

State of New Mexico
Energy, Minerals and Natural Resources Department

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Sarah Cottrell Propst
Cabinet Secretary

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Deputy Cabinet Secretary

Jerry Schoeppner, PG, Director
Mining and Minerals Division



Electronic Transmission

October 25, 2022

Daniel Lattin, Sr. Closure Program Manager
LAC Minerals (USA) LLC
Cunningham Hill Mine Reclamation Project
582 County Road 55
Cerrillos, NM 87010

RE: Technical Comments on the Amendment to Application for Revision 20-1 and Proposed Cost Estimate, Closure/Closeout Plan Update, Cunningham Hill Mine, Permit No. SF002RE

Dear Mr. Lattin,

The New Mexico Mining and Minerals Division (“MMD”) is currently processing an application to revise Permit No. SF002RE, Cunningham Hill Mine (Revision 20-1) operated by LAC Minerals (USA) LLC (“LAC”). MMD sent technical comments from MMD and other state agencies to LAC on the Revision 20-1 application (“Application”) on March 14, 2022, and LAC responded to those comments on May 27, 2022. MMD consequently sent LAC’s May 27, 2022 responses to the New Mexico Environment Department (“NMED”), New Mexico Office of the State Engineer (“NMOSE”), and New Mexico Department of Game and Fish (“NMDG&F”) for additional review on June 16, 2022. MMD received comments from all three agencies and have attached them to this letter.

After reviewing LAC’s May 27, 2022 letter, MMD finds LAC’s responses to comments number one (1) through twenty-one (21) acceptable. However, MMD has additional concerns regarding Attachment 7 - *Draft Financial Assurance Cost Estimate* and the general design and cover material performance on the waste rock pile. Please respond to the following items:

MMD Comments

Waste Rock Pile Design and Cover Performance

MMD and NMED conditionally approved the December 27, 2021 Waste Rock Pile Work Plan (“Work Plan”) on February 16, 2022 and subsequently conditionally approved the Work Plan

Design Package on October 14, 2022. This Work Plan and Design Package was processed as a Corrective Action Plan pursuant to a condition of DP-55 and is being folded into Revision 20-1 to update the Closure/Closeout Plan. In the joint agency conditional approval of the Design Package, dated October 14, 2022, the agencies expressed concern that the face of the waste rock pile is experiencing rilling and sheet erosion, which, in some instances, has resulted in exposed waste rock.

MMD requires that LAC propose contingency costs for providing at least one (1) foot of cover material on at least eight (8) acres of the face (outslopes) of the waste rock pile. The update should include a plan for where this material will be sourced (e.g. on-site or off-site borrow source) and how any on-site borrow source, if deemed necessary, would be reclaimed. Costs associated with sourcing and placing this additional one foot of cover material will need to be added into the Surface Reclamation Cost Estimate (Permit No. SF002RE and DP-55). This comment is echoed in NMED/MECS comment number two (2).

Attachment 7 – Draft Financial Assurance Cost Estimates

MMD is specifically focusing on the surface reclamation cost estimate with costs associated with Permit No. SF002RE and DP-55; the cost estimate associated with AP-27 will be reviewed separately by NMED with an opportunity for additional review by MMD (see NMED/MECS comment number one (1)). MMD has the following comments related to the *Draft Surface Reclamation Cost Estimate*:

- A. See general comment above regarding costs associated with sourcing and placing an additional one foot of cover material on the waste rock pile.
- B. Propose a five-year escalation rate and justification for this rate.
- C. The SRCE cost estimates use Nevada unit costs. Provide quotes for unit costs that are relevant to New Mexico for diesel fuel, well plugging, and wages.
- D. The cost detail is found in SRCE but the initial cost estimate summary should list significant assumptions as a basis for the costs estimates. Please add a list of major assumptions and unit costs to each summary table of the cost estimates. For example, add more detail on 1) identifying ponds and wells, 2) unit costs based on quotes for Nevada or New Mexico, 3) number of samples per year, 4) number of years sampling, 5) number of years for water treatment, 6) type of water treatment, 7) monitoring number of years, 8) reclaimed acreage of ponds or other areas covered, 9) acreage revegetated, 10) years of monitoring for erosion, 11) labor and unit costs based on wages, and 12) number of wells abandoned, replacement costs, etc..
- E. Many sections in the cost estimate use the terms “cover” and “growth media”. Clarify the difference between cover and growth media.
- F. Page 5 of 51. Clarify why tipping fees are used for disposal of pond liners and general solid waste disposal and which pond liners are proposed to go to a landfill.

- G. Page 9 of 51. Please clarify which roads this section is referring to (e.g. which wells) and elaborate on if this includes reclamation of existing access roads.
- H. Page 13 of 51. MMD will require a minimum of two feet of cover to be placed over broken up concrete foundations or a minimum of four feet of cover over unbroken concrete slabs. Please clarify how LAC will reclaim the building foundations (lime silo, ARD pumphouse, ARD storage shed, and CN pond pumphouse) and confirm that the appropriate amount of cover is accounted for in the cost estimate.
- I. Page 33 of 51. Only 12 acres are reported under Reclamation Maintenance – Total Revegetation Surface Areas. Please update this acreage to include all acreage for all units that are still under Permit No. SF002RE, including the entire area for the waste rock pile and all processing ponds.
- J. Page 33 of 51. Provide road maintenance costs, including costs associated with the sourcing and placement of caliche on the access roads.

NMOSE Comments:

Please review and respond to the comment letter received by NMOSE.

NMDG&F Comments:

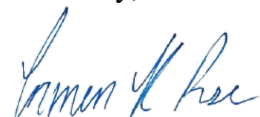
Please review the comment letter received by NMDG&F and respond to all elements that are not also addressed in MMD's comments.

NMED Comments:

Please review the comment letter received by NMED and respond to all comments.

Please respond to the MMD comments and review the attached comments from other state agencies within 45 days of receipt of this letter. If you have any questions, concerns, or would like to meet again regarding these comments, please contact me at (505) 216-8399 or at carmen.rose@emnr.dnm.gov.

Sincerely,



Carmen Rose, Permit Lead
Mining Act Reclamation Program ("MARF")
Mining and Minerals Division

Attachments: June 27, 2022 Letter to MMD from NMOSE
August 18, 2022 Letter to MMD from NMDG&F
October 12, 2022 Letter to MMD from NMED

October 25, 2022

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CC: Holland Shepherd, Program Manager, MARP, MMD
Joe Fox, Acting Program Manager, MECS, NMED
Kevin Myers, Senior Reclamation Specialist, MARP, MMD
Brad Bingham, Director of Closure Operations, Barrick Gold Corporation
Steve Finch, Principal Hydrogeologist-Geochemist, John Shomaker & Associates, Inc.
Anne Maurer, Permit Lead, MECS, NMED
Gabe Wade, Assistant General Counsel, MMD
Eric Jantz, Attorney, NM Environmental Law Center
Tom Parker, Friends of Santa Fe County
Ross Lockridge, Friends of Santa Fe County

From: [Angel, Christopher, OSE](#)
To: [Rose, Carmen, EMNRD](#)
Cc: [Zemlick, Katie, OSE](#)
Subject: Additional Comments on Permit Revision 20-1 to Update the Closure/Closeout Plan and Financial Assurance, Permit No. SF002RE, Cunningham Hill Mine
Date: Monday, June 27, 2022 3:44:15 PM

Good Afternoon Carmen,

Below are the comments from the New Mexico Office of the State Engineer – Hydrology Bureau.

1. On Page 4 of JSAI (2022), it is stated that the “Observed water levels have closely followed the “no diversion” simulation.” This is supported by Figure 3 – a graph showing open pit water levels and how they follow the simulated – no diversion curve. There are many water level perturbations on this graph. Several of these perturbations are from a former reverse osmosis treatment system, pumping from the Guest House Well, Residue Pile plume recovery system, surface water diversion from Cunningham Gulch runoff, etc. On page 11 of JSAI (2022), *it is stated that* the Nano Filtration was started in 2021 and that the Guest house well and Residue Pile plume recovery system are added to the open pit (no volumes are supplied).

With the above context, the following information is requested:

1. A summary table of all the inflows and outflows from the time mining ceased (1987) to the current time period. This table should include but is not limited to any water that was removed from the open pit for remediation, the amount of post treatment water returned to the pit, surface water diverted into the pit, and groundwater that is pumped into the pit. This information can then be used to explain the perturbations in Figure 3 on page 7 of JSAI (2022) and determine how the pit reacts to different stressors.

Reference

JSAI (2022), Cunningham Hill Mine Open Pit Waiver Justification, Permit No, SF002RE, Santa Fe County, New Mexico; Prepared by Steve T. Finch, Jr and Alexandra Mandybur; John Shoemaker & Associates, Inc. October 8, 2021; Revised May 27, 2022.

Sincerely,

Christopher E. Angel, PG
New Mexico Office of the State Engineer – Hydrology Bureau

GOVERNOR
Michelle Lujan Grisham



DIRECTOR AND SECRETARY
TO THE COMMISSION
Michael B. Sloane

STATE OF NEW MEXICO DEPARTMENT OF GAME & FISH

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Las Cruces

17 August 2022

Carmen Rose, Reclamation Specialist
Mining and Minerals Division (MMD)
Mining Act Reclamation Program
1220 South St. Francis Drive
Santa Fe, NM 87505

***RE: Permit Revision 20-1 to Update the Closure/Closeout Plan and Financial Assurance,
Cunningham Hill Mine, Permit No. SF002RE; NMDGF No. NMERT-1899.***

Dear Ms. Rose,

The New Mexico Department of Game and Fish (Department) has reviewed the above referenced update to the Closure/Closeout Plan (CCP). LAC Minerals, LLC (LAC) also submitted responses to Agency comments that included the Department's letter to MMD dated 26 January 2022, NMDGF No. NMERT-1501. Staff from the Department MMD, the New Mexico Environment Department, the U.S. Forest Service, and LAC attended a public meeting and site tour on 2 August 2022.

The Department's recommendations have been adequately addressed in the updated CCP. LAC has agreed to work with the Department to develop an alternative, clean water source that would help attract wildlife away from the pit lake area. LAC is also working on obtaining the funds required to install wildlife fencing that meets the Department's recommended specifications in order to more effectively exclude wildlife from accessing the pit lake.

In addition, LAC has remedied the ongoing issue regarding sagging protective netting at the acid rock drainage (ARD) collection ponds. Unfortunately, the site tour on 2 August 2022 did not include the ARD collection ponds. The Department requests that MMD schedule a joint site visit, to allow for inspection of the wildlife netting repair work, at their earliest convenience. The Department had recommended that the system for supporting the netting be redesigned to ensure that the netting would not sag back down into the toxic ARD water. LAC has also consulted with the Department about the use of bird balls as a possible alternative to netting. The Department will continue to work with MMD and LAC to effectively prevent any wildlife from accessing the ARD collection ponds.

Thank you for the opportunity to review and comment on the updated Closure/Closeout Plan. If you have any questions, please contact Ron Kellermueller, Mining and Energy Habitat Specialist, at (505) 270-6612 or ronald.kellermueller@state.nm.us.

Carmen Rose, Reclamation Specialist
17 August 2022
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Sincerely,

Matt Wunder, Ph.D.
Chief, Ecological and Environmental Planning Division

cc: USFWS NMES Field Office



Electronic Transmission

MEMORANDUM

Date: October 12, 2022

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

Through: Anne Maurer, Mining Act Team Leader, Mining Environmental Compliance Section (MECS)

From: Alan Klatt, Surface Water Quality Bureau (SWQB)
Sufi Mustafa, Air Quality Bureau (AQB)

Subject: **New Mexico Environment Department (NMED) Comments, Updated Closure/Closeout Plan, Cost Estimate, and Response to Agency Comments,, Revision 20-1, Cunningham Hill Mine, LAC Minerals (USA), LLC, Santa Fe County, New Mexico, New Mexico Mining Act Permit No. SF002RE**

The New Mexico Environment Department (NMED) received correspondence from the Mining and Minerals Division (MMD) on June 16, 2022 requesting that NMED review and provide comments on the above-referenced MMD permitting action. Pursuant to the Mining Act, the Cunningham Hill Mine is a regular existing mine. MMD requested comments on the application within 45 days of receipt of the request for comments. NMED requested an extension to submit comments by October 3, 2022. NMED has the following comments.

Background

LAC Minerals (USA), LLC (applicant) submitted to MMD the Revision 20-1 application on October 21, 2021. The Revision 20-1 application includes the updated Closure/Closeout Plan (CCP) and a request to update the financial assurance associated with closure activities. NMED sent MMD comments on the updated CCP on February 10, 2022. The applicant responded to agency comments and submitted two closure cost estimates including one for the remaining surface reclamation activities and activities covered under DP-55 that are jointly held by MMD and NMED and a second cost estimate for activities associated with AP-27 that are held solely by NMED.

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Ground Water Quality Bureau | 1190 Saint Francis Drive, PO Box 5469, Santa Fe, New Mexico 87502-5469

Telephone (505) 827-2900 | www.env.nm.gov/gwqb/

Air Quality Bureau

The AQB has no comments

Surface Water Quality Bureau

The SWQB has no comments.

Mining Environmental Compliance Section

The MECS has the following comments:

1. The updated CCP was submitted to MECS as part of the requirements in DP-55, which was renewed on November 20, 2020. In addition, the CCP includes the proposed AP-27 abatement costs. MECS will have additional comments on AP-27 based on technical review of the proposed cost estimate and Appendix B in the CCP. As such, comments will be submitted under separate letterhead directly to the applicant with a copy to MMD to ensure that AP-27 is technically complete and updated to reflect current conditions. MECS will coordinate responses to these documents with MMD prior to issuance of a comment letter to the applicant. The comments herein only address questions or concerns associated with the facilities that are regulated under DP-55.
2. NMED, MMD, and New Mexico Game and Fish performed a site inspection of the Cunningham Hill Mine on September 15, 2022. Representatives from each agency walked the Waste Rock Pile benches and out slopes as part of the review of the August 5, 2022 *Response to Joint Agency Request for Additional Information, Waste Rock Pile Workplan Design Package and 2021 Cover Performance Review, Cunningham Hill Mine Reclamation Project, MMD Permit No. SF002RE and DP-55*. Based on the site inspection, there are numerous areas where erosion has caused a loss of cover on the out slopes and there is evidence of rilling occurring most typically where there is an inflection point where the out slopes meet the benches. The agencies also identified a number of areas where there appears to be small, exposed areas of waste rock at the surface. The agencies will comment directly to the applicant on this submittal under separate letterhead. However, based on a review of the May 2022 surface reclamation cost estimate, NMED will require the applicant to provide additional financial assurance that will cover one foot of cover placement for eight acres of out slopes on the Waste Rock Pile as part of general site operation and maintenance costs. These costs can be either addressed under the waste rock dump recountouring and earthwork costs or in another section of the cost estimate that the applicant deems more appropriate. In addition, additional costs will be needed for revegetation of any area where new cover is applied. This will ensure that there is money in place to perform cover corrective actions in the future in the event the cover continues to erode.
3. Well Abandonment – pg 28 of 51 in the Closure Cost Estimate (pg. 199 in total package) – Please explain what active versus inactive wells are representative of. It appears that a number of wells will be abandoned in 2021, but some wells will be abandoned in 2121. Please provide a description of the wells to be abandoned in 2021 and 2121.
4. Additional details on water quality monitoring are needed. The comments are as follows:

- a. pg. 34 of 51 (pg. 205 in total package)– Please explain what LAC Profile 1 means. NMED understands that this is a water quality sample taken from the open pit water body. All costs associated with monitoring the open pit water body need to be in AP-27, not the closure cost estimate.
- b. There are no costs associated with long-term well monitoring. Based on the well abandonment sheet, there will be 32 wells to be abandoned in 2121. The costs for monitoring these wells for 100 years need to be reflected in this cost estimate.
- c. Please address if there are costs associated with monitoring well replacement. Given NMED is requiring 100 years of water quality monitoring, a number of wells likely will need to be replaced within this timeline.
- d. There do not appear to be any costs associated with operating and maintaining any of the site recovery wells. These include the Dolores Gulch Recovery wells, the Residue Pile Recovery wells, or the UIC well. Costs associated with operating and maintaining these wells needs to be included in this cost estimate.
- e. There are no costs for monitoring the ARD Treatment System ponds or the Residue Pile Plume Remediation ponds. DP-55 contains monitoring requirements that need to be reflected in the cost estimate. In addition, there do not appear to be any costs associated with long-term operation and maintenance of these systems. NMED assumes that these will be in operation for a number of years until site standards are met. Costs associated with liner replacement and any other maintenance activity need to be reflected in this cost estimate.
- f. There are no monitoring costs associated with monitoring the seeps and springs. The requirement to monitor these locations are included in DP-55. Please explain why these costs are not included in the cost estimate.
- g. Please explain why there are no monitoring costs associated with the Interceptor Wall. Pursuant to DP-55, the water level is required to be monitored. Please address why costs are not included to monitor this location.
- h. NMED is requesting that the applicant submit a monitoring schedule for the next 100 years that shows the locations to be monitored and the frequency of monitoring (i.e., annual, quarterly, etc.). This would be helpful in understanding what will be monitored post-closure.

NMED Summary Comment

NMED is withholding issuance of the environmental determination pending satisfactory applicant response to the comments herein.

If you have any questions, please contact Anne Maurer at (505) 660-8878.

cc: Carmen Rose, Permit Lead, EMNRD-MMD
Joseph Fox, Acting Program Manager, NMED-MECS
Shelly Lemon, Bureau Chief, NMED-SWQB
Elizabeth Bisbey-Kuehn, Bureau Chief, NMED-AQB