



New Mexico Energy, Minerals and Natural Resources Department

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Charles Thomas
Acting Division Director
Mining and Minerals Division



7008 1300 0001 6103 4086

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

January 18, 2011

Mr. Steve Raugust
New Mexico Copper Corporation
2425 San Pedro, NE, Suite 100
Albuquerque, New Mexico 87110

**RE: Review and Comments on Sampling and Analysis Plan, Copper Flat Mine,
New Mexico Copper Corporation, Permit No. SI027RN**

Dear Mr. Raugust,

Pursuant to 19.10.6.602.D(12) NMAC, the New Mexico Mining and Minerals Division (MMD) has reviewed the submittal from New Mexico Copper Corporation (NMCC) titled, *Sampling and Analysis Plan for Copper Flat Mine (SAP)*, dated September 2010, in support of a forthcoming application for a new mine, Permit No. SI027RN, for its proposed Copper Flat copper mine in Sierra County, New Mexico.

After review of the SAP and supporting information, MMD has distributed the SAP and supporting information, Pursuant to 19.10.6.602.D(12)(b) NMAC, to: the New Mexico Environment Department (NMED), the New Mexico Department of Game and Fish (NMDG&F), the New Mexico Office of the State Engineer (NMOSE), the New Mexico Department of Cultural Affairs Historic Preservation Division (NMHPD), the New Mexico State Forestry Division (NMSFD), and the Bureau of Land Management (BLM) for their (Agency) review and comments. MMD has received written comments from NMED, NMOSE, NMDG&F, and the NMHPD, as enclosed. In addition, MMD has reviewed the SAP, and supporting information, and MMD's comments are also enclosed with this letter.

The MMD and Agency review and comments have identified areas where additional information is needed in support of the SAP. Pursuant to 19.10.6.602.D.(12).(b), MMD considers the submittal and evaluation of the SAP complete. NMCC shall address the comments on the SAP in the Baseline Data Report, to be included in the permit application for the Copper Flat Mine. Pursuant to 19.10.6.602.D(12)(c) NMAC, NMCC may request a conference with MMD to discuss the comments on the SAP.



Review and Comments on Sampling and Analysis Plan, Copper Flat Mine,
New Mexico Copper Corporation. Permit No.SI027RN

January 18, 2011

Page 2

Please be aware that, depending on results of the data collected and development of the operation and reclamation plan yet to be submitted, additional sampling may be required before a permit is issued.

Additionally, please be advised that other permits, from other agencies, will be required regarding the Copper Flat Mine. The information provided by NMCC to MMD may not satisfy the requirements for the eventual approval of any additional permits. NMCC must contact the agencies responsible for those permits, including, but not limited to, the BLM, NMED and NMOSE.

Please contact me at 505-476-3437, or Chris Eustice at 505-476-3438 or at chris.eustice@state.nm.us, if you have any questions.

Sincerely,



Holland Shepherd, Program Manager
Mining Act Reclamation Program (MARF)
Mining and Minerals Division

Enclosures: NMED, Comments on NMCC's Copper Flat SAP, November 10, 2010
NMDG&F, Copper Flat SAP Comments, October 29, 2010
NMHPD, Comments on Copper Flat SAP, October 26, 2010
NMOSE, Comments for Copper Flat SAP, October 12, 2010
MMD Comments on Copper Flat SAP

cc: Chuck Thomas, Executive Manager, Mine Reclamation Bureau
Chris Eustice, Permit Lead, MARF
NMED, Kurt Vollbrecht
DCA, Michelle Ensey
OSE, Kevin Myers
BLM-Las Cruces, Mike Smith
Mine File (SI027RN)

MINING AND MINERALS DIVISION COMMENTS ON THE COPPER FLAT MINE SAMPLING AND ANALYSIS PLAN (SAP)

GENERAL COMMENTS

The SAP needs to commit to collecting appropriate baseline data in conjunction with the planned well field (water supply) and any, and all, associated utility corridor(s).

CHAPTER 1 INTRODUCTION

Figures 1-2 and 1-3 depict the Site permit boundary, but also should depict the associated well field and any related utility corridor(s).

CHAPTER 4 VEGETATION

1. Section 1.1 of the SAP lists approximately 2200 acres as being inside of the Site permit boundary, with a recommended number of 93 randomly selected vegetative transects to be conducted at the Site. MMD recommends additional attention be directed to areas of greater vegetative density and diversity, such as the Greyback Arroyo which intersects the Site from east-to-west. Greyback Arroyo has sections of intermittent wetlands and ephemeral grass/shrub areas. MMD recommends an additional two (2) vegetative transects be conducted in this arroyo region. Additionally, this may be a good area for the sampling of small mammals and reptiles.
2. Section 4.5.1 (page 4-3) of the SAP states, *Some areas (namely previous mining pits) are void of vegetation altogether but reflect the pre-mining vegetation condition in these areas under the current permit application.* NMCC needs to evaluate these areas, taking into consideration that pit areas will be reclaimed during the reclamation phase of the mining project.

CHAPTER 5 WILDLIFE

1. Live traps, and/or pit-falls, need to be checked early in the day to avoid heat stress in the southern New Mexico climate.
2. In this environment, stick nests are relatively easy to locate in the mesquite, pinon, juniper, and other trees reminiscent of the regional vegetative community. Additionally, raptor surveys will need to be conducted in seasonally appropriate times, as well as diurnally appropriate times, to ensure that adult raptors, that are shading eggs or nestlings, are not frightened away from their nests, thereby risking eggs to be damaged or subject to related heat stresses.

CHAPTER 6 TOPSOIL SURVEY AND SAMPLING

General Comments

Objectives for the Topsoil Survey and Sampling plans are not clear to MMD. In MMD's view, the first objective of the SAP should be to verify and expand upon previous mapping efforts to provide a more detailed map of soil units. After soil units are defined, each unit, assuming that some portion occurs within an area that can be practicably salvaged, should be sampled at least once to provide an estimate of soil quality within that unit. Separate mapping and sampling efforts should lead to

estimates of salvageable and suitable soil resources for each mapping unit and a volume estimate of materials across the permit area.

Sections 6.1 and 6.2

1. Section 6.1 notes that "Over 63 percent of the areas targeted by the proposed operation were disturbed" by previous operations. Previously disturbed areas complicate the soil survey. A description of past disturbance impacts to soil seems an important component of any effort to inventory and characterize salvageable resources at the site. For example, the nature and degree of disturbance is not described in the current tailings impoundment, an area that coincides with deeper soils of the Scholle-Ildelfonso association, and an area identified in Section 6.9 as a potential source of materials to meet an expected topsoil deficit at the site. Please provide a survey and sampling plan that stratifies major areas, not only by previous mapping information (NRCS), but by the nature and extent of disturbed, versus native, undisturbed areas, as first step in the construction of a soil inventory.
2. For soils, MMD views the SAP effort as an attempt to inventory soil resources within the permit area in order to enumerate the volumes of suitable and salvageable resources among the various mapped units. Steep slopes that would prohibit safe equipment operation, other areas where salvage would be impractical, as well as unsuitable soil materials, should not be included within this inventory. Further, no assumptions should be made about what amount of soil resources will be required in reclamation. Requirements for soil volumes needed for reclamation will be determined later in the permitting process.

Section 6.5

1. MMD will require that all areas within the permit area be surveyed to provide an estimate of suitable and salvageable soil resources to provide a gross estimate of resources in areas not planned for disturbance, as well as a more refined (Order 1) estimate, supported by sampling, in areas planned for disturbance. Regolith character within soil map units should be described to at least 60 inches in depth, or until materials unsuitable for reclamation or bedrock is encountered. Where soils appear to be deeper and favorable for salvage, such as Scholle-Ildelfonso areas NE of the pit lake, the tailings area and generally along the eastern side of the permit area, additional exploration is warranted to provide a full inventory.
2. Based on the high proportion of gravel and cobble that are common across much of the permit area surface, it seems to MMD that a hand auger may provide little benefit to assess soils, except for the most shallow depths. It is likely that a hand shovel, and/or backhoe tools, may be required to assess soils, to describe "typical" pedons. An experienced soil scientist may often infer soil properties to the full depth of the profile from surface expression if he/she is familiar with soils in the area and how soil is expressed along toposequences. However, some full excavation (shovel/backhoe) will be required to confirm those estimates.
3. Described methods are not clear as to how soil mapping units will be delineated before transects are walked. Using an ArcGIS tool, *the required number of random transects will be placed in each disturbed area*. How is the "required number" of transects determined to produce an Order 1 survey? Are only previously "disturbed" areas to be surveyed, or does this term refer to areas of planned disturbance in the future? The meaning of a statement that "If field conditions do not match the stratum intended, the transect will be moved to a nearby location within the disturbed area" is not clear.

4. The SAP specifies that a total of six soil samples will be obtained. Further, these samples are described as composite samples across the full depth of a sampled profile. Since the NRCS mapping may have missed important map delineations or inclusions that may be important for salvage, this number of samples may be insufficient. Within areas planned for disturbance each mapping unit should be sampled at least once. As is described in the SAP, a high content of carbonates, or excessively high content of coarse fragments, may render a horizon as unsuitable for salvage. Therefore, MMD will not accept samples composited across the full depth of a profile. Each major horizon should be sampled discretely. The appropriate number of soil samples collected should be determined after the mapping units and important inclusions are described by the survey. Methods for description of soil horizons and properties should follow standard methods for soil survey (1993, USDA Soil Survey Manual).
5. Presently, methods to estimate soil texture are described for pre-determined intervals of depth. Visual estimates of soil texture should be limited to gravel and larger-sized fractions only. Hand textures are appropriate for fine-earth fractions. Estimates should be made per distinct pedogenic profile breaks, rather than for fixed depth intervals. Again, methods for description of soil horizons and properties should follow standard methods for soil survey (1993, USDA Soil Survey Manual).
6. Section 6.5.1.2 describes methods to conduct soil sampling where locations are found below a water surface. To MMD, it seems that few, if any, representative samples will be found in these conditions unless some sampling is anticipated in the immediate vicinity of the Grayback drainage. Please clarify.

Section 6.8 and Table 6.2.

1. Potentially conflicting methods are referred to in Section 6.8 and Table 6.2 for laboratory analysis of samples. Section 6.8 refers to more conventional methods used for soils (Methods of Soil Analysis, MOSA) that include important procedures for sample preparation, as well as instrumental analysis. Table 6.2 refers to EPA methods (e.g. 200.7) that are suitable for aqueous samples. Should MMD assume that sample preparation methods described in MOSA will be used for sample preparation and that EPA-described instrumentation will be used for analysis? Please describe sample preparation techniques (filtration, extractants, digestion, etc.) and resolve any conflicts between preparation and analytical methods.
2. Laboratory analytical suite. Please provide both total and plant-available forms of: As, B, Cd, Ca, Cu, Fe, Hg, Mg, Mn, Mo, Ni, P, K, Se, and Zn of fine-earth (<2mm) sample fractions. Soluble forms (only) are sufficient for Cl, Na and nitrate-N ions. Soluble Se should be assessed following hot-water extraction. While high SAR values are not anticipated for this area, SAR may be optionally included in the analytical suite if component ions are measured from paste extracts. The analytical suite should also include calcium carbonate percent, soil paste electrical conductivity, and total organic carbon content. The grain size analysis method proposed (Plumb, 1981) is a non-standard method that may produce results that are difficult to interpret in relation to other data sets. Please select a more standard method for grain size analysis that would utilize sieves (for USDA fine and very fine sand fractions), hydrometer or pipette, and a description of how fractions larger than (USDA, 2 mm) sand will be incorporated to depict full-range particle size description. For particle size analysis, samples containing high content of soluble salts or carbonates may require pre-treatment. USDA classification of particle size is preferred over Unified.

CHAPTER 7 GEOLOGY

1. The summary of the Copper Flat geology in the SAP is excellent and well written. However, the BDR should provide a more specific description of the objective and rationale for completing additional geologic sampling to allow a thorough evaluation by MMD and other reviewers. The BDR should provide a clear description of the "professional and scientific judgment" on the part of NMCC and its contractor(s), which would allow for concurrence by MMD or other reviewers. Below is an example of the general nature of the geology section of the sampling and analysis plan:
 - a. Page 7-6, paragraph 3, states "additional samples will be required for waste rock characterization in order to create a sample database that is vertically and horizontally representative of waste rock associated with the current project. In addition, ore-grade samples will need to be collected. Following the data review and development of estimated waste rock and ore volumes in Step 1, NMCC's contractor will select sample intervals from exploration drill holes to fill the identified data gaps." Since no analysis of the data gaps appears to have been performed on the historical data prior to submittal of the SAP, nor are the horizontal locations and/or vertical intervals of anticipated future samples clearly identified (see comment No.3 below), MMD is unable to assess whether this plan will result in an adequate horizontal and/or vertical sampling suite for the Baseline Data Report (BDR). The rationale for selecting sample intervals must be better described and clarified in the Baseline Data Report.
2. Page 7-5, in the last paragraph, states that the estimated tonnages of waste rock and ore material types will be obtained from a block model, in order to define the number of samples required to characterize each material type, and that the sampling program will focus on the main material types with more samples being collected from the material types with the greatest predicted tonnage. However, Page 7-6, in the last paragraph, states that a field screen will be applied to define a representative sample set, in contrast to selecting a set number of samples based on the predicted amount of waste rock. The statements on these two pages appear contradictory. In the BDR, please clearly state the methodology employed to collect geologic samples and a description of the "field screening" that will be used to define the representative sample set(s).
3. Page 7-7, in the 5th paragraph, states that an estimated 80 samples will be selected for static testing. The SAP then refers the reviewer to Figure 7-5, which shows far more than 80 sampling locations. It is unclear from the description on Page 7-7 and Figure 7-5:
 - a. the locations of the ~80 samples that are anticipated to be collected;
 - b. the rationale as to why ~80 samples were selected as the appropriate sampling suite (see comment #2 above: was this determined from a tonnage based approach, geologic field screening approach, horizontal spacing, or some combination of these methods?);
 - c. whether the samples from 1997 shown in Figure 7-5 represent historic data that already exists or whether these are locations for future laboratory analysis; and
 - d. the rationale as to why these locations were selected, if this figure represents future samples to be collected (i.e. data gap in-filling?).

The BDR should clarify the rationale of the sample locations and sample set size, and correct any inaccuracies in the associated Figures..

CHAPTER 8 SURFACE WATER

1. Section 8.6.1.3 provides a description of stream sediment sampling primarily in conjunction with co-located surface water samples, Pursuant to 602.13.g.(v), the SAP should include a plan to sample

- the sediment within drainages, dry or wet, downstream (Greenhorn and Greyback Arroyo's) of the permit area to characterize baseline conditions.
2. The SAP needs to commit to collecting additional sediment samples outside the permit area sufficient to characterize the adjacent drainage systems (e.g. Percha and Los Animas Creeks).
 3. To baseline characterize metals in sediment downstream of the site, the surface water drainage systems should be divided into reaches, where appropriate and sampled accordingly. Additionally, the text should provide a description of how the surface water drainages are divided or segmented, and the rationale employed.
 4. The SAP should include sufficient sediment sampling in adjacent watersheds (e.g. Percha and Los Animas Creeks) to characterize the respective baseline conditions.
 5. A figure should be included that depicts the sediment sampling locations.
 6. Figure 8.1 seems to have mislabeled the main trunk of Greenhorn Arroyo as "Greyback Arroyo," and should be checked against the text in the second paragraph of Section 8.1

CHAPTER 9 GROUNDWATER

1. The background and regional hydrogeology sections are comprehensive and informative. However, the groundwater section of the SAP is too conceptual in nature. The BDR needs to provide the specifics necessary for MMD to thoroughly evaluate the appropriateness of the plan. The plan appears to rely heavily on professional judgment, on the part of NMCC and/or its contractors, thereby making it difficult for MMD to determine whether the plan will result in a technically complete BDR. Some examples of the general nature of the groundwater sampling plan are listed below:
 - a. Page 9-6, Section 9.1.4, describes NMED's concerns about groundwater impacts, and states that "groundwater impacts from the existing unlined tailing impoundment have been documented, but have not been fully characterized." Page 9-9, Section 9.5, states "...if new wells are added to the monitoring well network, they will be constructed in compliance with the NMED Monitor Well Construction Guidelines." The BDR needs to state how this will contribute to defining the baseline conditions.
 - b. Page 9-9, Section 9.4.2, states that "based on comments made during Alta Gold's permit application phase, the need to install additional monitoring wells for water level measurement, particularly outside the permit area, will be evaluated." This sentence confuses the reader and needs to be better stated in the BDR
 - c. Page 9-9, Section 9.4.2, also states that "the existing [historic aquifer pump test] data and recommendations will be evaluated during the baseline data characterization phase, and a determination will be made as to the adequacy of the existing data to support the hydrologic impact analysis. If necessary, additional aquifer tests may be completed." Again, the BDR should better describe how the "determination will be made as to the adequacy of the existing data to support the hydrologic impact analysis."
 - d. The Standard Operating Procedures (SOP) provided in the SAP represent a general methodology and approach to be followed for various tasks, however they do not provide a substitute for specific details to allow evaluation of the adequacy of the sampling plan. For example, while it is generally good to know the SOP for an aquifer pump test, an SOP does not provide the site specific information needed to evaluate the scope of work for a pump test such as which aquifer is being tested, pumping rate (or rates for a step-test) to be utilized, test duration, locations of observation wells, etc. In MMD's opinion, it would have been more

MMD Comments on Copper Flat SAP

January 10, 2011

Page 6

appropriate for NMCC, and/or its contractors, to have reviewed and evaluated the historic groundwater data prior to submittal of the SAP, which would have allowed NMCC and/or its contractors to identify any data gaps that could then be described and subsequently addressed in the SAP. As currently stated in the SAP, it appears that NMCC will be relying on professional and scientific judgment to fill any groundwater data gaps identified in the future (i.e. after submittal and MMD review of the SAP), rather than providing specific details in the SAP for review and comment by MMD. The BDR should describe the "professional judgment" and the rationale of how this will identify data gaps.

2. Section 9.7 and Figure 9-10 illustrate the wells selected for the baseline sampling plan. While the overall groundwater characterization objectives are stated in Section 9.2, the rationale and objective behind selecting the wells listed in Table 9-2 needs to be described in the BDR. For example, only two wells completed within the crystalline bedrock aquifer appear to have been selected for baseline sampling, leading to several questions:
 - a. why were these two wells selected as being representative of this aquifer?
 - b. are there additional wells completed in the crystalline bedrock aquifer that could have been included or are these the only two completed in this aquifer?
 - c. is there reason to believe that additional wells within the crystalline bedrock aquifer are not needed at this time, and if so, why? Figure 9-9 demonstrates that a plethora of wells exist in and around the Copper Flat project area. Without understanding the rationale as to why the wells shown in Figure 9-10 were selected, in lieu of other existing wells, MMD has no way of confirming that the approach proposed by NMCC will result in a technically complete BDR. In the BDR, please provide a general rationale and justification of NMCC's reasoning for selecting the wells listed in Table 9-2 for completion of the baseline sampling.
3. The SAP describes how the monitor wells at or near the toe of the tailings dam, and the Saladone Well north of Las Animas Creek, will be sampled to establish baseline conditions of the Quaternary Alluvial aquifer, but does not provide the rationale of how these selected monitor wells will characterize baseline conditions. The proposed eight monitor wells located near the toe of the tailings dam are likely contaminated. NMCC should consider additional Quaternary Alluvium monitor well locations in order to avoid potentially contaminated waters related to the previous mining efforts. Additionally, some rationale needs to be provided (in the the BDR) as to why the Saladone Well (or, all monitor well placements) represents baseline Alluvial aquifer conditions. Figure 9-10 and Table 2 (Section 9) do not correlate, as monitor wells GWQ94-18 and MW-11 are not located on Figure 9-10. Please be certain the BDR corrects this, and any other discrepancies.
4. These comments address the requirements of Section 19.10.6.602.(13).(g) NMAC, of the New Mexico Mining Act Rules. Additionally, any information concerning impacts to groundwater, from this project must be addressed through NMED's implementation of the New Mexico Water Quality Commission Regulations 20.6.2 NMAC. MMD will accept any information regarding this subject that has already been, or will be, provided to NMED.

Eustice, Chris, EMNRD

From: Myers, Kevin, OSE
Sent: Tuesday, October 12, 2010 12:01 PM
To: Eustice, Chris, EMNRD
Cc: Johnson, Mike S., OSE; Rappuhn, Doug H., OSE
Subject: NM OSE Comments for Copper Flat SAP - MMD permit No. SI027RN

Chris,

As discussed briefly by phone, here are NM OSE comments related to MMD permit No. SI027RN.

On September 24, 2010 MMD requested that NM OSE comment on the *Sampling and Analysis Plan for Copper Flat Mine* (SAP) dated September 2010 and prepared by INTERA for the New Mexico Copper Corporation (NMCC). The SAP is part of the documentation for a new mine operation, which the applicant proposes to be an open pit copper mine about 5 miles northeast of Hillsboro, NM. As proposed, mine dewatering would take place approximately 14 miles west of Caballo Reservoir, and ground water may be diverted from a well field about 6 miles west of Caballo Reservoir. All diversions will occur within the Lower Rio Grande Underground Water Basin and within the Grayback Arroyo, which is located between Percha and Las Animas Creeks. According to the SAP, molybdenum, gold and silver will be recovered as byproducts.

General Comments:

Overall, the SAP provides a comprehensive overview of the previous studies and details of work to be conducted. Apparently due to the large amount of existing information for some areas, the SAP proposed to complete final decisions through implementation of the plan without additional agency review. Specifically, the SAP implementation will address choices and rationale for the static and kinetic geochemical tests, aquifer tests as well as the location for any additional monitoring wells. The baseline data report may have a higher risk of being incomplete or unsatisfactory because the state agencies would not be involved in the decision process. In general, additional testing or well installation after the baseline data report submittal would take longer than if comments were addressed during the implementation of the SAP. Thus, at a minimum, NMCC should provide state agencies with a draft of these selections and rationales for review before completing the baseline data report.

The SAP mentions involvement of state agencies in the early stages of the flow model development. NM OSE would appreciate inclusion for the NMCC presentations of the conceptual model, and flow model design, calibration and results.

Specific Comments:

NMOSE Hydrology has reviewed the SAP and has the following comments:

1. Page 7-6, Section 7.4.2. Some of the testing completed in the late 1990s included waste rock, tailing and pit wall samples. NMCC should provide a justification (e.g., additional testing or other verification) that previously tested areas have not been significantly changed after an additional 10+ years of weathering.
2. Page 7-7, Sections 7.4.4 and 7.4.5. The SAP defines the number of samples to be selected without providing the distribution or rationale for selecting core samples, rock types and waste types. The SAP proposes to review the existing data before selecting the samples. NMCC should propose a draft rationale and distribution of samples for agency review prior to completing the baseline data report.

3. Page 8-3, Section 8.2. NMCC should provide a tabular summary that shows the historical concentrations measured for pit lake water quality.
4. Page 8-7, Section 8.6.2.1; and Figure 8.2. The text mentions five profiles and two tie lines, while Figure 8.2 shows eight profile lines based on its legend. NMCC should clarify the number of profile lines and tie lines for pit lake sampling.
5. Page 9-2, Section 9.1.2.1; Figure 9-5, Figure 9-6, and Table 9-2. The SAP appears to suggest that previous work pointed toward the pit lake being a hydraulic sink and recent (January 2010) lake levels are below pre-mining water levels. Figures 9-5 and 9-6 do not adequately address or justify the horizontal extent of any hydraulic discontinuity caused by the pit. For Figure 9-5 the 100-foot contour interval and basis (water levels used) do not seem appropriate for making gradient determination that are affected by water level differences of less than 20 feet. The SAP does not include the pit lake or well EIW (closest to the pit lake in Figure 9-9) in the monitoring network. A closely spaced network may be necessary to delineate a local groundwater divide, if a sink exists. NMCC should measure the pit lake level at the same time as water level measurements. NMCC should evaluate the appropriateness of the well network to delineate flow directions and extent if the pit lake is a hydraulic sink or whether the lake exhibits flow through characteristics.
6. Page 9-6, Section 9.1.3; and Figure 9-9. In the SAP, The lower left of Figure 9-9 mentions SRK or OSE mine boundary, yet it's not clear what that may mean or if a symbol should be associated with the text. NMCC should clarify whether wells represented on Figure 9-9 included any wells that may have been drilled since the 1999 BLM study. In order to have a up to date map of wells in the area with water rights, NMCC should revise the map using the online database WATERS through the Water Rights Reporting System <http://nmwrrs.ose.state.nm.us/nmwrrs/index.html> in conjunction with contacting the NM OSE District IV Office in Las Cruces. The contact is necessary with District IV Office for further research of nearby well records and water rights, which have not yet been fully populated into the WATERS database.

Andrea Mendoza, Acting District Supervisor

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7. Figure 9-9. An inset or additional figure is recommended to show the nearby wells that are north of the Production Wellfield (PW-1, PW-2 and PW-3). NMCC should provide well name, well type, diversion amount, location and ownership on a separate table of well information. In order to review the wells

plotted on Figure 9-9, NMCC should label individual wells on a larger format of Figure 9-9 or provide tabular information (e.g., shape file and attribute table with well names).

8. Page 9-6, Section 9.1.3; and Page 1-4, Section 1.4.1. After a cursory review of the Raugust (2003) report presented at American Society of Surface Mining conference, NMCC should review Raugust (2003) in greater detail. For example, the Raugust (2003) concludes a “slight” increase in sulfate concentrations and TDS measured at the pit lake when these parameters doubled (2,000 to 4000 and 3,000 to 6,000 mg/L, respectively) from 1989 to 1997. Raugust (2003) also mentions the “slight” increase in sulfate concentrations and TDS for a down gradient well from the pit lake, when these parameters approximately doubled or more (140 to 450 and 520 to 990 mg/L) at well 96-23A from 1989 to 1997. Doubting the water quality trend shown in the report and citing the ore body as the source of poorer water quality, Raugust (2003) states, “...*Groundwater quality down-gradient of the mine pit deteriorated with respect to sulfate and TDS from 1996 to 1998; however, more time-based sampling data would be required to ascertain whether this is a real trend or transient phenomenon.... It appears from the existing data that the ore body is likely the most significant contributor to water quality down-gradient of the pit, and that additional data would be useful in evaluating this hypothesis.*” The above significant water quality trends should be evaluated further by including NMED samples with laboratory results from 2003 and 2008 as well as SAP results.
9. Pages 9-8 to 9-9, Section 9.3. After the initial minimum of four quarters of water quality and water level data collection, NMCC proposes to reduce the number of wells to ten for water quality sampling and in consultation with MMD. NMCC should note that NMED would also require consultation under discharge plan and abatement plan regulations or permit conditions. NMCC should clarify if it intends to continue water level measurements at the reduced ten wells or some larger network.
10. Page 9-9, Section 9.4.2.; and Page 9-9, Section 9.5. The SAP mentions the possibility or potential need for adding new wells. As the SAP is implemented, the new well locations would be identified. New well drilling and installation must meet NM OSE regulations 19.27.4 NMAC. Prior to the submittal of the baseline data report, NMCC should provide any proposed well locations and rationale to state agencies (e.g., MMD, NMED and NMOSE) for review.
11. Page 9-9, Section 9.4.2; Page 9-23, Section 9-9; and Table 9-4. The SAP provides a summary of previous aquifer test results in the vicinity of the proposed Copper Flat project. The table and text lack enough information to review the aquifer test results or determine how many tests were completed for each aquifer and the location. NMCC should provide a detailed summary of the individual aquifer tests including location, duration of test, type of analyses, number of tests, aquifer, etc. If additional aquifer testing is necessary, NMCC should provide a proposal for further aquifer testing for agency review prior to submittal of the baseline data report.
12. Pages 9-23 & 9-24, Section 9.9. The SAP outlines a process for developing a new numerical model using either MODFLOW or MODFLOW-SURFACT. The SAP mentions presenting the conceptual model, preliminary numerical model domain, preliminary numerical model results to relevant agencies. According to the SAP, water diversions would occur at the mine site and at a well field about eight miles east of the mine. NMCC should clarify in its conceptual model whether the model will address these diversions for mine dewatering and fresh water production.

13. Page 11-3, Section 11.2; and Table 11-1. The SAP list five major permits or approvals (BLM Plan of Operations & EIS, NMED GWQB discharge permit, MMD mining permit, NMED AQB air quality permit, NMOSE Dam Safety permit for dam construction and operations). Table 11-1 includes a NM OSE permit to appropriate water. In Table 11-1, NMCC should include a NM OSE permit for mine dewatering. NMCC should note that, for protested applications or if nearby water rights are significantly affected, the NM OSE permit to appropriate water may require a substantial effort to complete.

If you have any questions about the above, contact me.

Kevin Myers, Hydrologist
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NEW MEXICO
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Ground Water Quality Bureau

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RON CURRY
Secretary
SARAH COTTRELL
Deputy Secretary

MEMORANDUM

DATE: November 10, 2010

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

FROM: Greg Huey, NMED Ground Water Quality Bureau
David Menzie, NMED Surface Water Quality Bureau 

THROUGH: Kurt Vollbrecht, NMED Mining Act Team Leader

RE: **Comments on New Mexico Copper Corporation, Copper Flat Mine, Sampling and Analysis Plan, Permit no. SI027RN**

The New Mexico Environment Department (NMED) received correspondence from the Mining and Minerals Division (MMD) on September 29, 2010 requesting that NMED review and provide comments on the Sampling and Analysis Plan (SAP) referenced above. MMD requested comments be submitted within 30 days of receipt in accordance with the New Mexico Mining Act Requirements. In order to facilitate a sight inspection, that deadline was extended until November 12, 2010. The NMED Surface Water Quality Bureau (SWQB) and Ground Water Quality Bureau (GWQB) have submitted comments in this memorandum jointly.

NMED SWQB Comments:

The introductory paragraph to Section 8, Surface Water, includes the statement "Numerous ephemeral tributaries feed into the Rio Grande from the west, but none contribute perennial flow to the Rio Grande." Lack of perennial flow to the Rio Grande does not negate the fact that both Las Animas Creek and Percha Creek include perennial reaches that support fisheries and water quality must be protected as required under §20.6.4.103 of the New Mexico Administrative Code (NMAC). This paragraph should be reworded to acknowledge the important contribution of these waters of the State as a natural resource.

Section 8.1, Surface Water Characteristics of Site and Vicinity: During the joint agency inspection that was conducted on October 26, 2010 (Inspection), Grayback Arroyo exhibited surface water pools and small flows along a reach of several hundred yards that did not appear to be the result of direct precipitation. In addition, there is significant riparian vegetation indicating that Grayback Arroyo

should be classified as an intermittent water of the State pursuant to §20.6.4.98 NMAC. The SAP should acknowledge this classification rather than describing Grayback Arroyo as an ephemeral channel.

Section 8.2, Historical Data: This section states that "Surface water at the Site was most recently investigated by ABC (1996), who collected flow and water quality from Percha Creek and Las Animas Creek." In 2004, the SWQB conducted a water quality survey that included Las Animas Creek and Percha Creek. These data are available from the State through a public records request.

Section 8.6.1.2, Water Quality Sampling: As observed during the Inspection, set up and placement of the automated samplers appeared adequate. SWQB staff did suggest to the applicant that stream sample collection targeting the rising limb of the hydrograph would be preferred since research indicates that the first surge of storm runoff is likely to carry the most pollutants.

Section 9 of the SAP states that the Rio Grande is the only significant surface water resource in the area. This statement is questionable since perennial reaches of the tributaries originating from the eastern side of the Black Range provide important sources of surface water to residents west of the Rio Grande and provide unique riparian and wildlife habitat year round. The SAP then states that Las Animas Creek and Percha Creek are intermittent streams. As previously discussed, these streams contain perennial reaches that support fisheries and should be acknowledged as such.

NMED GWQB Comments:

Section 7.4 of the SAP proposes to review the existing geochemical data prior to determining the locations for collection of additional samples for identification of ore and waste rock zones within the proposed pit outlines. A phased approach is proposed that will contribute to a sampling program focused on the main material types within the proposed pit outlines, with more samples being collected from the material types with the greatest predicted tonnage. NMED agrees that this phased approach is an efficient methodology for identification of geologic strata but requests that addendums to the approved SAP be submitted for agency approval at developmental intervals prior to moving forward with the proceeding stage of geochemical sampling.

Section 7.4.2 states that "exploration drilling is currently ongoing in the expansion areas." During the Inspection, a map of the proposed exploration drilling areas was discussed, but at this time no minimal impact exploration application has been submitted for NMED review. Such an application is necessary before exploratory drilling may proceed.

Section 7.4.3 mentions "a number of field tests" that may be used to determine the geochemistry of specific material types prior to moving on with standard static testing. These field tests should be identified and described in the requested addendum to the SAP for geochemical sampling.

Section 8.6.2.1 discusses using five profiles and two tie lines to determine Pit Lake depth; however, Figure 8-2 shows eight profile lines. This discrepancy should be resolved.

Section 9.1.1 cites Figure 9-2 as depicting three aquifers: the crystalline bedrock aquifer, the Santa Fe Group aquifer system, and the Quaternary alluvial aquifer. Figure 9-2 does not provide any reference to the crystalline bedrock aquifer and does not function as a "conceptual model" of the Site ground water flow system as the title suggests. This figure should be replaced with an appropriately designed diagram.

Section 9.1.2.1 states that ground water elevation data are derived from wells greater than 4,000 feet distance from the Pit Lake, but then states confidently that the ground water gradients in the area are toward the Pit Lake. The section also references Figure 9-6 as demonstrating ground water gradients toward the Pit Lake; however, the vertical scales on opposite sides of this diagram are not coordinated: the scale on the left side of the figure is approximately 80 feet to one inch, while the scale on the right side of the figure is approximately 5 feet to one inch. This gross discrepancy in scale negates the effectiveness of this figure as a tool in ground water gradient interpretation. In addition, the figure, circa 1998, shows the Pit Lake elevation at 5,436.5 ft amsl, while the text in the section reported the Pit Lake elevation at 5,442 ft amsl in 1997 and 5,444 ft amsl in 2010. The section concludes by stating that the Pit Lake elevation remains below the pre-mining water level elevation of 5,500 to 5,540 ft amsl. This is in contradiction to the Preliminary Environmental Impact Statement (BLM, 1999) cited previously in the section, which describes pre-mining ground elevation as 5,500 to 5,540 ft amsl.

Figure 9-9 shows well EIW as the closest monitoring well to the Pit Lake. However, the SAP does not include water depths in this well or Pit Lake elevations in the monitoring network. A denser monitoring well field may be necessary to delineate a local ground water divide, and the SAP should require that Pit Lake elevation measurements be taken at the same time as water level measurements in adjacent ground water monitoring wells to better define the potentiometric surface across the Site.

Statements regarding site-wide ground water levels should be re-evaluated pending a more thorough hydrological investigation.

Section 9.1.3 states that concentrations of total dissolved solids (TDS) and sulfate down-gradient of the Pit Lake have increased gradually over time and suggests that impacts to water quality in the vicinity of the Pit Lake may be naturally occurring. However, Figure 15 from Raugust (2003) shows an increase in TDS from approximately 550 mg/L to almost 1,000 mg/L between 1996 and 1998 in well GWQ-96-23A. Further review of Raugust (2003) reveals conflicting statements regarding wells in location to the Pit Lake. In the "Study Area Investigations" section, the manuscript states that

Prior to 1996, only one well was available for sampling groundwater in the vicinity of the pit lake. This monitoring well, GWQ-4, is located approximately one-half mile east of the existing pit.

However, in the "Conclusions" section the manuscript references water quality collected from monitoring well GWQ-5 in 1981. NMED recommends that, rather than adopt conclusions from references not submitted for agency review, NMCC provide appropriate data and develop conclusions based on the analysis of those data.

Section 9.1.5 references the MMD Guidance Document for Part 6 New Mining Operations, stating that the SAP must include supporting material to justify the use of historic data. NMED requests that, regardless of justification, an inventory of all existing data be compiled and reported prior to validation and possible exclusion of these data.

Section 9.3 proposes reducing the number of wells monitored for water quality parameters after the initial four quarters of data collection. NMCC should be aware that under NMED abatement plan requirements and the discharge plan permitting process these wells will require separate evaluation by NMED prior to being removed from any approved sampling plan.

Section 9.4.2 discusses the possible need for installation of additional monitoring wells. New well drilling and installation must meet NMED and NM OSE requirements. New well locations should be proposed to NMED under a Stage One Abatement Plan and/or Discharge Plan proposal. In addition, this section references Table 9-4 for a summary of previous pumping tests and resulting aquifer characteristics. This table does not provide sufficient information to determine the source or validity of the data provided and the SAP should provide for agency review a summary of the individual aquifer tests used to compile these data prior to determination as to the adequacy of the existing data to support the hydrologic impact analysis.

Section 9.7 references Figure 9-9 to provide locations of the wells proposed for sampling in Table 9-2. Well GWQ-12 at the southern end of the tailing disposal facility is not proposed for water quality sampling. As previously stated, well EIW is also not included in the SAP. NMCC should provide justification with supporting data as to why these and other available wells are excluded from the SAP.

During the Inspection, a previously unidentified well was located adjacent to the lower Greyback Arroyo downstream of the tailing dam. It was supposed that this well may be the McCravey-Greyback well. A data review should be conducted for this well and justification for or against its inclusion in the SAP should be included. Furthermore, this well was open to the environment and efforts should be made to properly secure it with an appropriate cap.

Further review and evaluation of the SAP relative to a Ground Water Discharge Permit application and Stage One Abatement Plan may result in additional comments. At this time NMED has not received documentation regarding permitting requirements for the Copper Flat Mine pursuant to the Water Quality Control Commission Regulations (20.6.2 NMAC).

If you have any questions, please contact Greg Huey at (505) 827-1046.

cc: William C. Olson, Chief, GWQB
Marcy Leavitt, Chief, SWQB
Charles Thomas, Chief, Mine Reclamation Bureau
Mary Ann Menetrey, NMED MECS

GOVERNOR
Bill Richardson



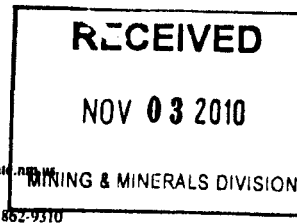
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October 29, 2010

Chris Eustice, Permit Lead
EMNRD Mining & Minerals Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Copper Flat Mine Sampling and Analysis Plan, Permit SI027RN; NMDGF Project No. 13803

Dear Mr. Eustice:

In response to your letter dated 24 Sep, 2010, the New Mexico Department of Game and Fish (NMDGF) has reviewed the above referenced document. New Mexico Copper Corporation has submitted the plan in support of a new mine permit application. The project will be a copper mine and mill, located approximately five miles northeast of Hillsboro, NM. The proposed permit area includes 2,190 acres of mixed private and Bureau of Land Management surface ownership. A site visit was conducted on 26 Oct 2010. Persons present included you, Holland Shepherd, Joe Vinson and David Ennis (MMD), Rachel Jankowitz and Pat Mathis (NMDGF), Greg Huey and Dave Menzie (NMED) and Steve Raugust (NMCC). Habitat type on the project area is grass and shrubs with a prominent drainage channel (Greyback Arroyo) running from west to east through the middle. Remnants of previous mining activity include an open pit lake, roads, a drainage channel diversion around the pit and several assorted manmade structures.

The methods proposed for vegetation baseline monitoring are appropriate and sufficient. The following comments pertain to the proposed plan's vegetation type stratification:

1. The selected vegetation type stratification scheme utilizes Natural Resource Conservation Service Ecological Site Descriptions (ESD). If the delineation of the two ESDs present on site, shown in Figure 4-2, is derived from large scale mapping, the boundary should be ground-truthed, using visual observation in conjunction with soil characteristics.
2. The apparent reason for assigning undisturbed areas "planned to be disturbed in the future" to separate strata from those not planned for disturbance, is to verify the similarity between them in the undisturbed condition. If no significant difference in vegetation is discovered by initial monitoring, these data should be combined in the description of baseline pre-mining conditions.

3. Vegetation in the Greyback Arroyo is extensive and distinct enough to constitute one or more distinct monitoring strata. NMDGF recommends that arroyo vegetation be described in a quantitative or semi-quantitative manner, including both the narrow intermittent wetland sections and the ephemeral grass/shrub association on the eastern portion of the project area. Extent mapping and a comprehensive species list might be used to describe wetland areas which are too small for transect monitoring.

4. If noxious weeds are discovered, please document the extent and density of infestation, as well as the point location.

The methods proposed for wildlife baseline monitoring are appropriate, but insufficient to describe the mine site fauna. Detailed recommendations are presented in the NMDGF baseline study guideline, available on the internet at http://wildlife.state.nm.us/conservation/habitat_handbook/documents/WildlifeBaselineStudyGuidelinesand%20Appendix.pdf. A list of special status species known to occur in Sierra County is enclosed with this letter. Please consult the NM Rare Plant Technical Council website (<http://nmrareplants.unm.edu/>) for a county list of rare plants.

We suggest the following additions to the plan:

1. An off-site reference area should be selected for monitoring similar to that which will be conducted on the mine site. The reference area will serve to provide comparable data for the purpose of identifying and interpreting trends in wildlife usage through the mine operating and reclamation periods.
2. Most reptiles and small mammals are nocturnal. Some are difficult to identify when not in hand. Diurnal observation transects should be supplemented by a trapping or capture program to characterize the reptile and small mammal communities. State or federal permits may be required if monitoring activity is expected to involve handling of listed species
3. The proposed plan will not adequately characterize bat use of the site. Potential roosting habitat is present in rock crevices, and in existing structures or historic mine openings. The pit lake constitutes a large open water source which is likely to attract foraging bats from a wide surrounding area. The applicant should propose a bat monitoring program which utilizes acoustic detection, roost observation and/or netting. As stated above, state or federal permits may be required if monitoring activity is expected to involve handling of listed species
4. NMDGF recommends a survey for raptor nests in all suitable habitat within one mile of any potential mine-related disturbance.
5. In addition to the proposed transects, conduct focused observation of special habitat features. Those features at Copper Flat might include the pit lake and wetland locations. Surveys for amphibians would be appropriate at perennial or ephemeral aquatic locations.
6. Pellet counts and observational transects for large to medium sized animals should be conducted twice per year, to account for variation in seasonal use. Please record the sex and age class of animals observed.

The Mining Act Rules state that the SAP shall "describe the environment of the proposed permit area and, to the extent practicable, the affected area." Studies associated with the previous attempt to permit a mine at this site, in the 1990s, vary widely and are inconclusive regarding the aerial and vertical extent of groundwater drawdown that may result from pit dewatering and wellfield pumping. (for an example, refer to the BLM Draft Environmental Impact Statement dated February 1996 and the Daniel B. Stevens & Associates Environmental Evaluation Report dated February 1998). Wildlife habitat which might be affected include Las Animas Creek and its riparian zone, Percha Creek and riparian habitat in the Percha Box, Warm Springs Canyon and a number of warm- and cold-water springs and seeps in the vicinity. Monitoring of surface flow, groundwater level and water quality at these habitat features will provide most of the information needed to determine whether they are impacted by mine operations. However, biotic and ecological responses to changes in water quantity or quality may not be linear, and baseline information is not currently available. In areas where a risk of potential impact may be identified, and surface access can be obtained, the applicant should monitor and describe the characteristics of riparian vegetation and amphibian, fish and invertebrate communities, with special attention to the potential occurrence of special status species.

Thank you for the opportunity to comment on this baseline data sampling plan. If there are any questions, please contact Rachel Jankowitz at 505-476-8159, or rjankowitz@state.nm.us.

Sincerely,



Matthew Wunder, Ph.D.
Chief, Conservation Services Division

xc: Wally Murphy, Ecological Services Field Supervisor, USFWS
 Pat Mathis, SW Area Habitat Specialist, NMGF
 Kurt Vollbrecht, NMED Groundwater Quality Bureau

NEW MEXICO WILDLIFE OF CONCERN SIERRA COUNTY

For complete up-dated information on federal-listed species, including plants, see the US Fish & Wildlife Service NM Ecological Services Field Office website at <http://www.fws.gov/lw2es/NewMexico/SBC.cfm>. For information on state-listed plants, contact the NM Energy, Minerals and Natural Resources Department, Division of Forestry, or go to <http://nmrareplants.unm.edu/>. If your project is on Bureau of Land Management, contact the local BLM Field Office for information on species of particular concern. If your project is on a National Forest, contact the Forest Supervisor's office for species information.

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGF</u>	<u>US FWS</u>	<u>critical habitat</u>
Rio Grande Cutthroat Trout	<i>Oncorhynchus clarki</i>	s	SOC	
Gila Trout	<i>Oncorhynchus gilae</i>	T	T	
Rio Grande Chub	<i>Gila pandora</i>	s		
Headwater Chub	<i>Gila nigra</i>	E		
White Sands Pupfish	<i>Cyprinodon tularosa</i>	T	SOC	
Arizona Toad	<i>Bufo microscaphus microscaphus</i>	s		
Chiricahua Leopard Frog	<i>Rana chiricahuensis</i>	s	T	
Big Bend Slider	<i>Trachemys gaigeae</i>	s		
Brown Pelican	<i>Pelecanus occidentalis</i>	E		
Neotropic Cormorant	<i>Phalacrocorax brasilianus</i>	T		
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T	T	
Northern Goshawk	<i>Accipiter gentilis</i>	s	SOC	
Common Black-Hawk	<i>Buteogallus anthracinus</i>	T	SOC	
Aplomado Falcon	<i>Falco femoralis</i>	E	Exp	
Peregrine Falcon	<i>Falco peregrinus</i>	T	SOC	
Mountain Plover	<i>Charadrius montanus</i>	s	SOC	
Least Tern	<i>Sterna antillarum</i>	E	E	
Black Tern	<i>Chlidonias niger surinamensis</i>		SOC	
Common Ground-Dove	<i>Columbina passerina</i>	E		
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	s	C	
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	s	T	Y
Burrowing Owl	<i>Athene cunicularia</i>		SOC	
Broad-billed Hummingbird	<i>Cyanthus latirostris</i>	T		
Lucifer Hummingbird	<i>Calothorax lucifer</i>	T		
Costa's Hummingbird	<i>Calypte costae</i>	T		
Elegant Trogon	<i>Trogon elegans</i>	E		
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	E	E	Y
Thick-billed Kingbird	<i>Tyrannus crassirostris</i>	E		
Loggerhead Shrike	<i>Lanius ludovicianus</i>	s		
Bell's Vireo	<i>Vireo bellii</i>	T	SOC	
Gray Vireo	<i>Vireo vicinior</i>	T		
Baird's Sparrow	<i>Ammodramus bairdii</i>	T	SOC	
Varied Bunting	<i>Passerina versicolor</i>	T		
Western Small-footed Myotis Bat	<i>Myotis cillolabrum melanorhinus</i>	s		
Yuma Myotis Bat	<i>Myotis yumanensis yumanensis</i>	s		
Occult Little Brown Myotis Bat	<i>Myotis lucifugus occultus</i>	s		
Long-legged Myotis Bat	<i>Myotis volans interior</i>	s		
Fringed Myotis Bat	<i>Myotis thysanodes thysanodes</i>	s		
Long-eared Myotis Bat	<i>Myotis evotis evotis</i>	s		
Pale Townsend's Big-eared Bat	<i>Corynorhinus townsendii pallescens</i>	s	SOC	

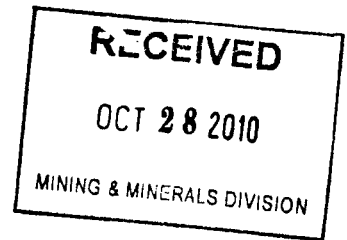
Gunnison's Prairie Dog	<i>Cynomys gunnisoni</i>	s	
Desert Pocket Gopher	<i>Geomys arenarius</i>	s	SOC
Pecos River Muskrat	<i>Ondatra zibethicus ripensis</i>	s	SOC
Mexican Gray Wolf	<i>Canis lupus baileyi</i>	E	Exp
Ringtail	<i>Bassariscus astutus</i>	s	
Common Hog-nosed Skunk	<i>Conepatus leuconotus</i>	s	
Desert Bighorn Sheep	<i>Ovis canadensis mexicana</i>	E	
Mineral Creek Mountainsnail	<i>Oreohelix pilsbryi</i>	T	SOC
Fairy Shrimp	<i>Streptocephalus moorei</i>	s	
Desert Viceroy Butterfly	<i>Limenitis archippus obsoleta</i>		SOC



BILL RICHARDSON
Governor

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October 26, 2010

Chris Eustice
Permit Lead
Mining Act Reclamation Program
Mining and Minerals Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Request for Review and Comment on the Sampling and Analysis Plan, New Mexico
Copper Corporation, Copper Flat Mine, Permit No. SI027RN

Dear Mr. Eustice:

This letter is in response to sampling and analysis plan for Copper Flat Mine located in Sierra County. According to 19.10.6.602 NMAC, a sampling and analysis plan shall include a list and accompanying map indicating all sites on or eligible for listing on either the National Register of Historic Places and/or the State Registers of Cultural Properties and known cemeteries and human burials within the proposed permit area. Included in this list shall be a description of effects the proposed mining operations may have on these sites and any proposed mitigation measures.

Section 10 of the SAP, Historical and Cultural Properties Survey does not indicate whether there are cultural properties listed on or eligible for listing on either the National Register of Historic Places and/or the State Registers of Cultural Properties. However, a review of our records shows there are no historic properties listed on either the National Register of Historic Places or the State Register of Cultural Properties. The SAP does summarize the cultural resource surveys that have been conducted to date, with specific reference to a survey conducted in 1995 by Human Systems Research that recorded 16 archaeological sites and 212 isolated occurrences. Some of these sites are probably eligible for listing to the NRHP or the SRCP.

Under Section 10.2, Sampling Objectives, the SAP states that the project area includes federally administered land and the project is subject to review under Section 106 of the National Historic Preservation Act. In order to assess the effects on historic properties, a cultural resources survey is proposed although the exact survey interval and exact area to be surveyed will be determined in consultation with the Bureau of Land Management (BLM) and the State Historic Preservation Office (SHPO). It is the SHPO's opinion that the permit

area, excluding the areas extensively disturbed by previously mining activities, should be intensively surveyed (class III). It does not appear that the 1995 Human Systems Research Survey covered the entire area so there may be a potential for additional archaeological sites to exist.

The SAP also states that a plan of operations has been submitted to the BLM. The BLM will be reviewing this project under Section 106 of the National Historic Preservation Act (NHPA). As such, they will determine the level of effort for the cultural resources survey lands under their jurisdiction. After the cultural resources survey is conducted, New Mexico Copper, in consultation with the BLM and the SHPO, will be able to determine whether the proposed mining operations will have an effect on cultural resources and determine appropriate mitigation measures if necessary.

If you have any questions regarding these comments, please do not hesitate to contact me at (505) 827-4064.

Sincerely,

A handwritten signature in black ink, appearing to read 'Michelle M. Ensey', written in a cursive style.

Michelle M. Ensey
Archaeologist

Log: 90457

Cc/Email: Chris Parrish, Parametrix