State of New Mexico
Energy, Minerals and Natural Resources Department

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Mining and Minerals Division

January 15, 2019

Mr. Jeff Smith
New Mexico Copper Corporation
P.O. Box 4209
Truth or Consequences, NM 87901

RE: Technical Comments on Financial Assurance Estimate Dated December 2018, Copper Flat Mine, Sierra County, Permit Tracking No. SI027RN

Dear Mr. Smith,

The Mining and Minerals Division ("MMD") has reviewed the *Copper Flat Life-of-Mine Revised Basis of Reclamation and Closure Cost Estimate* ("cost estimate") dated December 11, 2018, and has the following technical comments to be addressed:

1. Tailings Tab – The surface regrade volume has been reduced due to a revised assumption in the calculation of 0.5 ft^3/ft (December cost estimate) instead of 1 ft^3/ft (August cost estimate). This change reduces the estimated surface regrade volume from ~492,000 cyd to ~246,000 cyd. Please provide justification for the reduction to 0.5 ft^3/ft in this calculation.

2. Reclamation of conveyance channel CV-1 and CV-2 at the toe of WRSP-3 appears to be missing from the revised cost estimate. Please address.

3. Proposed channel PC-4 for construction upon reclamation of the Evaporation Pond appears to be missing from the associated figure and does not appear to be included in the revised cost estimate. Please address.

4. EWRSP-4-MB7 is identified in the SRCE cost estimate as 1,000 feet, but there does not appear to be a figure showing the location of EWRSP-4-MB7. Is this midbench slope the north edge of EWRSP-4?.

5. MMD has compared the equipment unit costs used by NMCC (Appendix E of the cost estimate) against the Equipment Watch database and finds that the majority of the unit costs utilized in the cost estimate are reasonable.

   Where retail rental rates from Wagner Equipment were not available, NMCC utilized Blue Book Rates from Equipment Watch (Appendix E4; provided by Kiewitt), however, the Blue Book Rates for a Caterpillar 992K and 777G provided in Appendix E4 vary significantly from the rental rates that are available in Equipment Watch:

Equipment	Equipment Watch Rental Rate	Blue Book Costs Used in SRCE Model	Difference in SRCE Model
992K	$25,527.98/month	$41,068.00/month	+ $15,400.20/month
777G	$56,160.00/month	$37,226.00/month	- $18,934.00/month

The Caterpillar 992K and 777G are primary pieces of equipment in the cost estimate, based on the number of hours of proposed use during reclamation. MMD believes the Equipment Watch Rental Rates, rather than the Blue Book Rates, for these two pieces of equipment should be utilized in the cost estimate. Please address.

6. Technical comments on the cost estimate from the New Mexico Environment Department are attached to this letter. Please address.

7. Technical comments on the cost estimate from Kuipers & Associates, dated January 8, 2019, are included with this letter. Please address.

MMD requests a meeting with NMCC to discuss these comments in person. If you have any questions, please contact me at (505) 476-3434 or by email at david.ennis@state.nm.us.

Sincerely,

David J. ("DJ") Ennis, P.G.
Reclamation Specialist/Permit Lead

Att: NMED Comments
Kuipers and Associates Comments

cc: Holland Shepherd, Mining Act Program Manager
Brad Reid, NMED Permit Lead
Leighandra Keeven, BLM Permit Lead

MICHELLE LUJAN GRISHAM
Governor

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MEMORANDUM

Date: January 11, 2019

To: Holland Shepherd, Program Manager, Mining Act Reclamation Program

Through: Jeff Lewellin, Mining Act Team Leader, Mining Environmental Compliance Section

From: Brad Reid and Anne Maurer, Mining Environmental Compliance Section

Subject: **NMED Comments, Copper Flat Mine, Financial Assurance Proposal, Sierra County, New Mexico, MMD Permit No. SI027RN**

The New Mexico Environment Department ("NMED") received correspondence from the Mining and Minerals Division ("MMD") on August 15, 2018 requesting NMED review and provide comments on the above-referenced MMD permitting action. NMED subsequently received another request to review and provide comments on the same permitting action on December 12, 2018. In accordance with 19.10.6.605.C NMAC, MMD requested comments within 30 days. NMED has the following comments.

Background

The New Mexico Copper Corporation ("NMCC") provided a financial assurance proposal for the Copper Flat Mine to MMD on August 10, 2018 and an updated proposal dated December 11, 2018. The Copper Flat Mine proposes to re-establish a poly-metallic mine and processing facility which is approximately 22 miles southwest of Truth or Consequences and five miles northeast of Hillsboro. The Copper Flat Mine as proposed will consist of an open pit; waste rock stockpiles; stormwater impoundments and associated collection and conveyance systems; a Process Facility Area consisting of a Concentrator and associated mineral processing units; a synthetically lined Tailing Storage Facility ("TSF"); and associated mine infrastructure.

Mining Environmental Compliance Section

The Mining Environmental Compliance Section ("MECS") of NMED has reviewed the December 11, 2018 NMCC updated financial assurance ("FA") proposal and has the following comments:

1. NMCC's FA proposal includes costs associated with expansion of the TSF Underdrain Collection Pond ("UCP") for closure water management as an evaporation pond. Based

on Attachment E2 of Appendix E in Revision 1 of the *Updated Mining Operation and Reclamation Plan* dated July 2017, the operational TSF UCP will be expanded by adding additional lined capacity. A new synthetic liner system will be seam-sealed to the existing liner system. NMED is concerned that the integrity of the operational TSF UCP liner may become compromised after approximately 15-17 years of use as an operational impoundment plus an additional 25 years of closure water management. The "Process Ponds" tab in the Copper Flat SRCE model appears to include a section for Liner Repair, which totals $1,549,084. However, this appears to be the cost for installation of the expanded liner system at closure, not the cost for liner repair or replacement. Additional costs for periodic liner maintenance, repair, and replacement of the TSF evaporation pond need to be added to the FA proposal.

2. NMED understands that a few access roads will be maintained following closure. Based on a review of the "Roads", "Monitoring", and "Reclamation Maintenance" tabs in the Copper Flat SRCE model, it appears that there are no costs for long-term access road maintenance. Costs associated with long-term access road maintenance need to be added to the FA proposal.
3. NMCC has proposed applying a 20% markup for removal of utilities and equipment based on demolition costs of the Concentrator Building located in the Process Facility Area. In the "User 24" tab in the Copper Flat SRCE model, the *Concentrator Building, Grinding Area* and *Concentrator Building, Flotation Area* are designated as the demolition areas where the 20% markup will be applied. Based on a review of the "Foundations and Buildings" tab, it is unclear why other buildings or significant structures located in the Process Facility Area including, but not limited to the Primary Crusher Control/Mechanical Building, the Concentrate Handling and Storage Area, the Ball Bins, and the Mine Shop/Warehouse are also not included in the cost estimate for equipment removal costs. NMCC should provide justification why demolition costs of these structures are not part of the equipment removal markup. In addition, the costs shown for demolition of the *Concentrator Building, Grinding Area* and *Concentrator Building, Flotation Area* in the "User 24" tab do not match the total demolition costs shown in the "Foundations and Buildings" tab for the same areas.
4. Section 20.6.7.33.G NMAC of the Copper Mine Rule requires a process solution reduction plan to be submitted as part of the closure plan. The process solution reduction plan describes the modifications to the process water management system required to create an efficient process water reduction system following cessation of mining and milling operations, and the operations and maintenance requirements for the system with material take-offs of sufficient detail to prepare an engineering-level cost estimate equivalent to the cost estimate to be provided with the closure plan. NMED understands that there will be some period of time following closure when the TSF collection pond will be expanded, and therefore, process solutions from draindown of the TSF will need to be managed in addition to any process solutions left in the process circuit. A process solution reduction plan cost estimate was not included in the FA proposal. Costs associated with management and reduction of process solutions following closure need to be added to the FA proposal.
5. The FA proposal includes an estimate for field work included in the "Monitoring" tab and revegetation maintenance and growth media maintenance in the "Reclamation Maintenance" tab in the Copper Flat SRCE model. The approximate estimate for these line items totals $1.1 million. NMED assumes that the field work will include inspection

of all diversions around the perimeter of the open pit, including the Grayback Arroyo diversion, in addition to reclamation and erosion inspections of the cover and drainage control systems. A portion of the costs accounted for in the "Reclamation Maintenance" tab, also should be earmarked for any required maintenance of the diversions.

NMED Summary Comment

NMED will continue to coordinate with MMD and NMCC to resolve any outstanding matters associated with approval of the proposed financial assurance cost estimate.

If you have any questions, please contact Jeff Lewellin at (505) 827-1049.

cc: Shelly Lemon, Bureau Chief, SWQB
Liz Bisbey-Kuehn, Bureau Chief, AQB
Fernando Martinez, Division Director, EMNRD-MMD
Kurt Vollbrecht, Program Manager, MECS
Brad Reid Permit Lead, MECS
DJ Ennis, Permit Lead, MARP

James Kuipers, PE
Principal Consulting Engineer
jkuipers@kuipersassoc.com

Kuipers & Associates, LLC

PO Box 145
Wisdom, MT 59761
406-689-3464

January 8, 2019

To: Holland Shepherd, New Mexico EMNRD, Mining and Minerals Division (MMD)

From: Jim Kuipers P.E., Kuipers & Associates

Re: **Copper Flat Financial Assurance Cost Estimate – December 11, 2018 Version**

On behalf of Turner Ranch Properties, LLC, I have reviewed the most recent documentation supporting the cost estimate for closure of the Copper Flat Mine, submitted on December 11, 2018, which will ultimately form the basis for financial assurance for closure of the mine. As the applicant, New Mexico Copper Corporation, has chosen to use the SRCE model we are confident as to the actual cost estimation methodology provided the agencies use their discretion in reviewing and approving the unit costs. Therefore, our comments are limited to the assumptions used and completeness of the direct and indirect costs being proposed in this instance.

I would note for MMD that in my experience the U.S. Bureau of Land Management (BLM) does not engage in financial assurance discussions until they have issued a Record of Decision (ROD) for the project. The financial assurance is then based on and includes any final mitigation identified in the BLM's ROD. If MMD intends to follow BLM requirements, as per the Memorandum of Understanding (MOU) between MMD and BLM, then it may be necessary to delay approval of the financial assurance cost estimate, and the corresponding Mining Act permit, until the BLM can actively engage in the financial assurance discussions.

1. Maximum Reclamation Requirements

It is widely recognized in financial assurance that the cost estimate should represent the maximum cost of reclamation that will occur at some point in the mining plan. This is identified as "Step 1" in MMD's *Mining Act Reclamation Program Closeout Plan Guidelines Attachment 4*. In our experience, in most cases the maximum cost is determined by assuming closure takes place at various times during the mine plan, and estimating reclamation and closure costs under conditions existing at those times. The estimates are often performed at regular intervals for mines with longer mine plans (e.g. every five years for a forty-year mine plan). For projects with shorter mine plans, such as Copper Flat, estimates may be performed for as little as two-year intervals. In some cases, an estimate might be performed for a specific time in the mine plan where a significant change in the plan occurs that could affect the cost, such as immediately prior to pit backfilling. In the case of Copper Flat, as we suggested during our public testimony on the mine permits this past year, there is a potential change related to completion of the repository in the Tailings Storage Facility for potentially acid-generating material. The mine plan indicates that acid-generating ore will no longer be mined beginning in about year six. Thus, year six could be a higher cost year than the years ten or eleven at the end of the mine plan.

In addition, water quality may decline in the pit lake that will form post-mining, or the pit lake could become subject to more stringent water quality standards. Coincidentally year six also represents a point at which the project will produce significantly lower grade ore, and there is a significant risk that mining could be delayed or postponed beyond that year depending on copper prices at the time.

This is also a requirement of BLM as noted in their *3809 Handbook Section 6.2.1.5 Maximum Reclamation Cost* which states "*The RCE must reflect the maximum cost of reclamation for the proposed disturbance to be covered by the financial guarantee. The point of maximum reclamation costs is often when there is the greatest area of disturbance, greatest volume of materials needing special handling, or some other factor or combination of factors escalating the cost to reclaim. The maximum cost of reclamation is generally not at the end of the project life.*"

Recommendation: MMD should require the applicant to determine the maximum reclamation cost year, based on the estimated costs of closure at various times in the mine plan, as discussed herein. A cost estimate for closure at the end of year five of the proposed mine plan should be included.

2. Solution/Water Management – Interim (Emergency) Solution Management

There are no costs in the estimate for what are typically recognized as Interim Emergency Water Management tasks, which the applicant is required to describe under *20.6.7.30.K. NMAC* of the *Copper Mine Rule*. This category of costs is typically identified as a phase of the solution management costs, or might be estimated separately. The time-frame used to estimate these interim costs ranges from six months to three-years based on assumptions that vary among regulatory jurisdictions. The costs are for the agencies managing the site in a "holding" condition while financial assurance funds are obtained, engineering plans developed and contracts awarded, and facilities constructed.

This is also a requirement of BLM as noted in their *3809 Handbook Section 6.2.1.6.1 Interim Operation and Maintenance*, which states "*If an operator abruptly ceases and abandons operations, the BLM may contract with a third party to maintain the area of operation in compliance with applicable safety and environmental requirements. The RCE must include the cost of providing immediate site operation and maintenance, where appropriate. Interim operation and maintenance costs may vary significantly depending on the individual site needs, and may include labor, equipment, and materials for pumping of fluids to prevent overflow of process ponds, costs for support equipment and electricity to operate the pumps, and site security. There is no set time period to use in estimating the costs for the care and maintenance of a site prior to the start of reclamation; much depends on the BLM's ability to obtain access to the financial guarantee, especially in bankruptcy cases. It is a good rule-of-thumb to allow for a minimum of 6 months of interim operation and maintenance by a contractor. Large operations or project areas with limited seasonal access may warrant a longer time period.*"

Recommendation: MMD should require the applicant to include a category of costs for Interim Emergency Water Management in the cost estimate. At hardrock that have been abandoned, including Summitville, Zortman and Landusky, Beal Mountain, and others, we have yet to see actual work begun in less than six months, and at some sites it has required several years. Given the site-specific characteristics of the Copper Flat site, we recommend that 12 months be assumed in the estimate.

3. Solution/Water Management – Pit Rapid Fill

The costs for Pit Rapid Fill are included in the estimate. The cost estimate assumes the water will be pumped from "wellfields" for pit rapid fill with the "wellfields" assumed to be the Production Wells P1-P4 that have been the subject of litigation. Consistent with our public testimony on the mine permits in the past year, there is reason to question: 1) Whether the applicant would have the necessary water rights for rapid fill of the pit; and 2) Whether, if the company goes into bankruptcy, the water rights would become the property of the bankruptcy trustee and thus become unavailable to MMD, or available to MMD only by purchase from the bankruptcy trustee.

As we have discussed previously with MMD concerning financial assurance at other mine sites in New Mexico, in the event of bankruptcy, assets that the court appointed trustee considers to be valuable may be sold or subject to purchase. Such assets can include water rights.

Recommendation: MMD should require the applicant to include the cost of obtaining the water necessary for rapid fill of the pit based on the current prevailing cost of purchase of the same amount of water. If MMD determines there are no water rights and water available upon which to base such cost estimate, then MMD should give further consideration to the feasibility of the proposed rapid fill of the pit.

4. Solution/Water Management – Time-Frames

The cost estimate, consistent with the applicant's proposed plan, is based on five years of active evaporation (e.g. new evaporation pond to spray area, forced evaporation) followed by a 20-year passive evaporation phase, during which it is assumed there will be no pumping or evaporator operation costs.

Consistent with our public testimony on the mine permits the past year, it is widely recognized that the estimation of the draindown rates is inherently uncertain and the actual period during which active water treatment might need to be conducted may exceed five years and continue for decades. The tailings storage facility will always have some level of seepage which is likely to continue beyond 20 years and quite probably will continue long-term. This has been reflected in prior financial assurance estimates at New Mexico sites such as Chino, Tyrone, and Questa, which have assumed 100 years of tailings seepage in estimating long-term financial assurance, and at other sites administered by BLM in Nevada and Montana, which have assumed as much as 500 years for long-term tailings seepage.

Recommendation: The potential for seepage from the Tailings Storage Facility to impact groundwater should be recognized as a long-term liability. The applicant's estimates should be assumed as ideal, and MMD should assume 10 years of active treatment followed by at least 90 years of passive evaporation. During the passive evaporation period, costs for bird netting, inspections, and regular maintenance should be included in the estimate. The passive evaporation costs should also include a cost for replacement of the pond, which in this case we would suggest should be every 50 years (e.g. closure year 60).

5. Monitoring

The original monitoring cost estimate the applicant submitted assumed monitoring would be limited to groundwater and surface water sampling, and continue at a decreasing frequency until it is ended from

mine year 15-40 (closure year 1-25). Consistent with our recommendations and the requirements of the Environment Department's groundwater discharge permit, this revised estimate extends the monitoring time frame out to 100 years following closure. However, it is still based on assumptions that the frequency of water quality monitoring can be reduced to as little as one sample beginning in year six following closure. This is a highly idealized outcome that may represent the wishes of the applicant, but does not represent an outcome upon which the regulatory requirements for financial assurance should be based.

A more conservative approach to monitoring would be to delay any reduction in financial assurance until actual field results warrant the reduction. Given the inherent uncertainty in making accurate predictions for an entire mine site of this nature post-reclamation, requiring a full-suite of monitoring to continue for an indefinite period, represented by 100 years in this case, would be the only means of assuring the agencies actually have the monitoring budget necessary for the site post-closure. Consistent with the concept of reviewing the financial assurance every five years, if the post-closure water monitoring results indicate compliance with all water quality standards at some time post-closure, such as for a period of 25 years, then at that time the monitoring plan can be revised accordingly together with the financial assurance cost estimate.

The monitoring plan does not address vegetation monitoring, erosion monitoring, wildlife monitoring including the pit lake, or tailings storage facility stability monitoring. We noted these omissions in the original cost estimate.

Recommendation: The monitoring program should assume that a full suite of water quality monitoring will continue throughout the 100-year period used in the cost estimate. The amount estimated for monitoring should be reduced only when actual results warrant a reduction, and the plan can thus be changed on a real rather than idealized basis. The applicant should also be required to address and provide a cost estimate for monitoring related to vegetation, erosion, wildlife including the pit lake, and tailings storage facility stability.

6. Maintenance

No description of reclamation maintenance was provided for the plan or the cost estimate. The revised cost estimate is only slightly changed from the original estimate and is based on a one-time cost for reclamation maintenance during the active reclamation phase (through year 12) consisting of 10% of the area requiring reseeding and 5% of the required volume of growth media.

As we have previously discussed with MMD, there is no such thing as "walk away" reclamation for hardrock mines. It is widely recognized that the reclamation and closure plan should include routine inspections and maintenance. The inspections and maintenance activities will be necessary in nearly all cases in perpetuity to ensure the engineered designs such as stormwater channels are maintained as they are critical to both long-term protection of water quality and sustainability of the vegetative cover and they are not designed, for example, for events exceeding 100-year storms that are based on antiquated prediction data.

Recommendation: The applicant should be required to include a cost estimate for long-term maintenance of all structures, facilities, and equipment whose failure may impact water quality, human safety, wildlife, or revegetation success.

7. Indirect Costs

The applicant continues to submit indirect costs that are inconsistent with agency guidance. This is particularly surprising given that SRK is familiar with how indirect costs are addressed at other jurisdictions, including many where BLM 3809 guidance has been applied.

Recommendation: MMD is familiar with indirect cost estimation, and it has experience with the potential for contentious discussions with mining companies over these estimates. We suggest that, rather than undergo prolonged discussions on this matter, MMD propose a 34% indirect cost rate for this particular project. This is based on our overall recommendation that MMD apply an indirect cost rate of 30% for projects greater than $100M, an indirect cost rate of 34% for projects greater than $10M but less than $100M, and an indirect cost rate of 38% for projects less than $10M. We also believe this is consistent with BLM 3809 guidance. Alternatively, MMD and NMED can inform the proponent of their willingness to discuss this matter but that based on previous similar dialogue they proponent might expect significant discussion to need to take place resulting in some significant delay in the final determination of financial assurance.

8. Financial Assurance Instrument

We also note that the latest financial assurance proposal does not identify the form of financial assurance instrument that the applicant will obtain or their proposed rates of return to be applied to long-term net present value (NPV) calculations. The form of the financial assurance instrument is a key component of a financial assurance proposal. In particular with respect to long-term costs there is a difference for how a surety bond might be valuated versus the provision of a trust-fund. In order to finalize the amount of financial assurance any NPV calculations must be performed.

Recommendation: MMD should require the applicant to submit a proposal that identifies their proposed discount rates for NPV calculation, the calculations that result from the application of NPV, and the form of instrument, together with a draft instrument (or instruments), for MMD review. MMD should give the public the opportunity to comment on the submittal for a period of at least 30 days.

We appreciate the opportunity to comment on the financial assurance proposal.

Cc: Charles de Saillan, NMELC
Joshua Marks, TRP
Kurt Volbrecht, New Mexico Environment Department