

State of New Mexico
Energy, Minerals and Natural Resources Department

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Mining and Minerals Division



June 9, 2020

Ms. Anne Maurer
NMED Ground Water Quality Bureau
P.O. Box 5469
Santa Fe, NM 87502-5469

Re: Request for Review of Response to Comments on Old Stope Leach Mine Interim Closeout Plan, McKinley County, New Mexico, Permit No. MK009RE

Dear Ms. Maurer,

The Mining and Minerals Division ("MMD") of the New Mexico Energy, Minerals, and Natural Resources Department received responses to agency comments from Rio Algom, Mining, LLC ("RAML") on the *Interim Closure/Closeout Plan* ("Interim CCP") dated June 27, 2019 for the Old Stope Leach Mine located in McKinley County, New Mexico. The responses from RAML are dated May 18, 2020 and are attached to this letter and can also be found on MMD's website at:

<http://www.emnrd.state.nm.us/mmd/MARP/MK009RE.html>

Pursuant to §19.10.5.506 NMAC, MMD is requesting comments from your agency regarding the adequacy of the response to NMED's comments. In accordance with §19.10.5.506 NMAC, your agency has 30 days from the date of receipt of this letter in which to provide comments.

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., Permit Lead
Mining Act Reclamation Program (MARP)

Attach: May 18, 2020 letter from RAML

cc: Mine File (MK009RE)

Rio Algom Mining LLC

May 18, 2020

Mr. Holland Shepard
Program Manager, MARP
NM Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

**RE: Response to Agencies Technical Review and Comments on Revision 19-1
Interim Closure/Closeout Plan, New Mexico Mine Permit No. MK009RE**

Dear Mr. Shepard:

Rio Algom Mining LLC (RAML) respectfully submits the following responses to comments received by letter dated April 7, 2020 from the Mining and Minerals Division (MMD) of the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD) concerning RAML's interim Closure/Closeout Plan (CCP), which was submitted to MMD and New Mexico Environmental Department (NMED) on June 27, 2019. The purpose of RAML's CCP is to provide a basis for updating RAML's financial assurance with the State of New Mexico during the pendency of discussions amongst RAML, the State of New Mexico, and the U.S. Environmental Protection Agency regarding the scope of potential investigation and response actions in the western portion of the San Mateo Creek Basin.

On December 13, 2019, RAML responded to NMED comments concerning the interim CCP but has not yet received correspondence from NMED regarding the acceptability of RAML's proposed responses. RAML is seeking Agency (i.e., NMED and MMD) acceptance of RAML's responses and proposed modifications to the interim CCP prior to production and submission - to both Agencies - of the revised interim CCP. RAML is prepared to complete changes and submit the revised interim CCP within 45 days of Agency (i.e., NMED and MMD) acceptance of RAML's responses and proposed revisions.

Historic Preservation Division (HPD) Comment 1: The SHPO recommends the following language modifications for Section 5.7.3 “Cultural Resource Surveys:” The second sentence of the first paragraph of this section states: *“Prior to conducting future remedial activities on lands within the project area RAML will conduct a class I Cultural investigation consisting of a combination of background research and fieldwork designed to identify resources and define project area boundaries”*. Please note that a Class I cultural resource survey only consists of an archival or database (background) study. Any cultural resource fieldwork would consist of a Class II (sample survey) or Class III (complete survey) of the project area. As such, we recommend the following statement modification: *Prior to conducting future remedial activities on lands within the project area RAML will conduct a Class I cultural resource background investigation and Class II or Class III fieldwork designed to identify resources and define project area boundaries.*

RAML Response: RAML will update the CCP text consistent with HPD's recommendation.

HPD Comment 2: Also please note that where the project area impinges on State of New Mexico owned land (as stated in paragraph 2 of Section 5.7.3), the applicable laws listed should include the New Mexico Cultural Properties Protection Act (N.M. Stat §§ 18-6A-1 through 6).

RAML Response: RAML will update the CCP text consistent with HPD's recommendation.

Surface Water Quality Bureau (SWQB) Comment 1: “Arroyo”, “other drainage”, and “overland flow” remedial activities should be further described and should consider the natural drainage prior to conventional mining and the potential impacts to the natural drainage associated with the production and discharge of large quantities of water. Accelerated erosion (downcutting, headcutting, lateral cutting) that may be initiated during conventional mining would require restoration to maintain and protect surface water quality.

RAML Response: The CCP is conceptual in nature. In lieu of describing the specifics of surface reclamation/stabilization in the interim CCP, RAML has included surety funding in tasks PSW-4.2, -4.3, and -4.4 to study areas requiring reclamation, including drainages or other areas that historically received mine discharge water, and to develop a grading plan that effectively manages soil to control future erosion protective of surface water quality within the project area. Consistent with MMD's 1996 closeout plan guidance, RAML's remedial design will reclaim disturbed watersheds to a productive and stable condition. RAML will update section 5 of the CCP to include MMD (1996) in the

list of NMMMD and NMED requirements and guidance, which RAML intends to meet. In addition, RAML will globally update the CCP to clarify task-specific funding.

SWQB Comment 2: If arroyo remediation is needed upstream or downstream of T14N R10W, Section 26, then upstream/downstream impacts should be assessed to assure the success of the remediation.

RAML Response: As discussed in section 1.1 of the interim CCP, RAML has been negotiating with EPA, NMMMD, and NMED since at least 2017 regarding the geographic scope of areas affected by activities authorized by RAML's discharge and mining permits. NMMMD and NMED approved the project area presented in the interim CCP in May 2019. RAML acknowledges the comment and concludes that given the agreement on the project area and interim status of the CCP, revisions are not warranted at this time.

SWQB Comment 3: From Google Earth, it appears that there are multiple “on-line” stock ponds that are located in the stream channel and are connected to Arroyo del Puerto throughout the project area (e.g. T14N R10W Sections 22, 26 and T14N R9W Sections 17, 34). To measure reclamation success and to ensure that surface water quality standards will be met and will support the post mining land use, SWQB recommends sampling on-line stock ponds for adjusted gross alpha. The adjusted gross alpha water quality criterion for the designed use of livestock water is 15 picocuries per liter as described under Subsection J of 20.6.5.900 NMAC.

RAML Response: RAML acknowledges SWQB's recommendation. RAML will provide additional detail regarding its strategy for reclamation and compliance sampling in a future final status survey plan (for contaminants). The development of this plan has been funded under cost estimate task PSW-4.7. RAML will update the CCP to include funding information and globally update the CCP to clarify task-specific funding.

Department of Game and Fish (DGF) Comment 1: In Section 3.3.7, Wildlife, golden eagle (*Aquila chrysaetos*) was not listed as a wildlife species expected to occur within the project area. A threatened, endangered, and special status species habitat survey conducted by SWCA Environmental Consultants stated that no bald or golden eagles were observed during the biological survey (SWCA 2015). Since golden eagles are known to nest on San Mateo Mesa, immediately to the east of the project area, golden eagles are projected to use the project area for foraging and should be included as a species that could be impacted by closure/closeout activities.

RAML Response: RAML will update the CCP text consistent with DGF's recommendation.

DGF Comment 2: Section 5.1.7, Wildlife, states “if wildlife habitat is included in the post mine land use, technical expertise from the New Mexico Game and Fish Department will be sought”. The Department strongly supports this commitment, and encourages Rio Algom to seek the agency’s expertise throughout the duration of the reclamation project.

RAML Response: RAML acknowledges DGF's comment. It is RAML's intent to engage with all its regulatory stakeholders throughout the duration of the reclamation project. The comment does not request a revision to the interim CCP.

DGF Comment 3: Section 5.1.9, Post Closure/Closeout Land Use, states that “the closure goal is to reclaim to a range condition consistent in content and form to that of the surrounding area”. The surrounding area is generally in poor range condition due to heavy utilization from livestock grazing. If a reference area will be used for revegetation success standards, one that is not impacted by cattle grazing should be utilized. The entire reclamation area should also be adequately fenced with wildlife friendly fencing to exclude cattle from the reclamation site.

RAML Response: RAML acknowledges DGF's comment. After reclamation, the land is expected to be used for livestock grazing. To support this future use, RAML will restore disturbed areas to a condition that meets or exceeds the requirement from Quivira’s 1999 *Mine Permit MK009RE Closeout Plan* of “...achieving a grazing post mining land use that is consistent in content and form to that of the surrounding area.” The interim CCP will be revised to state that if reclaimed land is to be used for purposes other than grazing, RAML will select a reference area that is not impacted by cattle grazing, and will install wildlife friendly fencing to exclude cattle from non-grazing areas within the reclamation site.

DGF Comment 4: In Section 5.5 *Revegetation*, Table 7. The note at the bottom of Table 7 states that two forb species will be selected for revegetation from a list of six species. Of the six species listed, two are not native: blue flax (*Linum perenne* L.) and yellow sweet clover (*Melilotus indicus* L.). The Department recommends that Rio Algom substitute the native species Lewis’ flax (*Linum lewisii*) and white prairie clover (*Dalea candida*) for the non-native species. In addition, three of the species are native to the southwestern United States but not to the region of the project: California poppy (*Eschscholzia californica*), desert globemallow (*Sphaeralcea ambigua*), and purple aster (*Symphotrichum patens*). The Department recommends substituting those for the more regionally appropriate species narrowleaf penstemon (*Penstemon angustifolius*), Nelson globemallow (*Sphaeralcea parvifolia*), and hairy golden aster (*Heterotheca villosa*).

RAML Response: RAML will update the CCP text consistent with DGF's recommendation.

DGF Comment 5: Section 5.7.2 *Wildlife Surveys*, states that a wildlife survey will also be conducted prior to reclamation. However, no information is given regarding protocol and when the survey(s) will be conducted. At minimum, one full year of wildlife surveys should be conducted covering the avian spring and fall migration and breeding periods, along with summer and winter general wildlife surveys. We recommend that Rio Algom use the Department's Baseline Wildlife Study Guidelines (<http://www.wildlife.state.nm.us/download/conservation/habitat-handbook/project-guidelines/Wildlife-Baseline-Study-Guidelines-and-Appendix.pdf>) to develop an appropriate methodology for the pre-reclamation wildlife surveys.

RAML Response: RAML acknowledges DGF's recommendation. RAML will provide additional detail regarding its strategy for conducting wildlife surveys in a future biological resource survey work plan. Text in the interim CCP will be revised to state that the development of this plan has been funded under cost estimate task PSW-1.4. In addition, RAML will globally update the CCP to clarify task-specific funding.

Office of the State Engineer (OSE) Comment 1: The intention to provide long-term groundwater quality (and presumably also potentiometric) monitoring is noted in Plan Section 6.1.1, with the caveat that additional wells may be added as needed to optimize desired characterization, and removed as allowed when no longer necessary. Well construction requires the services of a New Mexico-licensed well driller, as does plugging, which typically includes the placement of specific low-permeability sealants. Well decommissioning will likely need prior authorization by the NMOSE unless the wells were conditionally construction permitted with a pre-approved plugging plan. Depending on depth and diameter, plugging costs for a single well may range upwards to a 5-figure pricetag. Cost estimates associated with well decommissioning or new well drilling were not noted in the Appendix C tables, but might be incorporated into a larger, more-generally described category.

RAML Response: Funding for well decommissioning has been included in cost estimate task ABA-3.1. RAML will rename cost estimate task ABA-3.1 to clarify the included reclamation activities.

OSE Comment 2: The NMOSE does not regulate the permitting of mine shafts, ventilation holes, or leach holes, but requires wells to be constructed so to "...prevent contamination from entering the well or subsurface, to prevent commingling or inter-aquifer exchange of groundwater, to prevent loss of hydraulic head between hydrogeologic units, and to prevent unintended flood

waters or surface water from entering the well and contaminating the aquifer.” The design and decommissioning of existing mine shafts, ventilation holes, and leach holes ideally allow for similar groundwater protection.

RAML Response: The closure method for mine shafts and ventholes described in the interim CCP is consistent with the method approved by MMD in the 1999 closeout plan for MK009RE and has been used by RAML previously to close mine shafts and vents throughout the project area. RAML has inserted the same closure method into the updated interim CCP to maintain consistency with work that has already been performed. RAML acknowledges the comment and concludes that a revision to the interim CCP is not warranted.

Air Quality Bureau (AQB) Comment 1: The AQB has reviewed the Interim Closure/Closeout Plan, and finds the proposed activities are likely to have minimal air quality impacts if the above recommendations are followed. The AQB has no objection to the request for the Closeout permit.

The applicant is expected to comply with all requirements of federal and state laws pertaining to air quality. This written evaluation does not supersede the applicability of any forthcoming state or federal regulations.

RAML Response: RAML acknowledges AQB's memorandum. Prior to performing reclamation, RAML will consult with appropriate Agencies to identify regulatory requirements applicable to reclamation activities. Reclamation design and work planning has been funded under phase PSW-4. RAML will update the interim CCP specifically to include this funding information, and globally to clarify task-specific funding.

If you have any questions regarding the above responses, or need additional information, please do not hesitate to contact me by phone at (916) 947-7637, or via email at sandra.ross@bhp.com.

Sincerely,



Sandra L. Ross, P.G.
Site Manager

cc:

Mr. David J. Ennis, Senior Reclamation Specialist Supervisor, MMD
Mr. Kurt Vollbrecht, Program Manager, NMED