

Ennis, David, EMNRD

From: Rappuhn, Doug H., OSE
Sent: Monday, November 25, 2019 3:53 PM
To: Ennis, David, EMNRD
Subject: FW: Request for Comments on Old Stope Leach Mine Interim Closeout Plan, McKinley Co., NM, Permit No. MK009RE
Attachments: 2019.09.17 OSE Request for Comments on Old Stope Leach Mine Interim Closeout Plan, McKinley Co., NM, Permit No. MK009RE.pdf

Hi DJ –

Sorry, this request got overlooked during my time away due to family health issues; I hope my comments might still be added to the response. A review of the MMD MK009RE application Interim Closure / Closeout Plan appears to largely focus on surface reclamation issues outside the jurisdiction of the NMOSE, with some addressing of surface water and groundwater issues. My two comments are bulleted below.

Of note, there are no natural perennial streams in the area, and surface water is generally non-existent, other than in response to torrential precipitation events or extensive quick snowmelt. The Plan calls for measures to minimize the transport of mine-related materials, to include surface water, and configure the area as “...a self-sustaining ecosystem consistent with the approved post-closure land-use” [Section 5.1]. Final closure of the project area will include removal and reclamation of all temporary runoff control measures (including ditches, berms, dikes, contour furrows, etc.) [Section 5.3].

Local / regional groundwater were extensively drawn-down during mining, as mining equipment had to operate in essentially dry mine workings in the ore-bearing Westwater Canyon Member of the Morrison Formation. Section 3.3.5.1 of the Plan notes that given the low rate of regional recharge, that “Pre-mining groundwater flow patterns in the Westwater Canyon Member are not expected to return within 1,000 years...”. Large cones of depression were also formed in the overlying Dakota Sandstone aquifer and in the water-bearing Tres Hermanos sandstones of the shallower Mancos Formation. It is of ongoing interest to monitor the recovery of drawn-down groundwater levels, and such monitoring is ongoing.

- **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 price tag. 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.**
- **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.**

Thank you for the opportunity to respond to the Interim Closeout Plan.

Douglas H. Rappuhn, P.G.

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From: Musharrafiieh, Ghassan R., OSE

Sent: Wednesday, September 18, 2019 2:58 PM

To: Rappuhn, Doug H., OSE

Subject: FW: Request for Comments on Old Stope Leach Mine Interim Closeout Plan, McKinley Co., NM, Permit No. MK009RE

Hi Doug,

Can you take a look at this

Thanks

Ghassan

From: Rodriguez, Stephanie, EMNRD

Sent: Tuesday, September 17, 2019 4:19 PM

To: Musharrafiieh, Ghassan R., OSE

Cc: Ennis, David, EMNRD

Subject: Request for Comments on Old Stope Leach Mine Interim Closeout Plan, McKinley Co., NM, Permit No. MK009RE

Attached is your electronic copy of the September 17, 2019, letter mailed to Dr. Ghassan Musharrafiieh, Office of the State Engineer, from David (DJ) Ennis, Permit Lead, MARP/MMD, regarding the above-referenced subject. Please print copies for your files as needed.

Thank you,

Stephanie J. Rodriguez

Records Manager

Mining Act Reclamation Program

Mining and Minerals Division

stephanie.rodriguez@state.nm.us

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