.

Wildlife and Migratory Birds

In Section 3.10 Wildlife and Migratory Birds, the DEIS identifies an impact areas of 30 acres and a wildlife assessment, which includes surveys for special status species, birds, mammals, bats and reptiles and amphibians. The DEIS does not contain a final determination on the environmental consequences of the alternatives. The U.S. Fish and Wildlife Service (USFWS) and New Mexico Department of Game and Fish (NMDGF) were contacted for consultation, but there is no concurrence from USFWS and NMDGF on any conclusion reached in the DEIS.

Recommendation:

The FEIS should incorporate concurrence from the USFWS and NMDGF on impacts of the proposed project to wildlife and migratory birds, and a commitment for mitigation.

Transportation and Traffic

In Table ES-3 Summary of Impacts, transportation and traffic impacts are identified as significant under Alternatives 1 and 2. In Section 3.20.3 Mitigation Measures, the DEIS states that no mitigation measures for transportation and traffic beyond regulatory requirements described in the Proposed Action have been identified for any alternative. Thus, it is unclear how the transportation and traffic impacts will be addressed.

[2] http://nca2014.globalchange.gov/

Recommendation:

The FEIS should clarify how the transportation and traffic impacts will be addressed and identify any committed mitigation.

Visual Resources

The project action and alternatives would disturb approximately 1,500 acres of land, 900 acres of which are previously disturbed. In Table ES-3 Summary of Impacts, impacts to visual resources are identified as significant under Alternatives 1 and 2. In Section 3.14.3 Mitigation Measures, the DEIS states that no mitigation measures for visual resources beyond regulatory requirements described in the Proposed Action have been identified for any alternative. Thus, it is unclear how impacts to visual resources will be addressed.

Recommendation:

The FEIS should clarify how impacts to visual resources will be addressed and identify any committed mitigation.

National Historic Preservation Act Section 106 Consultation

In Table ES-3 Summary of Impacts, cultural resources impacts are identified as significant under Alternatives 1 and 2. Additionally, in Section 3.13 on pages 3-174 and 3-175, Table 3-32 identifies significant impacts and adverse effect to historic properties from the proposed action and action alternatives. The DEIS states that BLM would develop measures to avoid, minimize, or mitigate the adverse effects to historic properties in a Programmatic Agreement (PA) during the Section 106 consultation process with Advisory Council on Historic Preservation (ACHP), State Historic Preservation Office (SHPO), Tribes, and New Mexico Cooper Corporation (NMCC).

Recommendation:

The FEIS should incorporate any issues raised by, and concurrence from, the ACHP, SHPO, Tribes, and NMCC, and the PA showing how the significant impacts will be addressed and mitigated.

Mine-Specific Comments

1. Section 2.1.1 – Mine Operation – Open Pit, page 2-9:

   EPA recommends including a pit lake conceptual model as a figure in this section like the one shown below in Figure 1. This example illustration was made based on the parameters provided in the DEIS.

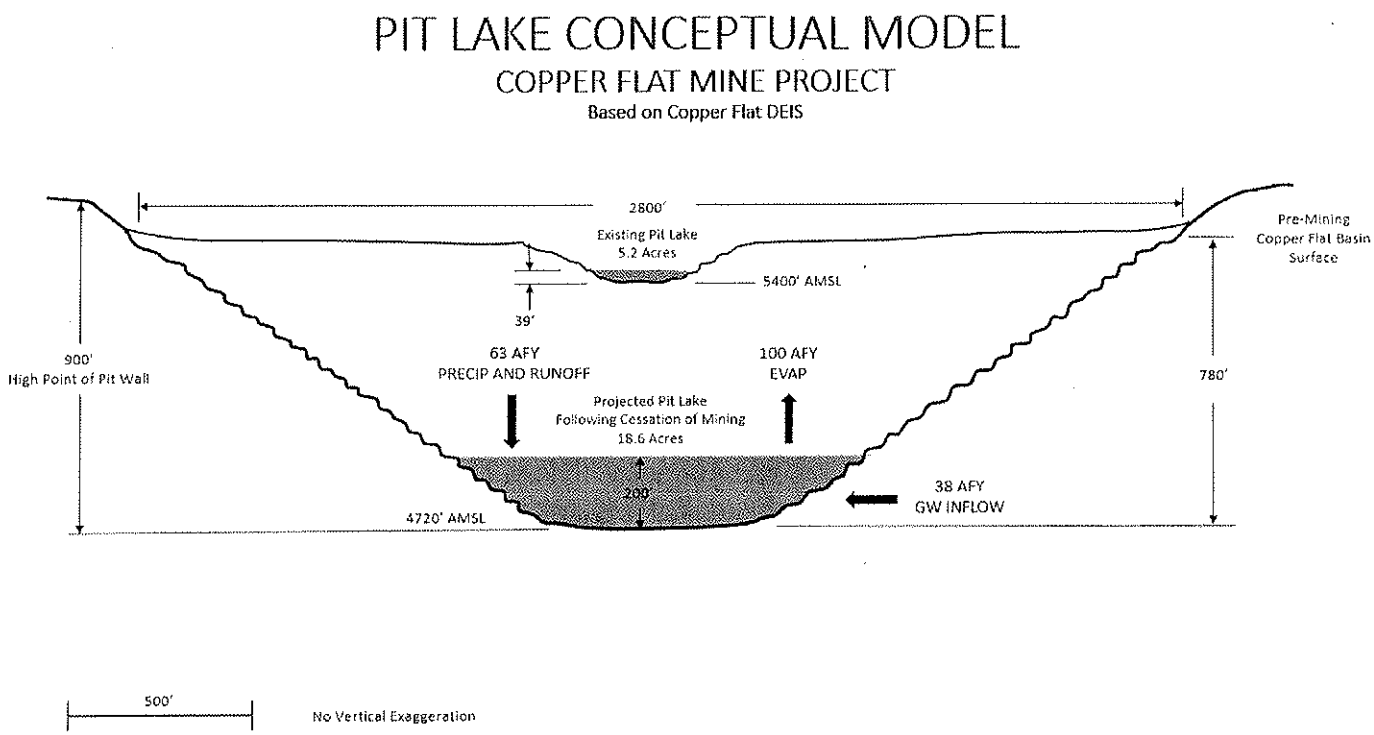

Figure 1

2. Section 2.1.3.4 – Tailing Storage Facility, page 2-18:

   a. The FEIS should incorporate a discussion in this Section on the results of the testing done on the tailing waste material present, including pyrite and carbonate material content, in the existing Tailing Storage Facility (TSF) operated by Quintana Minerals and whether such material is acid generating. A discussion should also be included on proposed testing for the anticipated mineralogy of the tailings waste material to be generated by the proposed mining operations and whether such material is expected to be acidic or if the tailing slurry will be buffered as part of the TSF process, and whether the tailing waste material is expected to become acid generating over time after cessation of mining operations.

   b. <u>TSF Design</u>:

      EPA recommends that an analysis of the proposed liner's long-term effectiveness and long-term compatibility with the tailings material be provided in the FEIS. It should including a discussion on compatibility to acidic tailing seepage if the tailing material becomes acidic and the type of collection system if at some point there is seepage after cessation of mining.

c. TSF Monitoring:

EPA recommends incorporating a description of the contingency plan for responding to various monitoring results, including identification of action levels for each monitored component and parameter (*i.e.,* the level that will trigger further monitoring or some type of other action, including corrective action) be provided in the FEIS.

3. Section 2.1.15.6 – Environmental Considerations for Reclamation, page 2-37 to 2-38:

Fences and barricades to restrict access to the site for protection of the public and wildlife will likely require long-term maintenance. This should be stated in the FEIS. Storm water runoff diversions around the waste rock disposal facilities will also need to be maintained, and should be discussed in the FEIS.

Additionally, it appears there are no details of how the TSF would be hydrologically isolated during reclamation. There are only statements that it would be designed, construct and maintained to do so. In the DEIS, the post-closure groundwater monitoring will be done according to a Discharge Permit (DP) plan which has been prepared for NMED, but is still undergoing technical review. Without details of how isolation of flow would be achieved, potential impacts cannot be adequately evaluated. The FEIS should include a discussion.

4. Section 2.1.15.16 – Facility-Specific Reclamation, page 2-44:

a. Mine Pit: The second bullet statement on page 2-44 states *"The proposed reclamation measure would ....limit water-rock interaction in the upper pit walls."* It is unclear how this proposed store and release cover, assuming it would be put in place outside of and around the pit perimeter, would limit water-rock interactions in the upper exposed pit walls. It is also unclear how much of the upper pit wall would be affected by this reclamation proposal. The height of the projected exposed pit wall is nearly 700 feet (*see* Figure 1 above). This section needs to be expanded to provide detail on how the proposed reclamation will address water-rock interaction for the upper portion of the exposed pit walls. It is recommended that an illustration be provided in the FEIS showing in the plan view what NMCC is proposing and the area of the pit wall that would be affected by such reclamation.

b. In the third bullet statement on page 2-44, it states that a controlled pathway will be provided for the pit watershed area and that additional water collected in the pit through storm events would provide dilution of naturally occurring constituents. Additional detail is needed in the FEIS on how the controlled drainage would limit the generation of acid and leachable metals when precipitation comes into contact with the exposed rock of the pit walls.

5. Section 3.3.2.1.1 – Mine Development and Operation, page 3-15:

   The second paragraph of this subsection references Appendix B for a detailed breakdown of mine operational emissions as well as Section 3.2 for an outline of the total direct and indirect emissions associated with the Proposed Action. EPA suggests that a description of the significance of the emissions that would occur during mine operational activities be provided in this paragraph of the FEIS, as similarly completed on the construction of facilities and mine development activities.

6. Section 3.4.1.3 – Description of Affected Environment, Surface Water in Greyback Arroyo, page 3-23:

   The FEIS should incorporate a discussion of the unnamed drainage/arroyo located north of the existing pit lake and Animas Peak. It is a tributary to Greyback Arroyo and joins with it to the east of the TSF. The existing Waste Rock Disposal Facilities (WRDFs) are located within this drainage. Additionally, the proposed location of the primary WRDF that will be constructed east of Animas Peak as part of this project's Proposed Action and Alternatives 1 and 2 will be located, in part, within this drainage. Is this an ephemeral drainage? Has any surface water sampling been performed in this drainage as part of the baseline characterization of surface water? Acid rock drainage from waste rock within the WRDFs, if not adequately controlled by the cover systems proposed, will likely contribute acidity and leachable metals to this portion of the watershed.

7. Section 3.4.2.1 – Pit Lake Water Quality, page 3-34:

   The terms and conditions of approval to be stipulated for the proposed Mine Plan of Operations (MPO) limit the period for post mining compliance with water quality standards for the pit lake to 30 years (the post-mining monitoring period) after completion of reclamation of the mine. They also limit the funding mechanism for implementation of the pit lake water quality management plan for a period of at least 30 years. The 30-year time period is inadequate because (1) it may take decades or even centuries for some environmental impacts (acid rock drainage from sulfate rock) to occur to the surface water and ground water resources at this site, and (2) mitigation efforts to maintain compliance with New Mexico surface water quality standards for the designated future uses of the pit lake will likely be needed for similar time frames and possibly in perpetuity. EPA recommends that BLM require the MPO to include post-mining monitoring and implementation of the pit lake water quality management plan for a minimum of 100 years, at which time the need for continued monitoring and pit lake water quality management will be reassessed by BLM and the State of New Mexico. Such monitoring and water quality management may ultimately be needed for significantly longer periods of time, or in perpetuity, unless it can be demonstrated to BLM's and the State of New Mexico's satisfaction that a sustainable approach to pit lake water quality management has been achieved that does not require perpetual mitigations to protect pit lake water quality.

8. Section 3.4.2.1.2 – Mine Closure/Reclamation, page 3-40:

   It appears that there is a missing step of the proposed reclamation plan for the waste rock dumps that discusses the placement of cover material on top of the regraded waste rock. If appropriate, please revise for the FEIS.

9. Section 3.4.2.1.2 – Non-point Source Pollution from Disturbed Areas on the Mine Site, page 3-46:

   EPA suggests that the draft Stormwater Pollution Prevention Plan (SWPPP) be provided to the New Mexico Environment Department's Ground Water Protection Bureau for review and comment. It is important to consider potential impacts to ground water and surface water from stormwater pollution.

10. Section 3.6.1.2 – Hydrogeology of the Mine Pit Area, page 3-62:

    EPA suggests that key maps and cross-sections be provided in the FEIS to support hydrogeology discussions in this section. A cross section should be included of the mine pit area that depicts the geology, the existing open pit, pit lake water level, the regional ground water table, shallow and deep bedrock monitoring wells near the pit, the projected final open pit, and pit lake water level for this project. A map showing the position of the cross-section in the plan view should also be included in the FEIS.

11. Section 3.6.1.3 – Hydrogeology of the TSF, page 3-62:

    EPA suggests that key maps and cross-sections need to be provided in the FEIS to support discussions on hydrology in this section. East-west and north-south structural cross sections need to be provided that depict the hydrogeology, the monitoring wells in the vicinity of the TSF, and faulting. A map needs to be provided showing the location of the cross-sections. Isoconcentration contour maps need to be provided for sulfate and at least one metal (e.g. copper) that exceeds NM ground water quality standards in the area of the TSF.

12. Section 3.6.1.4 – Hydrogeology of the Palomas Basin in the Vicinity of the Supply Well Field, page 3-63:

    a. This section briefly mentions the existence of a graben and paleo-channel. The graben is shown on the cross-section depicted on Figure 3-10, but the location of the graben in the plan view is not shown. Also, the location of the paleo-channel is not shown in the plan view, other than at two separate locations identified on Figure 3-9 by arrows. It states in this section that the water supply wells are located in the graben and paleo-channel, but the relationship of the supply wells and these two features is not shown on Figure 3-9. It

is important to clearly understand where these features are in relationship to the water supply wells. EPA suggests revising Figure 3-9 for the FEIS showing their relationship, as well as all monitoring and private water wells in the area. These features are depicted on other maps in the geology section of the DEIS, but it would be helpful to the reader if they are shown on the figures presented in this section.

b. It would be helpful to the reader if a map was included in the FEIS showing the location of Cross-Section C-C' on Figure 3-10.

c. The presence of the shallow clay layer is depicted on Cross-Section C-C'. However, the statements in this section that the clay layer serves as a perching horizon that would isolate flows from Las Animas Creek from the effects of pumping the mine supply wells is not well supported. EPA suggests that additional documentation be provided in the FEIS, including geologic boring logs for all the wells with the clay layer, supporting aquifer test results and an isopach map of the clay layer to show its aerial extent and relationship to Las Animas Creek.

13. Section 2.1.15.2 Post-Mining Land Use:

The DEIS discusses post-mining use of the pit would include a water reservoir for wildlife habitat. Specifically, the DEIS identifies the pit would be partially filled with water from subsurface groundwater flow and surface water runoff resulting in a permanent TSF following closure. It appears the post-mining use may be incompatible with an undetermined length of post-closure care, discussions of fencing requirements to prohibit wildlife during use, the nature of the pit walls having over 700 feet of relief, and the unknown impacts of disposal piles and treatment facilities on pit water quality. EPA recommends the FEIS incorporate a discussion of the specific parameters which, if met, would allow use of the pit as a reservoir for wildlife habitat.

14. Section 3.6.2 Environmental Impacts, page 3-67:

The DEIS discusses the method for quantification of impacts. Specifically, it identifies that the JSAI (2014) report describes the modelling developed for NMCC upon which the EIS is based and calibrated to match regional groundwater contours and specific well hydrographs. The DEIS also states the JSAI report provides substantial detail beyond the summary provided in this EIS. EPA recommends the FEIS include the JSAI report to more adequately evaluate the potential impacts.

15. Section 3.6.3 Mitigation Measures, page 3-97:

The DEIS discusses that NMED requires monitoring in the area of the mine pit primarily for purposes of water quality abatement, and the Office of the State Engineer (OSE) provides

periodic measurements of water levels in scattered wells for the Las Animas Creek Area. Further, the DEIS identifies that both State Agencies are expected to require NMCC to conduct additional monitoring. It appears there is no determination of how the proposed mine expansion will additionally impact current water quality as well as the additional impact from increased mining and associated increased waste materials. EPA recommends the FEIS incorporate a discussion of the additional impacts.