



LAC

LAC MINERALS (USA) LLC

December 12, 2022

Anne Maurer

M.S. Groundwater Engineer
New Mexico Environment Department
Ground Water Quality Bureau
1190 St. Francis Dr.
Santa Fe, NM 87502

Carmen Rose

Sr. Reclamation Specialist
Mining and Minerals Division
Mining Act Reclamation Program
1220 S. St. Francis Drive
Santa Fe, NM 87505

RE: Waste Rock Pile Maintenance Summary of Work

Dear Ms. Maurer and Ms. Rose,

As requested in the October 14, 2022 joint agency approval of the Waste Rock Pile Workplan Design Package, LAC hereby submits the attached summary of maintenance activities performed on the Waste Rock Pile prepared by Daniel B. Stephens and Associates, Inc.

If you have questions or comments, please contact me at (775) 397-7215 or dlattin@barrick.com.

Sincerely,

Daniel Lattin, P.E.

Sr. Closure Program Manager

ec: Holland Shepherd
Eric Jantz
Tom Parker
Ross Lockridge
Brad Bingham
Adam Arguello
Allison Brown
Walter Bauman
Jon Indall
Elizabeth Rudolf



DBS&A
Daniel B. Stephens & Associates, Inc.
a Geo-Logic Company

December 12, 2022

Mr. Daniel Lattin, P.E.
LAC Minerals (USA) LLC
582 County Road 55
Cerrillos, New Mexico 87010
Delivered by e-mail: dlattin@barrick.com

Re: CHMRP WRP Cover Maintenance

Dear Mr. Lattin:

Daniel B. Stephens & Associates, Inc. (DBS&A) is pleased to provide LAC Minerals (USA) LLC (LAC) this letter report documenting cover maintenance to the North Slope waste rock pile (WRP) at the Cunningham Hill Mine Reclamation Project (CHMRP) located in Santa Fe County, New Mexico. On October 19, 2022, representatives from the New Mexico Environment Department (NMED) and the Mining and Minerals Division (MMD) of the Energy, Minerals and Natural Resources Department visited the site to inspect the WRP cover. The agencies identified 11 locations requiring maintenance during their visit. They visited the site a second time on November 7, 2022 and identified 3 additional locations requiring maintenance. Figure 1 shows the 14 locations identified by the agencies. LAC completed the needed maintenance at these locations between November 7 and 28, 2022, as described in this letter report.

The cover maintenance documented in this letter report was performed in general accordance with the design submitted to the agencies on May 27, 2022. The agency approved this design in an October 14, 2022 letter and requested that maintenance activities to address sheet erosion and/or rilling be completed within 60 days of their letter date. The work completed between November 7 and 28, 2022 meets this request.

WRP Maintenance

LAC contracted with EnviroWorks LLC (EnviroWorks) of Edgewood, New Mexico to complete the WRP cover maintenance work. EnviroWorks started the cover work on November 7, 2022. The primary equipment used for the work included a 4-cubic yard Caterpillar bucket loader, a John Deere skid steer, a vibratory plate compactor, hand compaction tools, and a 500-gallon water trailer.

The following bullets summarize the work that was completed at each of the 14 locations:

- Removed rocks larger than 4 inches in dimension and placed them near the open pit.

- Filled in erosional rills with native soil that is stockpiled at the site and that was screened as described below.
- Used the vibratory plate compactor and hand compaction tools to level and grade the repair areas.
- Added additional native soil to serve as growth media and compacted it by equipment wheel rolling.
- Applied seed to the maintenance areas.
- Installed wattles to prevent soil erosion while vegetation is established.

Soil screening is specified in the May 2022 waste rock pile design package in order to remove dead plant material (e.g., tree roots, wood) larger than 0.75 inch. However, upon direction from NMED and MMD, unscreened soil was allowed to be placed as long as material larger than one-half the lift size was removed. Native soil was placed in the erosion areas in lifts. A gravel admixture with a D_{50} of approximately 0.5 inch was added to the soil. Attachment 1 presents the physical properties of the gravel admixture. The bucket loader was used to measure the proportions of soil and gravel and to mix the two together. After mixing, the bucket loader transported the soil to the WRP, where a skid steer was used for placement.

Before placement of the soil on the WRP cover repair areas, rocks larger than 4 inches in dimension were removed. These rocks were placed in a pile within the open pit drainage area. Rills were filled with the native soil, and the soil was then compacted with the vibratory plate compactor and/or hand compaction tools. The skid steer was used to level and grade the areas in preparation for the placement of more native soil to serve as a growth media soil. The growth media soil was placed directly on the areas and over any existing vegetation. Materials were placed in not larger than 6-inch lifts and compacted using the skid steer tracks. The final surfaces were lightly raked and broadcast seeded with the mix included in Attachment 2.

Table 1 provides dimensions associated with location, along with the volume of soil placed. Estimates are based upon field measurements and calculation.

Table 1. Cover Repair Location Information

Location	Area (ft ²)	Area (acres)	Volume of Soil (yd ³)
1	2,445	0.06	72
2	1,883	0.04	56
3	5,141	0.12	161
4	2,269	0.05	63
5	3,956	0.09	110
6	7,793	0.18	382
7	1,562	0.04	43
8	1,914	0.04	53
9	1,674	0.04	46
10	2,475	0.06	69
11	756	0.02	21
12	1,756	0.04	48
13	1,802	0.04	50
14	1,645	0.04	46
Total	37,071	0.85	1,220

In total, the 14 locations amount to an area of approximately 37,071 square feet (0.85 acre). An estimated 1,220 cubic yards of soil was added to the WRP cover.

Attachment 3 provides photographs of the work that was completed. Photographs documenting existing conditions taken prior to the work are included for sites 1 through 11, with post-condition photographs included for all 14 sites.

Closing

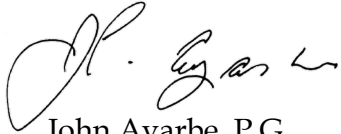
The maintenance documented in this letter report focused on addressing existing erosional features, removing rocks larger than 4 inches, and adding soil to and reseeding the areas.

Mr. Daniel Lattin, P.E.
December 12, 2022
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We appreciate the opportunity to support LAC at the Cunningham Hill Mine Reclamation Project. Please contact us at (505) 822-9400 with any questions or comments.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

Handwritten signature of John Ayarbe in black ink.

John Ayarbe, P.G.
Senior Hydrogeologist

Handwritten signature of Jeffrey Samson in blue ink.

Jeffrey Samson, P.E.
Project Engineer

JA/JS/rpf
Attachments

Figure



0 75 150 ft

Explanation

○ Repair location

Source: Aerial imagery (NAIP, 2022).

CUNNINGHAM HILL MINE RECLAMATION PROJECT
**North Slope Cover
Repair Locations**

Figure 1



DBS&A

Daniel B. Stephens & Associates, Inc.

12/7/2022

DB22.1087

Attachment 1

Admixture Properties



Product Quality Assurance Department
3700 Singer, Suite C Albuquerque, NM 87109

**REPORT of AGGREGATE
PHYSICAL PROPERTIES**



Material: 3/4" Crushed, Size 67 Blend
 Period: 12/06/21 - 12/06/22
 Source Pit: Placitas
 Product Code: 26062
 Agency Specification: ASTM C 33 & D 448, Size # 67
 Product Description: Crushed, washed, graded, coarse aggregate.

Project No: 21001
 Lab No.: A2103-0091
 Sample Date: 06-Dec-21
 Report Date: 06-Jan-22
 Reviewed by: *[Signature]*

SIEVE ANALYSIS		ASTM C 136	C 33 & D 448
Sieve Size	Accum. % Passing	Specifications	Specifications
450 mm (18")			
375 mm (15")			
300 mm (12")			
250 mm (10")			
225 mm (9")			
200 mm (8")			
150 mm (6")			
125 mm (5")			
100 mm (4")			
75.0 mm (3")			
63.0 mm (2-1/2")			
50.0 mm (2")			
37.5 mm (1-1/2")			
25.0 mm (1")	100	100	
19.0 mm (3/4")	98	90-100	
12.5 mm (1/2")	59		
9.5 mm (3/8")	28	20-55	
6.3 mm (1/4")			
4.75mm (No. 4)	2	0-10	
2.36 mm (No. 8)	1	0-5	
2.00 mm (No. 10)			
1.18mm (No.16)			
0.600 mm (No.30)			
0.425mm (No. 40)			
0.300mm (No. 50)			
0.180mm (No. 80)			
0.150mm (No.100)			
0.075mm (No. 200)	0.8		
ASTM C117			
Moisture Content, %			
ASTM C566			
Fractured Face, %	60	50 min	
2 faces			
Fineness Modulus (FM)			

TEST RESULTS				
Standard	PHYSICAL PROPERTIES	Results	Specification	Lab of Record
ASTM C 29	Unit Weight & Voids	Unit Weight, lbs./cu.ft.=	96.5	Vulcan 06-Dec-21
		Voids, %=	39.5	
		Rodded		
ASTM C 127	Coarse Specific Gravity & Absorption	Bulk Specific Gravity (dry)=	2.561	Vulcan 06-Dec-21
		Bulk Specific Gravity, SSD=	2.605	
		Apparen: Specific Gravity=	2.680	
		Absorption, %=	1.7	
ASTM C 128	Fine Specific Gravity & Absorption	Bulk Specific Gravity (dry)=		
		Bulk Specific Gravity, SSD=		
		Apparen: Specific Gravity=		
		Absorption, %=		
ASTM D 2419	Sand Equivalent	Sand Equivalent, %=		
ASTM D 4791	Flat & Elongated	Fla. & Elongated, %=	3	Vulcan 06-Dec-21
		Ratio=	3:1	
ASTM C 131	L. A. Abrasion	Small Coarse Loss, %=	24	Vulcan 06-Dec-21
		Grading/ Revs.=	B / 500	
ASTM C 535	L. A. Abrasion	Large Coarse Loss, %=		
		Grading/ Revs.=		
ASTM C 88	Soundness	Coarse Soundness Loss, %=	5.4	Vulcan 06-Dec-21
		Magnesium No. of Cycles=	5	
	Soundness	Fine Soundness Loss, %=		
		Magnesium No. of Cycles=		
ASTM C 142	Clay/Friable Particles	Coarse Aggregate, %=	0.0	Vulcan 06-Dec-21
		Fine Aggregate, %=		
AASHTO TP58-99	Micro-Deval	% Loss: Grading:		
ASTM C 123	Lightweight Pieces	Coarse Aggregate, %=	0.1	Vulcan 06-Dec-21
		Fine Aggregate, %=		
	NMDOT Aggregate Index	Coarse Aggregate, %=	11.7	Vulcan 06-Dec-21
ASTM D 1557	Compaction Modified Effort	Optimum Moisture, %=		
		Max. Density, lbs./cu.ft.=		
ASTM D 4318	Liquid Limit, Plastic Limit & Plasticity Index	Liquid Limit=		
		Plastic Limit=		
		Plasticity Index=		

Attachment 2

Seed Mix

CURTIS & CURTIS SEED

4500 North Prince, Clovis, New Mexico 88101
 PH: 575-762-4759 FAX: 575-763-4213

Irrigated Pasture Grasses
 Mountain Pasture Grasses
 Native Pasture Grasses

Yard and Playground Grasses
 Golf Course Grasses
 Alfalfa/Clovers

PRICE QUOTATION

TO:	Enviroworks	DATE:	October 14, 2022
ATTENTION:	Mike Webb	SALESPERSON:	Hannah Narramore
PHONE:	505-331-6101	SHIPPING DATE:	As Directed
EMAIL:	mike@enviroworksforyou.com	FOB:	Clovis
PROJECT:	Cunningham Hill Mine Reclamation	TERMS:	30 Days Net

DESCRIPTION	AMOUNT
Custom Seed Mix: 0.25 Acres Drilled	\$20.13 /0.25 acres

COMMON NAME	PLS/ACRE
Indian Ricegrass Sub: Sideoats Grama	0.5
Lewis Flax Sub: Blue Flax, Appar	0.125
Purple Prairie Clover	0.125
Rocky Mountain Penstemon, Bandera	0.125
Prairie Coneflower Sub: Coneflower, Upright Prairie	0.0625

*****THIS QUOTE IS GOOD FOR 10 DAYS*****

*****ALL PRICES SUBJECT TO AVAILABILITY**SUBJECT TO BEING UNSOLD*****

Here is our quotation on the goods named, subject to the conditions noted:

The prices and terms on this quotation are not subject to verbal changes or other agreements unless approved in writing by the Home Office of the Seller. All quotations and agreements are contingent upon strikes, accidents, fires, availability of materials and all other causes beyond our control. Prices are based on costs and conditions existing on date of quotation and are subject to change by the Seller before final acceptance.

Typographical and stenographic errors are subject to correction. Purchaser agrees to accept either overage or shortage not in excess of ten percent to be charged for pro-rata. Purchaser assumes liability for patent and copyright infringement when goods are made to Purchaser's specifications. When quotation specifies material to be furnished by the purchaser, ample allowance must be made for reasonable spoilage and material must be of suitable quality to facilitate efficient production. Conditions not specifically stated herein shall be governed by established trade customs. Terms inconsistent with those stated herein, which may appear on Purchaser's formal order will not be binding on the Seller.

THIS AGREEMENT IS BETWEEN:

Buyer: _____ Date: _____ Seller: _____ Date: October 14, 2022

Attachment 3

Photographs



1. WRP location 1 prior to completion of repairs



2. WRP location 1 after completion of repairs



3. WRP location 2 prior to completion of repairs



4. WRP location 2 after completion of repairs



5. WRP location 3 prior to completion of repairs



6. WRP location 3 after completion of repairs



7. WRP location 4 prior to completion of repairs



8. WRP location 4 after completion of repairs



9. WRP location 5 prior to completion of repairs



10. WRP location 5 after completion of repairs



11. WRP location 6 prior to completion of repairs



12. WRP location 6 after completion of repairs



13. WRP location 7 prior to completion of repairs



14. WRP location 7 after completion of repairs





15. WRP location 8 prior to completion of repairs



16. WRP location 8 after completion of repairs



17. WRP location 9 prior to completion of repairs



18. WRP location 9 after completion of repairs



19. WRP location 10 prior to completion of repairs



20. WRP location 10 after completion of repairs





21. WRP location 11 prior to completion of repairs



22. WRP location 11 after completion of repairs



23. WRP location 12 after completion of repairs



24. WRP location 13 after completion of repairs





25. WRP location 14 after completion of repairs



26. Pile of rocks (larger than 4 inches) removed