

2022 Annual Report

New Mexico Mining Act Reclamation Program

Energy, Minerals & Natural Resources Department
Mining and Minerals Division

Albert C.S. Chang, Director
David (“DJ”) Ennis, Program Manager



Table of Contents

Table of Contents	i
List of Tables	ii
List of Figures	ii
1. Executive Summary	1
2. General Description of Mining Operations.....	2
3. General Description of Reclamation Practices	7
4. Financial Assurance Update	9
5. Amendments to the New Mexico Mining Act Rules.....	10
6. Mineral Production Statistics for New Mexico in 2022	11

On The Cover: The photograph on the cover shows the Cornudas Mountains in Otero County, New Mexico.

List of Tables

Table 1.	Mining Operations Approved from 1994 to 2022
Table 2.	Approved Permit Applications–2022
Table 3.	Approved Exploration Permits–2022
Table 4.	Approved Minimal Impact New Mining Permits–2022
Table 5.	Pending Regular Mine Permit Development–2022
Table 6.	Summary of Disturbed and Reclaimed Acres–2022
Table 7.	Summary of Financial Assurance Held by MMD–2022
Table 8.	Mineral Production Value, Rank, Employment, Payroll, and Revenue–2022

Appendix A:

Table A-1.	Number of Acres Disturbed and Reclaimed as of December 2022
------------	---

Appendix B:

Table B-1.	New Mexico Financial Assurance as of December 2022
------------	--

List of Figures

Figure 1.	Percentage of Production Value, Employment, Payroll, and Revenue by Commodity–2022
Figure 2.	Mineral Industry Employment, 1990–2022

1. Executive Summary

This annual report summarizes activities regulated by, and related to, the Mining Act Reclamation Program (“MARF”) of the New Mexico Mining and Minerals Division (“MMD”). Part 13 of the New Mexico Mining Act Rules (the “Rules”) requires an annual report be provided to the New Mexico Mining Commission. The annual report is to contain a general description of mining operations, reclamation practices, proposed rule changes, and production figures for the state.

This report identifies activities related to the permitting and regulation of mines and mineral exploration under the Mining Act for the 2022 calendar year. In this report, we also provide production and reclamation statistics for the 2022 calendar year, as required by the Rules. This information is provided to us by our mine operators in annual reports that are required to be submitted by April of the following year. The 2022 information submitted in this report was provided by our operators in April 2023.

This report also provides tables identifying all mining and exploration operations that have obtained a permit, or submitted a permit application, under MARF since its inception in 1994.

This report includes:

- Production figures for New Mexico mines active during the 2022 calendar year;
- A description of reclamation activities and practices related to specific mines in the State of New Mexico;
- A description and summary of exploration and mine permitting activities for the 2022 calendar year;
- Summary of reclaimed and disturbed acreage for 2022;
- Summary of any actions undertaken by the Mining Commission in 2022;
- Summary of financial assurance amounts and instruments for each approved mine site and exploration project.

2. General Description of Mining Operations

Permit Types

Mining operations in New Mexico are defined by the following terminology:

- Minimal Impact Mining Operations are small extractive operations that are less than 10 acres in size or are <40 acres in size for certain commodities. Dolomite, garnet, humate, perlite and zeolite operations that are located outside Bernalillo, Doña Ana and Santa Fe counties and are committed to performing concurrent reclamation can be up to 40 acres in size under a rule revision approved in 2016. Minimal impact mining operations can be designated as either existing or new operations. Existing operations are those that operated between January 1, 1970, and June 18, 1993, while new operations are those permitted after 1993.
- Regular Mining Operations are larger mining operations of unlimited acreage and can be designated as either existing or new operations. Existing regular mining operations are those that operated between January 1, 1970, and June 18, 1993, while new operations are those permitted after 1993.
- Minimal Impact Exploration Operations are those that create less than 5 acres of surface disturbance and meet the definition of “minimal impact mining operations” as defined by the Rules. These are typically small extractive operations that involve the sampling of ore bodies prior to full-scale mine development.
- Regular Exploration Operations are those that exceed 5 acres of surface disturbance or do not meet the definition of “minimal impact mining operations” as defined by the Rules.
- General Permit Operations cannot excavate materials greater than 200 cubic yards per year or disturb greater than 2 acres of surface at any one time. The General Permit category is typically used by hobby and recreational miners.

The Minimal Impact Exploration and General Permit categories make up the largest number of permitted operations. Table 1 shows the various types of mining and exploration operations, by category, that have received approved permits since the start of MARP in 1994.

Table 1. Mining Operations Approved from 1994 to 2022

Type of Operation	Description	Number of Operations
Regular Existing Mining	>10 acres of disturbance	31
Regular New Mining	>10 acres of disturbance	0
Minimal Impact Existing Mining	<10 or <40 acres of disturbance	24
Minimal Impact New Mining	<10 or <40 acres of disturbance	38
Regular Exploration	>5 acres of disturbance	7
Minimal Impact Exploration	<5 acres of disturbance	175
General (Recreational)	<200 cubic yards/yr of disturbance	407
Total Mining Operations Permitted		682

Permit Modifications and Revisions

Every year, MARP typically receives and processes several permit modifications and revisions, which can be just as time-consuming in processing and approving as new permit applications. Modifications and revisions can involve updating reclamation acreage, permit transfers, operator name changes, as well as adjustments to financial assurance instruments and amounts.

In 2022, MMD approved eleven (11) modification applications. A permit revision for the Mt. Taylor Mine was received in 2022 and continues to be processed.

Table 2. Approved Permit Applications – 2022

Type of Operation	Description	Number of Approved Operations
		2022
Regular New Mining	> 10 acres of disturbance	0
Minimal Impact New Mining	< 10 or <40 acres of disturbance	0
Regular Exploration	> 5 acres of disturbance	1
Minimal Impact Exploration	< 5 acres of disturbance	0
General Permits	< 200 cubic yards/yr of disturbance	3
Revisions	Revision to an Existing Permit	0
Modifications	Modification to an Existing Permit	11

Additional On-Going Projects with Continued Permitting

Questa Mine: Chevron Mining Inc.'s ("CMI") Questa Mine has also involved a significant number of MARP staff and has required numerous MMD resources over the last several years. The Questa Mine has been designated a federal U.S. Environmental Protection Agency ("EPA") Superfund Site and MMD has been coordinating state reclamation plans with the EPA's prescription for remediation under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") process. After an extensive remediation investigation and feasibility study were conducted, a Record of Decision ("ROD") was signed December 2010. Further, CMI announced the permanent closure of the Questa Mine during calendar year 2014. A Partial Consent Decree/Settlement was agreed to with Chevron, EPA and the state agencies in August of 2016, for approximately 25% of the permitting area. Much work remains to be done to address further reclamation of the site under the CERCLA process and bring the remainder of the site under another Partial Consent Decree. Reclamation of the former tailing impoundment commenced during 2019 and continued through 2022. Reclamation of the mill pond and Group 1 Waste Rock Stockpiles progressed throughout 2022. MMD performed monthly inspections of active reclamation at the Questa Mine throughout 2022.

Tronox Mines: In 2014, the U.S. District Court approved a legal settlement of nearly \$1 billion for approximately 50 uranium mines that were operated by Kerr-McGee Corporation on or near the Navajo Nation. Collaborative work with EPA Region 9, EPA Region 6, Navajo Nation and State of NM partners commenced in 2015. Since 2015, MMD has spent a considerable amount of time working with the various partners on prioritization of projects, review of documents, assistance with development of closure alternatives and providing management services and technical assistance. MMD continued to provide technical assistance to EPA Region 6 and the Navajo Nation throughout calendar year 2022, focused largely on development of reclamation alternatives for the Quivira Mine and the Section 32/33 Mine.

Mt. Taylor Mine

The Mt. Taylor Mine announced it was permanently closing in December 2019 and began implementation of the Closure/Closeout Plan in 2020. The Mt. Taylor Mine continued reclamation activities throughout 2022 including tasks such as dismantling the treated water pipeline, excavation and shipment of low-grade ore to the White Mesa Mill, construction of a disposal cell in the South Waste Rock Pile, demolition of buildings, and other closeout activities. MMD performed monthly inspections of active reclamation throughout 2022.

Exploration Projects and General Permits

One regular exploration permit application was approved by MMD during calendar year 2022. Table 3 identifies the specific exploration applications approved by MMD in 2022.

Table 3: Approved Exploration Permits – 2022

Permit Number	Permit Name	Permit Operator	Commodity
GR087ER	Turquoise Mountain	Southern Silver	Copper

Approved Minimal Impact Mining Projects in 2022

No minimal impact new mining permit applications were received or approved by MMD in calendar year 2022.

Table 4: Approved Minimal Impact Mining Permits – 2022

Permit Number	Permit Name	Permit Operator	Commodity
--	--	--	--

Pending Regular Mine Applications

Two (2) new conventional mines are engaged in some phase of permit development in New Mexico, a summary of which is provided in Table 5:

Table 5: Pending Regular Mine Permit Development – 2022

Project Name	Operator	Surface Ownership	Commodity	Proposed Permit Area (acres)
Permitting In-Progress				
Copper Flat Mine	NM Copper Corporation	BLM and Private Owners	Copper	2,190
La Jara Mine	Laramide	USFS	Uranium	17

Copper Flat Mine (Copper and Molybdenum): New Mexico Copper Corporation (“NMCC”) has proposed a new regular copper mine in Sierra County near Hillsboro, New Mexico. The mine is proposed to be an open-pit, truck and shovel operation with milling performed on-site. NMCC submitted the Permit Application Package to MMD in July 2012 and has been working with the BLM to address the federal National Environmental Policy Act (“NEPA”) requirements. In

November 2015, the BLM released the Draft Environmental Impact Statement (“DEIS”). The Final EIS was issued in April 2019, and the Record of Decision was issued in August 2019.

In 2018, NMCC addressed technical issues on the Mining Operation and Reclamation Plan and Probable Hydrologic Consequences documents. NMCC also submitted a financial assurance cost estimate for agency review in August 2018, then addressed technical comments on the cost estimate in a revised submittal dated December 2018. In December 2018, NMED issued Discharge Permit DP-1840 for the Copper Flat Mine. A second revised cost estimate was submitted to the agencies in August 2019.

In March 2020, the MMD Director rescinded the Notice of Technical Approvability citing uncertainty about when, and if, NMCC can secure the necessary water rights for the project. Rescission of the Notice of Technical Approvability reopened the permit review process for consideration of issues surrounding water rights as well as a dam safety permit from NMOSE for the tailing storage facility.

In June 2020, MMD withdrew the March 2020 order, thereby reinstating the Notice of Technical Approvability, and entered into a settlement agreement with NMCC outlining the conditions by which MMD will issue a Part 6 mining permit for the Copper Flat Mine.

As of the end of 2022, MMD continues to review financial assurance calculations and other submittals from NMCC.

La Jara Mesa Mine (Uranium): The La Jara Mesa Mine proposed by Laramide Resources LTD is a conventional underground uranium mining and surface operation located in Cibola County on the edge of the Mt. Taylor Traditional Cultural Property. The La Jara Mesa Mine application details an underground mine accessed from an incline portal with approximately 16 acres of surface disturbance within the proposed 77 acre permit area.

Laramide Resources submitted a Plan of Operations, and a Draft EIS was issued in March 2012. Laramide Resources restarted the permitting process with the USFS in 2022. The USFS contemplated performing either an updated Draft EIS, a supplement to the DEIS or if a Final EIS with updated analysis is necessary. Laramide Resources submitted a Sampling and Analysis Plan to the State.

3. General Description of Reclamation Practices

Highwalls are oftentimes difficult to reclaim safely. In some cases, MMD allows operators to leave highwalls as part of the overall reclamation strategy for the site. This was the case for the Chemical Lime site in Grant County. Former facilities at this site consisted of several shallow pits and highwalls, a former crushing plant, loading facility, various scrap metal areas and a stone office structure. Past reclamation included some surface regrading and demolition of facilities, however the majority of the site was unreclaimed. Reclamation began in 2020 and continued into 2022. In coordination with the US Forest Service, the highwalls were determined to be stable and could be left in place. Reclamation consisted of placing cover over the flat areas under the highwalls followed by revegetation.



Highwalls at Chemical Lime

Mines Fully Released from The Mining Act

Twenty-three (23) mines have received a complete and final release for reclamation or for achieving the post-mine land use under the New Mexico Mining Act:

- Alley Gypsum Mine, Doña Ana County
- Black Hawk Tailings Impoundment, Grant County
- Boston Hill Mine, Grant County
- Brockman Mine, Hidalgo County
- Chaco Limestone Quarry, San Juan County
- Chino Limestone Mine, Grant County
- CR Minerals Mill, Santa Fe County

- Cullum Claims Mine, Rio Arriba County
- Deming Jigging, Luna County
- Double Tree I Mine, McKinley County
- KB Mine, Grant County
- Malone Mine, Grant County
- Mathis Limestone Quarry Mine, Grant County
- Mesa Verde Resources Mill, Sandoval County
- Pine Canyon/Spar Hill, Grant County
- Pinos Altos Mine, Grant County
- Sais Quarry Mine, Socorro County
- Section 14 Mine, McKinley County
- Section 2 Mine, McKinley County
- Shamrock Leach Site, Doña Ana County
- Toro Mine, Grant County
- U.S. Hill Mine, Taos County
- Velarde Mill, Rio Arriba County

Total Disturbance and Reclamation

Total disturbance and reclamation across the state are reported by the mine operators. Overall disturbed and reclaimed acreage under permit with MARP for the 2022 calendar year is summarized in Table 6.

Table 6: Summary of Disturbed and Reclaimed Acres – 2022

Calendar Year	Disturbed Acres To Date	Reclaimed Acres To Date
2022	26,930.8	7,609.3

4. Financial Assurance Update

A summary of the amount of financial assurance held by MMD for the 2022 calendar year is in Table 7 below. Financial assurance is provided to the State of New Mexico by mining operators who have obtained approved permits and closeout plans. The forms of financial assurance include surety bonds, cash deposits, letters of credit, collateral (real estate), and third-party guarantees.

Table 7: Summary of Financial Assurance Held by MMD – 2022

Calendar Year	Financial Assurance Amount Held By MMD
2022	\$1,057,349,502

5. Amendments to the New Mexico Mining Act Rules

No amendments to the rules were taken by the New Mexico Mining Commission during calendar year 2022.

6. Mineral Production Statistics for New Mexico in 2022

New Mexico remains a leading United States mineral producer in the 2022 commodity rankings provided by reports from the U.S. Geological Survey (USGS) and U.S. Energy Information Administration (coal):

- Potash: 1st (used primarily in fertilizer, and in lesser amounts for chemical and industrial applications)
- Perlite: 1st (used in building construction products, horticultural aggregate, and fillers)
- Zeolite: top 5 (used primarily in animal feed, odor control, and water purification applications)
- Copper: 6th (used primarily in building construction, transportation equipment, and electrical and electronic products)
- Coal: 13th
- Nonfuel Mineral Production: New Mexico ranks 24th among the states, producing 1.49 percent of the U.S. total

Total federal and state revenues generated by 2022 mineral production in New Mexico decreased 9.5 percent from 2021 levels, to \$33.7 million. State revenue information is provided by the Taxation and Revenue Department and the State Land Office and includes state trust land mineral lease royalties, rentals and bonuses, and associated taxes. Federal revenue information is provided by the Department of Interior's Office of Natural Resources Revenue and includes a 50 percent state share of federal royalties. In any production year, these revenues only accrue if the lessee is mining and producing commodities on federal or state land.

Copper was the largest employer in New Mexico's mining industry, followed by sand and gravel operations, and coal operations. Reported industry payroll (excluding benefits) increased almost 6 percent from 2021 to \$286.8 million (Figure 1). Overall, reported employment increased or was maintained in 2022. By category, compared to 2021, direct employment increased 2 percent from 3,365 to 3,440 employees; contract employment increased 94.9 percent from 392 to 764 employees; and reclamation employment decreased 2.6 percent from 187 to 182 employees (Figure 2).

Table 8: Mineral Production Value, Rank, Employment, Payroll, and Revenue – 2022

Mineral	Production ¹	Production Rank ²	Production Value \$	Employment ³	Reclamation Employment	Payroll \$ ⁴	Revenue Generated \$ ⁵	
							State	Federal
Coal	10,284,455	13	\$ 352,625,327	862	121	\$ 77,471,925	\$ 6,602,071	\$ 1,435,608
Copper	189,184,268	6	\$ 758,097,307	1,287	8	\$ 95,995,639	\$ 6,245,933	\$ -
Gold ⁶	7,537,979	-	\$ 13,572,915	-	-	-	\$ 119,946	\$ -
Industrial Minerals ⁷	2,629,253	-	\$ 219,827,774	175	5	\$ 8,249,782	\$ 198,258	\$ 606,240
Aggregates ⁸	13,052,020	-	\$ 142,796,478	1,221	29	\$ 43,249,132	\$ 5,893,905	\$ -
Other Metals	-	-	-	-	-	-	\$ -	\$ -
Molybdenum	-	-	-	-	-	-	\$ -	\$ -
Potash	601,565	1	\$ 412,912,142	652	10	\$ 60,878,186	\$ 3,865,101	\$ 8,705,957
Silver ⁶	148,856	-	\$ 3,244,233	-	-	\$ -	\$ 27,476	\$ -
Uranium ⁹	-	-	\$ -	7	9	\$ 964,653	\$ -	\$ -
TOTAL			\$ 1,903,076,176	4,204	182	\$ 286,809,317	\$ 22,952,690	\$10,747,805

Source: Operator reports submitted to the Mining and Minerals Division, unless otherwise noted

¹ Production is in short tons for coal, industrial minerals, aggregates, other metals, and potash; in pounds for copper; and in troy ounces for gold and silver.

² Production rank, where available, is based on 2022 production in relation to other states.

Sources: Copper and potash: Mineral Resources Program, United States Geological Survey

Coal: Energy Information Administration, United States Department of Energy

³ Employment category includes direct and contract employees.

⁴ Payroll does not include benefits.

⁵ NM State Land Office revenue: mineral lease royalties, rentals, bonuses; NM Taxation and Revenue Department revenue: severance, resource excise, and conservation taxes. Federal revenue includes 50% state share of federal royalties.

Sources: State data: New Mexico State Land Office, New Mexico Taxation and Revenue Department

Federal data: Office of Natural Resources Revenue

⁶ Gold and silver are by-products of copper production. Employment/payroll for gold/silver included in copper.

⁷ Category includes brick clay, calcite, dimension stone, gypsum, humate, perlite, Portland cement, pumice, salt, silica, and zeolite; USGS ranks NM first in perlite and zeolite.

⁸ Category includes base course, caliche, clay and shale, crushed rock, flagstone, fill dirt, gravel, limestone, red dog, rip-rap, sand, scoria and topsoil.

⁹ Employment/payroll numbers are for reclamation activities/maintenance at closed mines and mills.

Figure 1. Percentage of Production Value, Employment, Payroll, and Revenue by Commodity - 2022

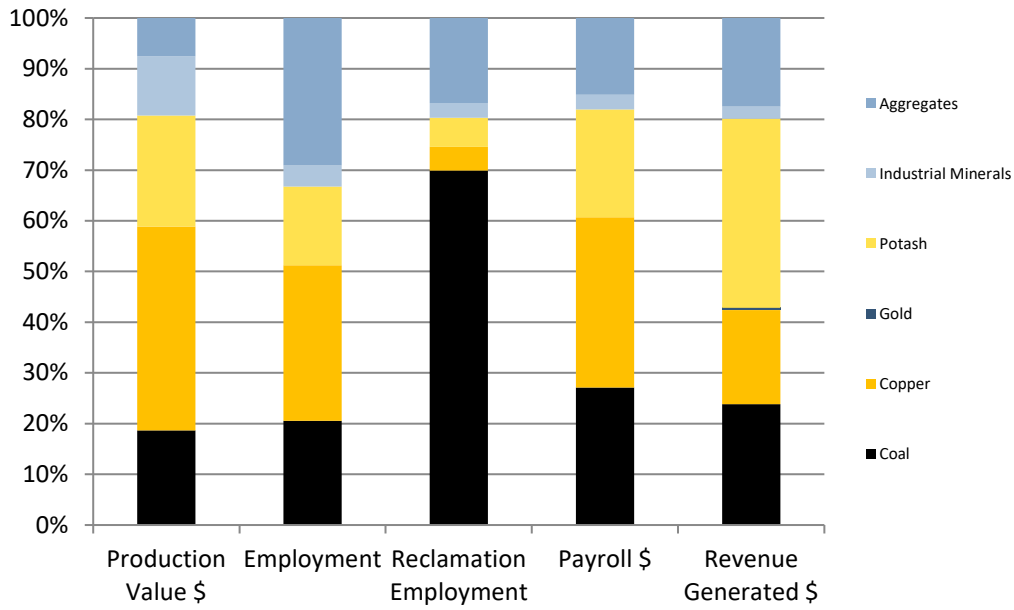


Figure 2. New Mexico Mineral Industry Employment from 2000-2022

