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August 12, 2022

Mr. James Smith
Coal Program Manager
Mining and Minerals Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Delivered via email to:
JamesR.Smith@state.nm.us

**Re: McKinley Mine Permit No. 2016-02
Area 9 South Bond Release Application**

Dear Mr. Smith:

Enclosed for MMD review and comment is an application for bond release for an area designated as Area 9 South. This bond release application included 42 acres of Phase I and 1,193 acres of Phase II and III bond release. CMI requests MMD's review and comment on completeness and content of this application package to ensure that all necessary information is contained in the application document.

This application includes bonding information detailing how much bond can be released. The current bond amount for this permit is \$24,645,642 and a reduction of \$2,634,249 will be requested as a part of the bond-release request.

If you have any questions regarding this submittal, please contact me at (575) 586-7537 or Mary Siemsglusz at (314) 984-8800.

Sincerely,

Jeff Schoenbacher
McKinley Mine – Operations Lead
CEMREC

Mary Siemsglusz, P.E.
Associate & Practice Leader
Golder Associates USA, Inc

Encl

REPORT

Chevron Mining Inc.
McKinley Mine

Permit No. 2016-02
Area 9S Bond Release Application

Submitted to:

Mining and Mineral Division

1220 South St. Francis Drive,
Santa Fe, NM 87505

Submitted by:

Chevron Mining Inc.

6101 Bollinger Canyon Road,
San Ramon, CA 94583-2324

Prepared by:

Golder Associates USA Inc.

701 Emerson Road, Suite 250,
Creve Coeur, MO 63141

August 12, 2022

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EXHIBITS

Exhibit A: Area 9S Bond Release – Bond Release Location

Exhibit B: Area 9S Bond Release – USGS Quadrangle

Exhibit C: Area 9S Bond Release – Postmining Topography

Exhibit D: Area 9S Bond Release – Seeding Map

Exhibit E: Area 9S Bond Release – Aerial

Exhibit F: Area 9S Bond Release – Land Inventory - Surface & Coal

Chevron Mining Inc. - McKinley Mine
Permit No. 2016-02
Application for Area 9 South - Bond Release
August 12, 2022

1.0 INTRODUCTION

This document constitutes Chevron Mining Inc.'s (CMI) application for bond release of the permanent-program performance bond for Area 9 South (Area 9S) which includes 1,193 acres of land eligible for Phase II and III bond release, and 42 acres of land eligible for Phase I bond release located within the Phase II and III acreage. The Phase I bond release is being requested for a reclaimed road-corridor segment and reclaimed ponds that were excluded from the prior Phase I bond release for the rest of the area. Phase II bond release is being sought for the overall area since vegetation has been established and the contribution of suspended solids to streamflow or runoff outside the permit is not in excess of the 19.8 NMAC requirements. Phase III bond release is being sought since the entire area has met vegetation standards in accordance with the permit and the regulations and all remaining reclamation obligations have been completed. The application has been formatted to follow the requirements of 19.8.14.1412 New Mexico Administrative Code (NMAC).

2.0 19.8.14.1412 A (2) (A) APPLICANT AND PERMITTEE

Chevron Mining Inc.
6101 Bollinger Canyon Road
San Ramon, CA 94583-2324
Telephone: (925) 790-6958

McKinley Mine is covered by the New Mexico Mining and Minerals Division (MMD) Permit # 2016-02.

3.0 19.8.14.1412 A. (2) (B) LEGAL DESCRIPTION

The Phase I, Phase II and Phase III bond release is being requested for the permanent-program lands in an area referred to as Area 9S, which is located in the sections listed below. The list also identifies land ownership to further define in those sections what lands are affected by this bond-release, which includes in whole or in part the following: leased allotments, Chevron-owned land, the Paula Westbrook lease, and a federal surface lease. The specific boundaries of the bond-release-application lands within this legal description are detailed in Exhibit F: Area 9S Bond Release – Land Inventory - Surface & Coal.

3.1 Bond Release Area Legal Description

All in T16N, R20W, New Mexico Principal Meridian, McKinley County, New Mexico:

- Section Number 15 Chevron owned Surface Deed and Westbrook Lease
- Section Number 16 BIA Allotments 1592, 1593, 1594 & 1595
- Section Number 21 Chevron owned Surface Deed
- Section Number 22 BIA Allotments 1581, 1582 & 1583 and a Federal Surface Lease (NE ¼)
- Section Number 23 Chevron owned Surface Deed
- Section Number 26 BIA Allotments 1566
- Section Number 27 Chevron owned Surface Deed
- Section Number 28 BIA Allotment 1591

4.0 19.8.14.1412 A. (2) (C) LOCATION

The areas for which bond release is being requested are located at the CMI McKinley Mine. The McKinley Mine is located approximately 23 miles northwest of Gallup, NM, and 3 miles east of Window Rock, AZ, on NM State Highway 264. The areas in this Phase II and Phase III bond-release application are located within the Samson Lake and Hunters Point USGS quadrangle maps and are shown on the accompanying map Exhibit B: Area 9S Bond Release – USGS Quadrangle. Figure 1 shows the general location for the bond-release area and the permit boundaries.

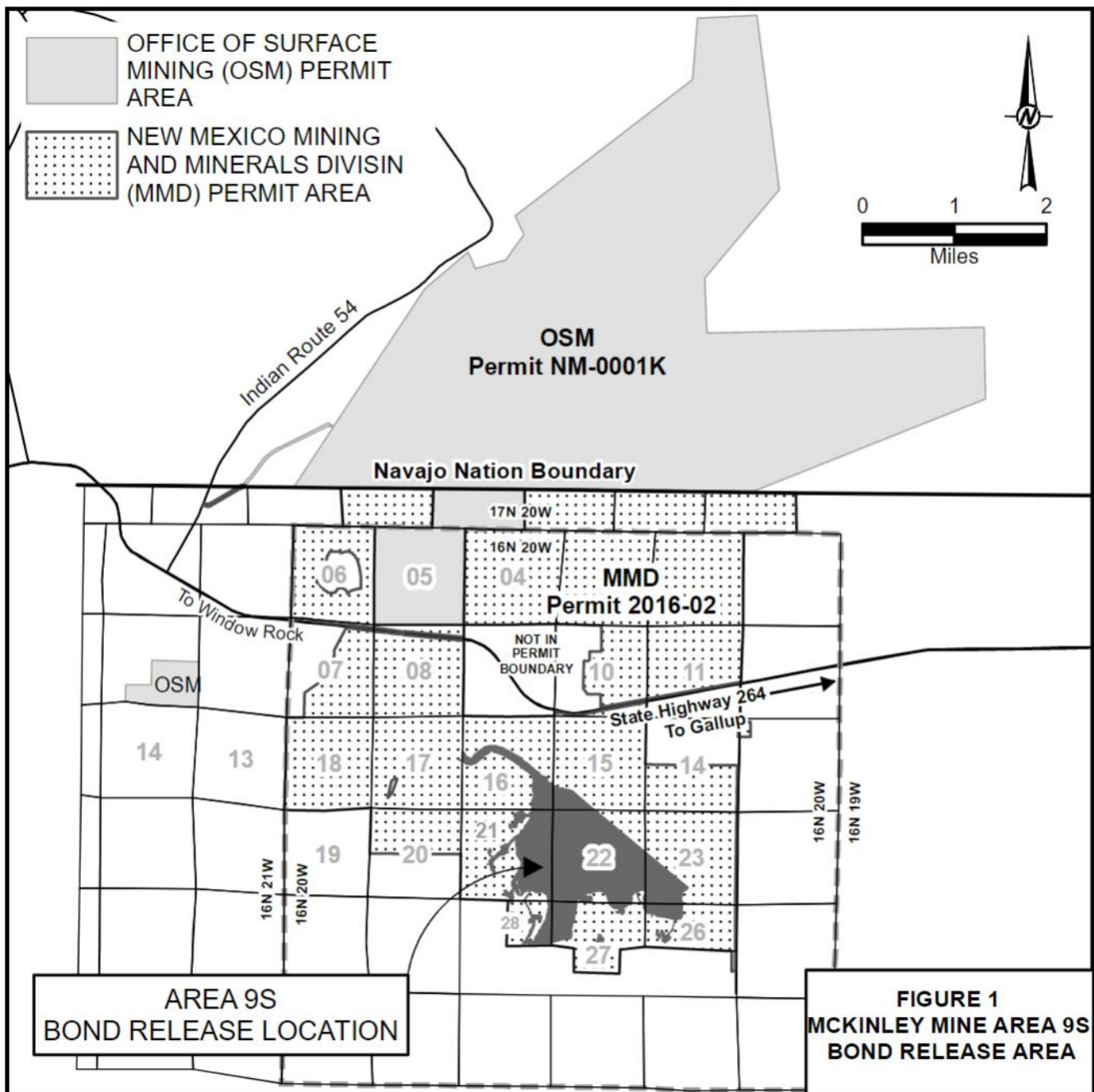


Figure 1: McKinley Mine Area 9S - Bond Release Area

5.0 19.8.14.1412 A. (2) (D) SUMMARY

5.1 Summary

Disturbance and mining in Area 9S occurred between 1986 and 2006. Phase I bond for much of the area was released in 2015, which covered backfilling and grading, graded spoil suitability, topsoil replacement and construction of hydrologic structures and drainage control. Phase I bond release for 42 acres of road corridor and pond areas that were not included in the 2015 Phase I bond release are included with this bond release application. Phase II and Phase III bond release is being sought for the portion of bond associated with completion of reclamation requirements that results in the reduction of settleable solids and the development of vegetation to meet the requirement as established in the regulations and the applicable permit. Exhibit C: Area 9S Bond Release – Postmining Topography shows the reconstructed topography and drainage control.

Seeding of the reclaimed lands occurred between 1995 and 2014 as shown on Exhibit D: Area 9S Bond Release – Seeding Map. This map shows the year of seeding or reseeded for each disturbed area. In order to qualify for Phase III bond release at least 90% of the reclaimed area must have been seeded for a minimum of 10 years. Area 9S meets this requirement by 1,128 acres of the 1,193 or 94.6% being seeded for 10 years or more.

In support of the post mining land use of grazing and wildlife habitat, the permit specifies that access roads and existing fences will remain for the use of the landowners. Roads are generally a two-track road with no surfacing material or roadside ditches as was typical before mining, and current land-owner roads in the general area. No impoundments are proposed to remain as permanent impoundments within this bond release area; however, small depressions were retained where former sedimentation ponds were reclaimed to retain moisture and provide water resources for the postmining land use. An aerial photograph is provided in Exhibit E: Area 9S Bond Release – Aerial, which shows the access roads and fences to remain. In addition, roads may be found on Exhibit 4.4-1 of Volume III in Permit No. 2016-02.

The original calculation of the reclamation bond for Permit 2016-02 may be found in Appendix 2.9-A in Volume I. Calculations for the requested bond release for this application are provided below under Bonding Information, with additional detail provided in Section 12.5 Phase II and Phase III Performance Bond Reduction as well as in Appendix 1 Performance Bond Calculations.

5.2 Sediment Control

The National Pollutant Discharge Elimination System (NPDES) permit classifies all outfalls at McKinley mine as Appendix C outfalls, which fall under the criteria for Western Alkaline Coal Mining Subpart H regulations under 40 CFR 434.81. The Appendix C outfall classification means that the primary sediment control for the watersheds at each outfall are Best Management Practices (BMPs) which includes landforms, hydrologic conveyance and erosion-control structures, revegetation, etc.; no sediment ponds are necessary to control sediment in any of the watersheds. Compliance is verified through collection of water monitoring data from outfall discharges and field inspections of the BMPs.

5.3 Revegetation

Vegetation establishment and success was measured in 2019, 2020, and 2021 with the results documented in the Vegetation Monitoring Reports for the area designated as Vegetation Monitoring Unit (VMU) #4 that were submitted annually in the respective Annual Reports. The results of these reports are summarized in Section 12.1 the Revegetation section of the Phase III Bond Release Request Requirements. The results demonstrate that vegetation has been successfully established.

5.4 Bond Information

The bond reduction associated with the Area 9S bond release and the amount of bond that would remain is shown below. Please see Section 12.5 Performance Bond Reduction section for more detailed bonding information as well as Appendix 1.

The following summarizes the current and remaining bond fund, proposed bond release and remaining bond:

■ Current Bond Type:	Surety Bond
■ Current Bond Fund:	\$ 24,645,642
■ Less Previous A11/12 PI Bond Release :	\$ 1,150,724
■ Remaining Bond Fund:	\$ 23,494,918
■ Area 9S direct & indirect costs to be released:	\$ 2,634,239
■ New Bond Fund Amount:	\$ 20,860,679 (in 2022 dollars)

5.5 Disturbed Acreage to be Released

The acres included in this bond release application and corresponding percentage of the permitted area are presented below:

■ Acreage to be released (Area 9S):	1,193.0 ac.
■ Acres permitted:	12,958.2 ac.
■ Percentage of acres permitted being released:	9.2 %

6.0 19.8.14.1412 A. (2) (E) SURFACE AND MINERAL RIGHTS

See the table in Appendix 2 for information on surface and mineral owners, which includes bond release acreages. Surface and mineral information is depicted on Exhibit F: Area 9S Bond Release – Land Inventory - Surface & Coal.

7.0 19.8.14.1412 A. (2) (F) NOTIFICATION LETTERS

A copy of the proposed draft notification letter is provided in Appendix 3. The notification letter will be sent once MMD advises CMI that the application is administratively complete and that CMI can proceed with the public notice process. CMI will coordinate with MMD to ensure all appropriate interests are notified by either CMI or MMD.

Notification letters regarding this bond-release application will be sent to adjoining land-owners and allottees (south of Highway 264), local government agencies, planning agencies, sewage and water-treatment authorities, and water companies in the vicinity of the proposed release areas.

MMD will provide notification letters and invitations for inspections to land-owners and allottees within the proposed release areas, to the surface and mineral owners listed on the table in Appendix 2 (e.g., BIA, BLM, NM State Land Office, etc.) and other government agencies.

CMI requested addresses from the BIA for allottees within and adjoining the proposed bond-release area who will be sent a notification letter. A copy of the information received from BIA with allottee addresses by allotment is contained in Appendix 4.

Appendix 5 contains a full list of all other interests (with addresses) that will be notified of this bond-release application.

8.0 19.8.14.1412 A. (2) (G) OTHER MAPS AND INFORMATION

The following exhibits are provided as part of this bond release application:

- Exhibit A: Area 9S Bond Release – Bond Release Location
- Exhibit B: Area 9S Bond Release – USGS Quadrangle
- Exhibit C: Area 9S Bond Release – Postmining Topography
- Exhibit D: Area 9S Bond Release – Seeding Map
- Exhibit E: Area 9S Bond Release – Aerial
- Exhibit F: Area 9S Bond Release – Land Inventory - Surface & Coal

9.0 19.8.14.1412 A. (2) (H) CERTIFICATION

A notarized certification is enclosed that states that all applicable reclamation activities have been accomplished in accordance with the requirements of SMCRA, the Act, the regulatory program, and the approved reclamation plan. The certification may be found in Appendix 6.

10.0 19.8.14.1412 A. (3) PUBLIC ADVERTISEMENT

A draft public notice is contained in Appendix 7 that addresses the requirements of this section. The advertisement shall be placed in the newspapers (Navajo Times and The Gallup Independent) once MMD advises CMI that the application is administratively complete and can proceed with public notice. A copy of the full application will be placed in the McKinley County courthouse prior to sending out notification letters and publication of the advertisement.

11.0 PHASE I BOND RELEASE REQUIREMENTS

Phase I bond for much of the area was released in 2015, which covered backfilling and grading, graded spoil suitability, topsoil replacement and construction of hydrologic structures and drainage control. Phase I bond release for 42 acres of road corridor and pond areas that were not included in the 2015 Phase I bond release are included with this bond release application. Reclamation of the road corridor and the sedimentation ponds were completed after the initial application date for the 2015 bond release and these 42 acres now qualify for Phase I bond release.

Grading of the 42 acres occurred between 2009 and 2014. The location of these areas are shown with a green highlight on Exhibit A and as red hatched areas on the remaining exhibits. Topsoil replacement for these areas also occurred between 2009 and 2014.

12.0 PHASE II BOND RELEASE REQUIREMENTS

12.1 Successful Establishment of Vegetation

Vegetation establishment and success was measured in 2019, 2020, and 2021 with the results documented in the Vegetation Monitoring Reports for the area designated as Vegetation Monitoring Unit (VMU) #4, which were submitted in the respective Annual Reports. The results of these reports are summarized in Section 12.1 the Revegetation section of the Phase III Bond Release Request Requirements. The results demonstrate that vegetation has been successfully established.

12.2 Sediment Control

Various demonstrations have been completed at McKinley Mine showing that surface water from reclaimed land does not contribute suspended solids to streamflow or runoff outside the permit area in excess of the requirements in 19.8.14.1412 C. (2). Key information to that end include both a modeling analysis and water monitoring data.

Modeling Information

As documented in the MMD Permit 2016-02 Section 6.3.3, on November 16, 2009, MMD approved a sediment-yield comparison study between premine and postmine lands. The study showed that reclaimed lands would have significantly less sediment yield than premining lands, that is 0.369 tons per acre for reclaimed lands versus 0.892 tons per acre for premined lands. Because of the large area included in the study, MMD considered it to be a representative study of the rest of the mine on MMD-jurisdictional lands. Subsequently, MMD advised CMI that sediment ponds in the study area and in fully reclaimed watersheds (seeded and mulched) were no longer necessary.

Monitoring Information

A comprehensive analysis of water-quality data for large, medium and small watersheds is contained in Appendix B of the 1992 Annual Mining and Reclamation Report submitted to MMD. The findings from this report combine 1992 data with sampling data from as far back as 1982 to show that runoff from disturbed large, medium and small watersheds has better water quality than that of paired undisturbed watersheds; the results are summarized in Table 1. This data was also used as additional support for the McKinley Mine's demonstration under the 20-41 (e) Windows program (now referenced as 19.9.20.2009 (e) NMAC) for a waiver from additional sediment control, which includes a requirement that the runoff from the regraded (i.e., reclaimed) area be as good as or better quality than the waters entering the permit area (i.e., undisturbed areas) in order to qualify for the window.

Table 1: Summary of Modeling Results

Watershed	Parameter	Undisturbed Average	Disturbed Average
Large	TSS	92604	45184
Medium	TSS	25847	25738
Small	TSS	20963	15267

Conclusion

The modeling information coupled with monitoring data demonstrate that the requirement in 19.8.14.1412 C. (2) was met. This information parallels the mine's NPDES permit that makes the same findings using both modeling information and monitoring data.

12.3 Prime Farmland

There are no areas designated as Prime Farmland within the Permit # 2016-01 permitted area.

12.4 Silt Dams

No silt dams remain within the proposed Area 9S bond release area.

12.5 Phase II Performance Bond Reduction

Please see Section 12.5 Performance Bond Reduction below for bonding and bond reduction information.

13.0 PHASE III BOND RELEASE REQUIREMENTS

13.1 Revegetation

Area 9S vegetation success is demonstrated through the results of vegetation sampling conducted in Vegetation Management Unit 4 (VMU-4). VMU-4 vegetation sampling was completed in 2019, 2020, and 2021; the reports with results were submitted in the respective annual reports to MMD. The reports are briefly summarized here and demonstrate that the results from VMU-4 vegetation sampling demonstrate that Area 9S met vegetation success standards in the Permit No. 2016-02 (the Permit), and those recommended in the MMD Coal Mine Program Vegetation Standards (MMD 1999). The complete 2019, 2020 and 2021 Vegetation Monitoring Reports for VMU #4 are contained in Appendix 8.

The Permit requires that the following parameters be met for vegetation success: ground cover, productivity, diversity, and woody stem stocking (Table 2). The ground cover requirement for live perennial/biennial cover on the reclamation is 15%. The productivity requirement is 350 air-dry lbs/ac perennial/biennial annual production (i.e., forage production). The woody stem stocking success standard is 150 live woody stems/ac.

Table 2: Revegetation Success Standards for the Mining Minerals Diversion Permit Area

Vegetative Parameter	Success Standard
Ground Cover	15% live perennial/biennial cover
Productivity	350 air-dry pounds per acre perennial/biennial annual production
Diversity	A minimum of 2 shrub or subshrub taxa contributing at least 1% relative cover each.
	A minimum of 2 perennial warm-season grass taxa contributing at least 1% relative cover each.
	A minimum of 1 perennial cool-season grass taxa contributing at least 1% relative cover.
	A minimum of 3 perennial/biennial forb taxa combining to contribute at least 1% relative cover.
Woody Stem Stocking	150 live woody stems per acre

Note: Diversity criteria assessed for individual perennial/biennial species relative cover as agreed upon by MMD and CMI in June 2019.

The MMD Coal Mine Program Vegetation Standards also state that for Phase III bond release applications, it must be demonstrated that the total annual production and total live cover of biennials and perennials equal or exceeds the approved standards for at least two of the last four years of the responsibility period. Shrub density and revegetation diversity must equal or exceed the approved standards during at least one of the two sampling years of the responsibility period (MMD 1999).

Based on the vegetation monitoring results over the past three years, the VMU-4 reclamation meets the standards and is eligible for Phase II and III bond release. Table 3 below shows in what year the Permit vegetation success standards were met. Vegetation monitoring results for the past three years indicate that the vegetation community in VMU-4 meets the cover, shrub, and forage production in 2019 and 2020 (Table 4) and the diversity standard in 2020 and 2021. (Table 5) Annual forage production and total live cover of biennials and perennials has been achieved in two of the last three years and shrub density and diversity have exceeded the approved standards during one of the past two years.

Table 3: Revegetation Success at McKinley Mine from 2019 to 2021, Mining and Minerals Division Permit Area

Vegetative Parameter ¹	Success Standard		M-VMU-4		
			2019	2020	2021
Ground Cover	15% live perennial/biennial cover	in 2 of the last 4 years	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Productivity	350 air-dry pounds per acre perennial/biennial annual production	in 2 of the last 4 years	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Diversity	A minimum of 2 shrub or subshrub taxa contributing at least 1% relative cover each.	in 1 of the 2 years when production and cover are met	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	A minimum of 2 perennial warm-season grass taxa contributing at least 1% relative cover each.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	A minimum of 1 perennial cool-season grass contributing at least 1% relative cover.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	A minimum of 3 perennial/biennial forb taxa combining to contribute at least 1% relative cover.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Woody Stem Stocking	150 live woody stems per acre	in 1 of the 2 years when production and cover are met	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
All Parameters			M-VMU-4		
			2019	2020	2021
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Eligible for Bond Release			Yes		

Notes:

¹ Parameter and corresponding standard explained in Table 2 of the Vegetation Success Monitoring Reports (Appendix H)

KEY

- All success standards met for the year
- Second year cover and production success standards met.
- Success standards not met for the year

Table 4: M-VMU-4 Statistical Analysis Results for Cover, Production, and Woody Plant Density, 2019 to 2021

Vegetation Metric	Success Standard	Results		
		2019	2020	2021
Perennial/Biennial Cover	≥ 15%	40.9	41.5%	21.6%
Annual Forage Production	≥ 350 lb/ac	958	551	294
Woody Plant Density	≥ 150 stems/ac	3,723	3,116	1,996

Note: Highlight: Hypothesis testing found the success standard was not met.

Table 5: M-VMU-4 Results for Diversity, 2019 to 2021

Parameter ¹	Standard (Relative %)	2019		2020		2021	
		Result	Species	Result	Species	Result	Species
Subshrub or shrubs			(6 spp.)		(9 spp.)		(7 spp.)
Shrub 1	≥ 1.0%	26.56%	Four-wing saltbush	11.99%	Four-wing saltbush	13.42%	Four-wing saltbush
Shrub 2	≥ 1.0%	2.73%	Winterfat	3.45%	Winterfat	8.89%	Rubber rabbitbrush
Shrub 3 (bonus)	--	1.22%	Yellow rabbitbrush	0.80%	Broom snakeweed	4.27%	Winterfat
Perennial warm-season grasses			(3 spp.)		(3 spp.)		(2 spp.)
Grass 1	≥ 1.0%	21.09%	James' galleta	12.70%	James' galleta	19.06%	James' galleta
Grass 2	≥ 1.0%	0.48%	Alkali sacaton	1.10%	Alkali sacaton	11.38%	Alkali sacaton
Grass 3 (bonus)	--	0.19%	Blue grama	0.65%	Blue grama	--	--
Perennial cool-season grasses			(6 spp.)		(9 spp.)		(6 spp.)
Grass 1	≥ 1.0%	21.31%	Colorado wildrye	39.63%	Colorado wildrye	17.60%	Russian wildrye
Grass 2 (bonus)	--	13.94%	Western wheatgrass	6.34%	Thickspike wheatgrass	7.30%	Indian ricegrass
Perennial/biennial forbs		11.34%	(7 spp.)	2.21%	(5 spp.)	3.55%	(5 spp.)
Forb 1	≥ 1.0% (combined)	8.73%	Flatspine stickseed	0.96%	Gray globemallow	3.20%	Rattlesnake weed
Forb 2		1.91%	Flixweed	0.72%	Palmer's penstemon	0.24%	Unknown composite
Forb 3		0.55%	Blazingstar species	0.20%	Rose heath	0.12%	Redstem stork's bill
Forb 4 (bonus)		0.06%	pright prairie coneflow	0.17%	Scarlett globemallow	--	--

Note:

- Parameter and corresponding standard explained in Table 2 of the Vegetation Success Monitoring Reports (Appendix 8)

The following Table 6 shows the total production figures for the three years. Included in the table are brief summary statistics.

Table 6: Summary of VMU #4 Production Results

Annual Total Production (lbs/ac)	2019	2020	2021
Mean	1,000	555	326
Standard Deviation	764	326	392
90% Confidence Interval	199	85	103
Nmin ¹	166	98	410

Notes:

- Minimum number of samples required to obtain 90 percent probability that the sample mean is within 10 percent of the population mean.
- Probably the true value of the mean is within 10 percent of the mean for the sample size.

Reference: MMD, 1999. Coal Mine Reclamation Program Vegetation Standards, New Mexico Energy, Minerals and Natural Resources Department Mining and Minerals Division.

Westbrook Property

In addition to the vegetation requirements discussed above, the permit also included a stipulation related to the final quantity of pinon and juniper trees to remain on the Westbrook lease in Section 15, T16N, R20W. The details of this stipulation and the final resolution of the stipulation are detailed in Section 5.5.5 of the Permit #2016-02 document.

13.2 Postmining Land Use (19.8.20.2064 NMAC)

The information in this section provides a demonstration that Area 9S meets the requirements of 19.8.20.2064 Revegetation: Grazing, which states: When the approved postmining land use is range or pasture land, the operator shall demonstrate to the director, that the reclaimed land has the capability of supporting livestock grazing at rates approximately equal to that for similar non-mined lands for at least two of the last four full years of liability required under Subsection B of 19.8.20.2065 NMAC.

To that end, a livestock carrying-capacity analysis is provided herein for two of the last four full years based on the production data for vegetation sampling conducted in 2019 and 2020. The production values from these two years met and exceeded the annual production standard of 350 pounds per acre of air-dry perennial and biennial production (i.e., forage production) in the MMD permit. The analysis also includes 2021 data, the year in which the production standard in the permit was not met to show that carrying capacity during the extended drought still exceeded the premining carrying capacity rate.

The analysis also shows what would be the carrying capacity for total production as additional support information.

Carrying capacities were calculated for the mean and median forage production values, and for the mean production value. The calculations were based on an average of 30 days per month with a 50% utilization of the vegetation production values. Carrying capacity is in terms of the animal-unit-month (AUM), which is the amount of dry forage required by one animal unit for one month based on a forage allowance of twenty-six (26) pounds per day for a 1,000-pound cow either dry or with calf up to 6 months of age, or four (4) sheep or goats (MMD 2000).

The non-mined carrying capacity figure selected to compare against the reclaimed carrying capacity is the average baseline premining figure of 0.07 AUM/Acre. (Dames and Moore 1974; Settlement Agreement 1988). Use of a value of 0.07 AUM/Acre was also formally referenced in MMD's approvals of CMI bond release applications in 2010 and 2012 (MMD 2010; MMD 2012).

Table 7 summarizes the carrying capacities calculated from production data collected in 2019, 2020, and 2021. The calculations show that data from 2019 and 2020 exceeded the 0.07 AUM/Ac premining value. The calculations also show that 2021 data collected during this intensive drought episode also exceeded the 0.07 AUM/Ac premining value. Subsequently, this analysis demonstrates that the standard in 19.8.20.2064 was met in two of the last four years of liability.

Table 7: Summary of Carry Capacities from Production Data (2019, 2020, and 2021)

Categories Measured	Production	
	Lb/Ac	AUM/Ac
Premining baseline condition (avg. value)	-	0.07
19 VMU 4 Mean Total Production	1,000	0.64
19 VMU 4 Mean Forage Production	958	0.61
19 VMU 4 Median Forage Production	776	0.50
20 VMU 4 Mean Total Production	555	0.36
20 VMU 4 Mean Forage Production	551	0.35
20 VMU 4 Median Forage Production	571	0.37
21 VMU 4 Mean Total Production	326	0.21
21 VMU 4 Mean Forage Production	294	0.19
21 VMU 4 Median Forage Production	156	0.10

References

- Dames and Moore, 1974. Environmental Assessment-McKinley Mine, McKinley County, New Mexico,
- MMD, 1999. Coal Mine Reclamation Program Vegetation Standards, New Mexico Energy, Minerals and Natural Resources Department Mining and Minerals Division.
- MMD, 2010. Director’s Order with Findings of Fact and Conclusions of Law for McKinley Mine (Permit 2006-02) Area 4 and Area 9 Reclamation Liability-Release Application. Finding of Fact No. 21.
- MMD, 2012. Director’s Order with Findings of Fact and Conclusions of Law for McKinley Mine Sections 7, 8 and 18 South Mine Access Area Reclamation Liability Release Application. Finding of Fact No. 22.
- Settlement Agreement, 1988. B.8 Report. MMD Permit No. 2016-02, Volume 10, Tab 09.

13.3 Surface and Groundwater

The report, titled “Area 9 South, Bond Release Application, Groundwater and Surface Water Evaluation” included in Appendix 9 documents the status of groundwater and surface water and demonstrates that the operation has complied with the probably hydrologic consequences determination.

13.4 Ponds and Small Depressions

There are no permanent impoundments in Area 9S; however, small depressions were retained where prior sedimentation ponds were reclaimed in order to retain moisture and provide a water source for the post mining land use. The approximate location of the small depressions are shown on Exhibit C.

13.5 Performance Bond Reduction

The bond reduction associated with the Area 9S bond release and the amount of bond that would remain is shown below. The bond reduction was computed by subtracting out the revegetation costs associated with the Area 9S acreage from the existing bond. A reduction in bond for the Phase I acreage was not necessary.

Spreadsheets are provided in Appendix 1 Performance Bond Calculation showing the rationale and calculations for the bond to be released, and the bond that would be retained for the remaining lands under reclamation liability in MMD jurisdiction. It was necessary to reallocate the current bond funds to the remaining cost centers to bring the bond up to date; these calculations (in 2015 dollars i.e., the last escalation) are provided in Table 1 of Appendix 1. Table 2 in the appendix escalates the bond calculations in Table 1 to 2022 dollars. Table 3 in the appendix shows what the new bond would be in 2022 dollars after release of the Area 9S area under liability.

The following summarizes the current and remaining bond fund, proposed bond release and remaining bond:

■ Current Bond Type:	Surety Bond
■ Current Bond Fund:	\$ 24,645,642
■ Less Previous A11/12 PI Bond Release:	\$ 1,150,724
■ Remaining Bond Fund:	\$ 23,494,918
■ Area 9S direct & indirect costs to be released:	\$ 2,634,239
■ New Bond Fund Amount:	\$ 20,860,679 (in 2022 dollars)

