



2017 Annual Report

New Mexico Mining Act Reclamation Program

Energy, Minerals & Natural Resources Department
Mining and Minerals Division

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On The Cover: The photograph on the cover shows one of the headframes at the Mt. Taylor Mine, Cibola County, New Mexico. This uranium mine was approved by MARP in late 2017 to return to active mining status after many years of being on standby status.

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1. Executive Summary

This annual report summarizes activities regulated by, and related to, the Mining Act Reclamation Program (“MARP”) 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 2017 calendar year. In this report, we also provide production and reclamation statistics for the 2017 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 2017 information submitted in this report was provided by our operators in April 2018.

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

This report includes:

- Production figures for New Mexico mines active during the 2017 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 2017 calendar year;
- Summary of reclaimed and disturbed acreage for 2017;
- Summary of any actions undertaken by the Mining Commission in 2017;
- 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 designed 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 2017

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	35
Regular Exploration	>5 acres of disturbance	6
Minimal Impact Exploration	<5 acres of disturbance	160
General (Recreational)	<200 cubic yards/yr of disturbance	376*
Total Mining Operations Permitted		632*

* An update in the database used by MARP to track permitting resulted in a correction to the number of General Permits issued since inception of the program, which also affected the number of total mining operations permitted since 1994.

Permit Modifications and Revisions

Every year, MARP typically receives and processes a large number of 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 2017, MMD received thirteen (13) modification applications and one (1) revision application. The one revision request (Revision 17-2) was for the Chino Mine to expand the beneficiation design limit by approximately 248 acres and construct a new waste rock stockpile consisting of approximately 159 acres of new disturbance. Revision 17-2 required an updated closeout plan and updated financial assurance cost estimate.

Notable modifications processed by MMD during 2017 include:

- Update to the closeout plan and financial assurance for No Agua Mine and Mill;
- Partial financial assurance release for 204.5 acres of reclamation at the Cunningham Hill Mine;
- Partial financial assurance release at the Center Mine;
- Approval of suitable reclamation cover material at the Chino Mine;
- Replacement of the financial assurance instrument at the Tijeras Mine and Mill.

Table 2 identifies specific types of permit applications, including modifications and revisions, approved by MMD during the 2017 calendar year.

Table 2. Approved Permit Applications – 2017

Type of Operation	Description	Number of Approved Operations
		2017
Regular New Mining	> 10 acres of disturbance	0
Minimal Impact New Mining	< 10 or <40 acres of disturbance	2
Regular Exploration	> 5 acres of disturbance	0
Minimal Impact Exploration	< 5 acres of disturbance	1
General Permits	< 200 cubic yards/yr of disturbance	2
Revisions	Revision to an Existing Permit	1
Modifications	Modification to an Existing Permit	13

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, August of 2016. 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.

Mt. Taylor Mine: The Mt. Taylor Mine operated by Rio Grande Resources, submitted Revisions 10-1 (renewal of standby status), 13-2 (return to active status) and 14-1 (renewal of standby status) continued to be processed by MMD throughout 2017 due to on-going legal challenges, complexity, and challenges from public interest groups. Notably in 2017, MMD approved the revision for Mt. Taylor Mine to end standby status and return to active mining status.

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, during which MMD spent a considerable amount of time working with the various partners on prioritization of projects and providing management services and technical assistance. MMD continued to provide technical assistance to EPA Region 6 and the Navajo Nation throughout calendar year 2017.

Continental Mine and Mill: In 2017, MMD approved Revision 15-1 for the Continental Mine and Mill to end Standby Status and return to active mining status.

Chino Mine and Mill: During calendar year 2017, MMD approved Revision 16-1 for the Chino Mine to construct the North Lampbright Waste Rock Stockpile, which included a new unit expansion of the permit area and expansion of the design limit.

Exploration Projects and General Permits

Only one (1) minimal impact exploration permit application was received and approved by MMD during calendar year 2017. Table 3 identifies the specific exploration applications approved by MMD in 2017.

Table 3: Approved Minimal Impact Exploration Permits – 2017

Permit Number	Permit Name	Permit Operator	Commodity
MK051EM	Cottonwood Exploration	Mesa Verde Resources LLC	Humate

Approved Minimal Impact Mining Projects in 2017

Two minimal impact new mining permit applications were received, processed and approved by MMD in calendar year 2017. Table 4 below identifies the specific mining applications approved in 2017.

Table 4: Approved Minimal Impact New Mining Permits – 2017

Permit Number	Permit Name	Permit Operator	Commodity
MK052EM	Fruitland Mine	Miocene LLC	Humate
SA012MN	Horizon Cuba Mill	Horizon Ag-Products	Humate

Pending Regular Mine Applications

Five (5) 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 – 2017

Project Name	Operator	Surface Ownership	Commodity	Proposed Permit Area (acres)
Permitting In-Progress				
Copper Flat Mine	New Mexico Copper Corporation	BLM and Private Owners	Copper	2,190
Roca Honda Mine	Uranium Resources, Inc.	USFS and SLO	Uranium	183
Section 11 & 12 Ambrosia Lake Mine	Southwest Resources, Inc.	Private	Uranium	15
Presumed Inactive – No Recent Activity From Operator				
La Jara Mesa Mine	Laramide Resources	USFS	Uranium	22
Cebolleta Mine	Neutron Energy	Private Land Grant	Uranium	4,475
Ortiz Mine	Santa Fe Gold Corporation	Private Land Grant	Gold	4,702

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”) and has been working with NMCC to address the ~1,600 public comments received.

NMCC made significant strides in State permitting throughout the calendar year of 2017 through the submittal of the *Updated Mining Operation and Reclamation Plan, Revision 1*. This updated plan was submitted in July 2017 and was processed by MMD and other cooperating agencies throughout the last half of 2017. By the end of the calendar year, NMCC had responded satisfactorily to the majority of agency comments.

Additional State permitting milestones were achieved by NMCC through the submittal of the *Probable Hydrologic Consequences* report (December 2017) and the *Predictive Geochemical Modeling of Pit Lake Water Quality* report (December 2017). Both of these technical reports were reviewed during 2018.

Roca Honda Mine (Uranium): The proposed Roca Honda Mine by Energy Fuels, Inc. is located in McKinley County on a combination of Cibola National Forest land, private land, and state trust lands. Energy Fuels, Inc. has submitted both the Sampling and Analysis Plan and several iterations of the Permit Application Package to MMD.

The U.S. Forest Service released the DEIS in 2013. However, several additions and changes to the mine plan of operations submitted by Energy Fuels, Inc. in 2015 and 2016 had to undergo public scoping by the Forest Service as a Supplement to the DEIS. The U.S. Forest Service continued to work on the Supplement to the DEIS in 2016, and MMD continues to collaborate with the U.S. Forest Service and the operator on this mine.

Section 11 & 12 Ambrosia Lake Mine (Uranium): Southwest Resources, Inc. (“SRI”) is seeking to resurrect an existing dry underground uranium mine with an existing production shaft on private land occupying the heart of the Ambrosia Lake Mining District in McKinley County. SRI originally applied for a minimal impact permit, which was denied and resubmitted as a Part 5 Existing Mine Permit. MMD is working with the operator and their contractors, in cooperation with other state agencies, to characterize radiological waste materials remaining at the site, which will be cleaned up prior to any proposed renewed mining activities.

La Jara Mesa Mine (Uranium): The proposed La Jara Mesa Mine by Laramide Resources, Inc. is located in Cibola County on Cibola National Forest land 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 permit application to the U.S. Forest Service for the proposed mine which is being handled through the NEPA process. Laramide Resources also initiated the permitting process with MMD by submitting a Sampling and Analysis Plan. No recent activity or communication from the operator has occurred for this mine; therefore, MMD considers the permitting process for this site to be inactive.

Cebolleta Mine (Uranium): Neutron Energy submitted a Sampling and Analysis Plan in March 2012 for the Cebolleta Mine, a proposed new uranium mine in Cibola County. The proposed mine is located entirely on private land, most of which is owned by the Cebolleta Land Grant. The proposed mine permit acreage is approximately 4,475 acres, though the amount of disturbance is anticipated to be less. Neutron Energy was purchased by Uranium Resources, Inc. in 2012. Due to other priorities, the operator has slowed or ceased work on this permit application, therefore MMD considers the permitting process for this site to be inactive.

Ortiz Mine (Gold): Santa Fe Gold Corporation submitted a Sampling and Analysis Plan in July 2013 for the Ortiz Mine, a proposed new gold mine in Santa Fe County. The proposed mine is located entirely on private land that is also a Spanish Mine Grant. The proposed permit acreage is approximately 4,702 acres and may include two separate open pits (one in Carache Canyon and one in Lukas Canyon) as well as a milling facility and tailings dam deposition facility. MMD and the cooperating agencies reviewed the Sampling and Analysis Plan in 2013 and provided comments to the operator so that implementation of the Baseline Data Collection phase could commence. No recent activity or communication with Santa Fe Gold Corporation has occurred; it appears that the operator has put this permitting action on-hold. Therefore, MMD considers the permitting process for this site to be inactive.

3. General Description of Reclamation Practices

Most of MARP's reclamation practices focus on earthwork issues such as suitability of cover materials, regrading stockpiles, slope stability, surface water drainage control, scarification, reseeding, and other issues related to achieving a self-sustaining ecosystem at closure. One aspect of closure and reclamation that one might not think about is the removal of hazardous materials, reagents, and other chemicals during the closure of mining and milling facilities.

During on-going closure at the Questa Mine in 2017, many of these types of materials have been removed, typically through removal of a tank or container used to store these materials. At the Questa Mine, however, a known release of polychlorinated byphenyl (PCB), a carcinogenic chemical that was used during milling at the site, was remediated through excavation of contaminated soil during closure.



Excavation at the Questa mill during demolition.

Mines Fully Released From The Mining Act

Fifteen (15) 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
- Chaco Limestone Quarry, San Juan County
- Chino Limestone Mine, Grant County
- CR Minerals Mill, Santa Fe County
- Cullum Claims Mine, Rio Arriba County
- Double Tree I Mine, McKinley County
- Malone Mine, Grant County
- Mesa Verde Resources Mill, Sandoval County

- Pinos Altos Mine, Grant County
- Section 14 Mine, McKinley County
- Shamrock Leach Site, Doña Ana County
- Toro Mine, Grant 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 2017 calendar year is summarized in Table 6.

Table 6: Summary of Disturbed and Reclaimed Acres – 2017

Calendar Year	Disturbed Acres To Date	Reclaimed Acres To Date
2017	26,567	7,078

Appendix A contains summary tables of operator reports on disturbed and reclaimed acres for the 2017 calendar year.

Abandoned Mine Land (AML) Reclamation Projects

The Abandoned Mine Land (AML) Program is part of the Mining and Minerals Division and promotes the reclamation and safeguarding, of pre-1977 mining-related disturbances. The AML program is supported by funds provided by the Office of Surface Mining Reclamation and Enforcement. The funds are derived from a fee on active coal mining operations.

The AML Program is authorized to perform full-scale mining on abandoned coal properties, but only safeguarding on abandoned hard rock properties. To date, the AML program has addressed several thousand hazardous mine features such as open shafts, adits, stopes, and winzes. In addition, the AML program performs restoration of eligible lands and water and the environment previously degraded by adverse effects of past mineral mining and processing practices, including measures for the conservation and development for soil, water, woodland, fish and wildlife, recreational resources, and agricultural productivity.

A quarterly report on AML projects is available on MMD’s website at:
<http://www.emnrd.state.nm.us/MMD/AML/AMLProjUnderDev.html>

A detailed description of all AML construction projects conducted since 1981 can be found on MMD’s website at:
<http://www.emnrd.state.nm.us/MMD/AML/AML-ConstructionProjects.html>

Coal Mine Reclamation Program Projects

The Coal Mine Reclamation Program (“CMRP”) was created in the early 1980s as part of New Mexico’s enactment of surface coal mine reclamation regulations under the Surface Mining Control and Reclamation Act of 1977 (“SMCRA”). CMRP regulates coal mines on all federal, state and private lands within New Mexico, except for Indian lands, and is mandated to protect the public health and safety and the environment in and around surface coal mining operations. The CMRP is a separate program within Mining and Minerals Division and does not fall under the New Mexico Mining Act requirements.

Information on CMRPs reclamation projects conducted to date can be found on MMD’s website at:

<http://www.emnrd.state.nm.us/MMD/gismapminedata.html>

4. Financial Assurance Update

Appendix B summarizes the types and amounts of financial assurance 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.

A summary of the amounts of financial assurance held by MMD for the 2017 calendar year is in Table 7 below. Appendix B lists financial assurance amounts for individual permits.

Table 7: Summary of Financial Assurance Held by MMD – 2017

Calendar Year	Financial Assurance Amount Held By MMD
2017	\$697,927,121.81

The total amount of financial assurance increased in 2017 by approximately \$14,696,220 compared to 2016.

5. Amendments to the New Mexico Mining Act Rules

No amendments to the rules or other actions were taken by the New Mexico Mining Commission during calendar year 2017.

6. Mineral Production Statistics for New Mexico in 2017

Operators reported mineral production value of slightly more than \$1.74 billion extracted from New Mexico mining operations, virtually unchanged from 2016 (Table 8 and Figure 1). Copper and potash production were down significantly, 28 and 36 percent, respectively, from 2016; however, the reported production values for both were fairly stable.

New Mexico remains a leading United States mineral producer with 2017 rankings of first in potash (used primarily in fertilizer), first in perlite (used in building construction products, horticultural aggregate, and fillers) and first in zeolite (used predominantly in animal feed, odor control, and water purification applications), as reported by the USGS; third in copper (USGS); and twelfth in coal, as reported by the U.S. Energy Information Administration (down from eleventh in 2016). The principal minerals, in descending order of 2017 production value, were copper, coal and potash. According to USGS, for 2017, New Mexico ranked eighteenth (up from twentieth in 2016) when ranking states by the production value of non-energy minerals, producing 1.74 percent of the total U.S. production value of non-energy minerals. USGS reports New Mexico's principal non-energy minerals, in order of value, were copper, potash, sand and gravel for construction, crushed stone, and cement.

Total 2017 revenues generated by mineral production in New Mexico declined 6 percent from 2016 levels to \$38.6 million (Figure 8). Revenues from aggregate revenues were nearly triple 2016's total due to a sharp increase of 58 new operations on state trust land in 2017.

Copper was the largest employer in New Mexico's mining industry, followed by coal, and sand and gravel operations (Figure 2). Reported industry payroll (excluding benefits) decreased 9 percent from 2016 to just over \$302 million. Overall, reported employment decreased by 5 percent in 2017, from 4,943 employees to 4,687 (excluding reclamation employees). By category, compared to 2016, direct employment decreased 4 percent from 4,338 to 4,162 employees; contract employment decreased 10 percent from 587 to 525; and reclamation employment decreased 14 percent from 230 to 197 employees (Figure 4).

Operators' capital improvement expenditures in 2017 declined by more than half from 2016, with the largest cutbacks reported by the coal and potash industries. New Mexico mining companies reported investments of just over \$51 million in capital improvements and equipment in 2017, down from \$110 million in 2016.

Registered active mining operations in New Mexico in 2017 numbered 290, up from 232 in 2016 (due largely to an increase in caliche operation leases on state lands in Eddy and Lea counties): 4 coal mines; 7 potash operations (includes mines, refineries and compaction plants); 11 metal mines, mills and SX/EW operations; 32 industrial mineral mines, mills, and smelters; and 236 stone and aggregate operations.

Table 8: Mineral Production Value, Rank, Employment, Payroll, and Revenue – 2017

Mineral	Production ¹	Production Rank ²	Production Value \$	Employment ³	Reclamation Employment	Payroll \$ ⁴	Revenue Generated \$ ⁵	
							State	Federal
Coal *	13,846,050	12	\$ 413,321,043	906	93	\$ 89,241,571	\$ 11,384,432	\$ 6,029,406
Copper	276,246,058	3	\$ 774,663,009	1,592	8	\$ 101,302,143	\$ 6,264,962	\$ -
Gold ⁶	18,075	-	\$ 22,729,446	-	-	-	\$ 237,098	\$ -
Industrial Minerals ⁷	2,403,373	-	\$ 163,189,215	561	8	\$ 26,984,440	\$ 179,597	\$ 330,109
Aggregates ⁸	8,913,111	-	\$ 79,284,218	873	57	\$ 22,896,681	\$ 6,270,066	\$ -
Other Metals	76,488	-	\$ 688,392	13	-	\$ 545,545	\$ 70,352	\$ -
Molybdenum	-	-	-	-	-	-	\$ -	\$ -
Potash	401,627	1	\$ 283,353,622	732	15	\$ 60,212,928	\$ 3,923,246	\$ 3,847,018
Silver ⁶	338,720	-	\$ 5,780,342	-	-	\$ -	\$ 54,309	\$ -
Uranium ⁹	-	-	\$ -	8	16	\$ 848,310	\$ -	\$ -
TOTAL			\$ 1,743,009,287	4,685	197	\$ 302,031,618	\$ 28,384,062	\$10,206,533

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

* Estimated production value; one operator withheld the information.

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 2017 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 State Land Office revenue: mineral lease royalties, rentals, bonuses; NM Taxation and Revenue Department reports severance, resource excise, and conservation tax revenues.
 Federal revenue includes 50% state share of federal royalties.

Sources: *State data: New Mexico Taxation and Revenue Department, New Mexico State Land Office*
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 licensing/permitting at proposed uranium mines, and reclamation activities/maintenance at closed mines and mills.

Figure 1. Percentage of Production Value, Employment, Payroll, and Revenue by Commodity - 2017

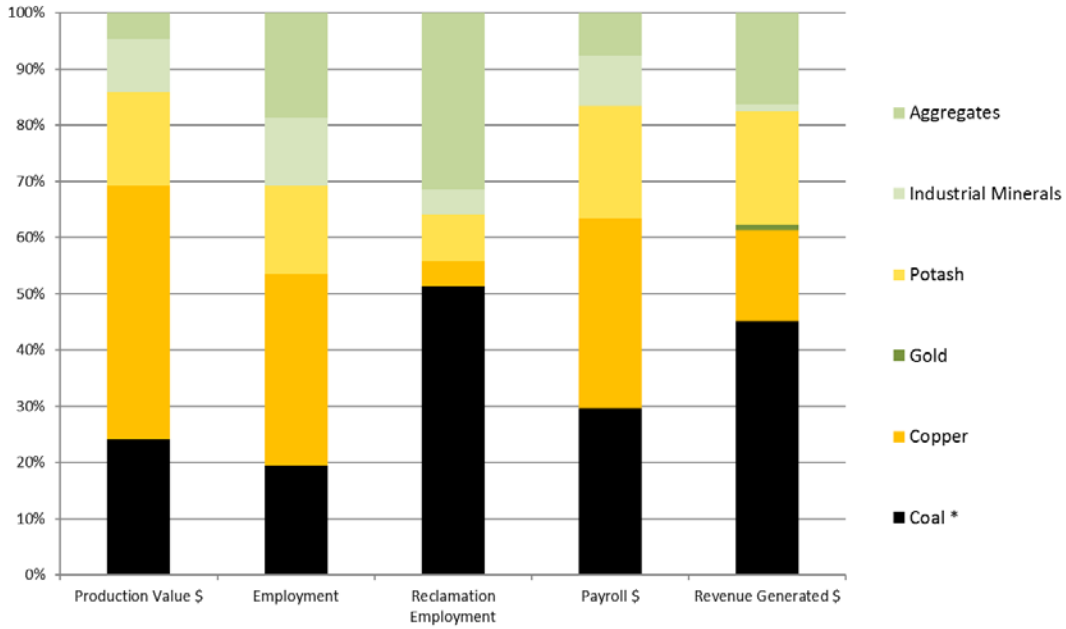
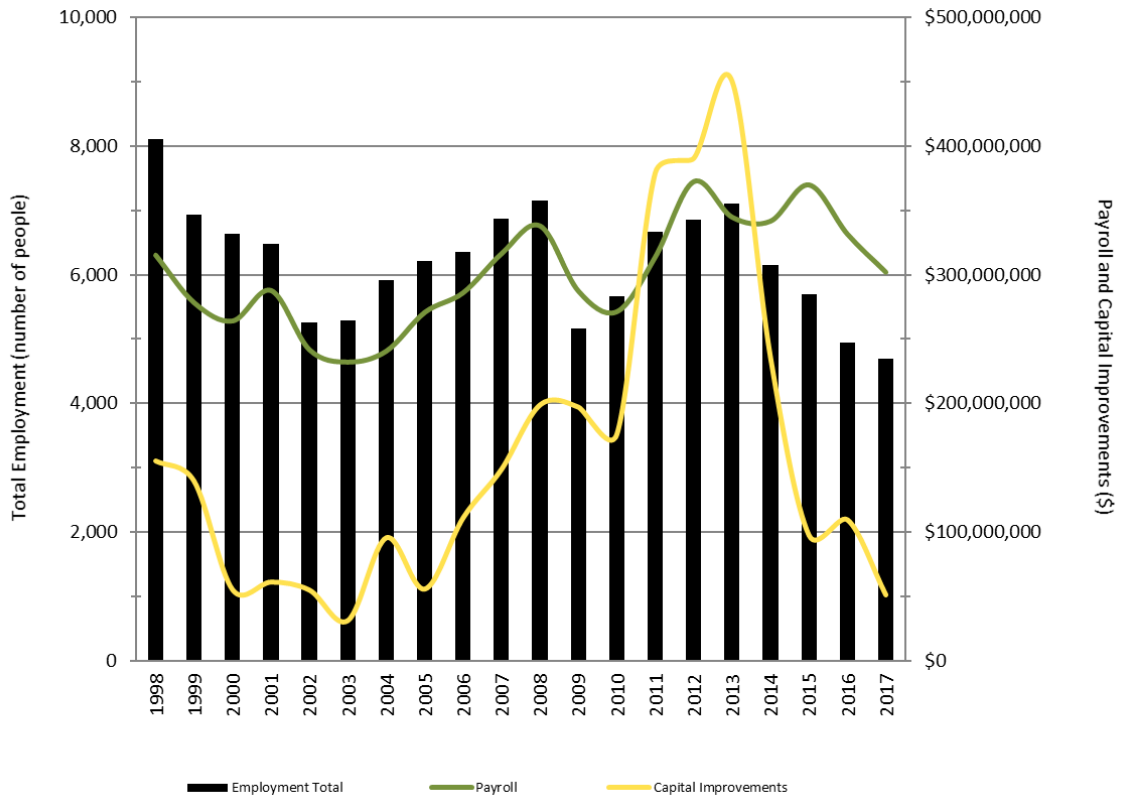


Figure 2. New Mexico Mineral Industry Employment from 1990-2017



Appendix A:

Summary of Operator Reports
for
Disturbed and Reclaimed Acreage
2017

Table A-1. Number of Acres Disturbed and Reclaimed as of December 2017

Permit No.	Permit Name	Total Acres Disturbed To Date	Total Acres Reclaimed To Date
BE001RE	Tijeras Mine and Mill	641.1	103.5
CA002MN	Deadwood / Last Chance Mine	1	0
CA003ME	Hiawatha And Little Jim Mine	2	0
CA005RE	Challenge Mine and Mill	0	0
CA010MN	Apache Camp No. 1 Mine	0	0
CI002RE	Mt. Taylor Mine	147.7	0
CI003MN	ANP No. 2 Mine	2	0
CI004MN	Haskani Mine	13.3	0.5
CI005RE	Tinaja Pit Mine	40	0
CI006MN	Ray Claims No. 4 and No. 6 Mine	0.2	0.5
CI007RE	JJ No. 1 Mine	0	20
DA001MN	Shamrock Leach Site	2	2
DA003MN	Alley Gypsum Mine	1.2	1.5
GR001RE	Pinos Altos Mine	9	9
GR002RE	Continental Mine and Mill	1,039	19
GR006RE	Chino Limestone Mine	55	55
GR007RE	Little Rock Mine	261	32
GR008RE	Jersey Lily, Snowflake and Virtue Mines	22	22
GR009RE	Chino Mine and Mill	10,826.7	889
GR010RE	Tyrone Mine and Mill	8,559.1	4,611
GR011ME	Summit Mine	7.6	0
GR012MN	KB Mine	41	42
GR016ME	Malone Mine	0	0
GR018ME	Banks Mine (Lost New Summit No. 1 Mine)	0	0
GR019ME	Boston Hill Mine	0	0
GR020RE	Georgetown Mine	0	0.8
GR024MN	Toro Mine	0	0
GR025ME	Mathis Limestone Quarry Mine	0	0
GR028RE	Center Mine	3.3	3.3
GR029ME	Mount Royal Mine and Mill	1	0
GR030ME	Chemical Lime Mine & Mill	0	4.4
GR036MN	Grooms Placer Mine	0	0
GR056MN	McCauley Perlite Mine	0	0
GR058MN	Billali Mine	1.2	0
GR065MN	Jim Crow Mine	1.9	0
HI001RE	Lordsburg Banner Mill	15	5

HI002RE	Brockman Mine	40	40
HI004MN	KM Mine	9	11.5
HI008ME	Volcano Mine	8	0
LI001ME	Warner Gulch Placer Mine	2	2
LI002ME	Smokey Mine	0	0
LI005ME	Capitan Iron Mine	12	0.5
LU001RE	Deming Jigging Mill	16	16
LU008RE	Cyprus Deming Tailings Impoundment	20	23.9
LU009RE	Asarco Deming Mill	56.5	44
LU012MN	Herb Bailey No. 2 Mine	0	0
LU026MN	Little Lode #3 Mine	1	1
MK002RE	Section 35 Mine	40	30
MK003ME	Star Lake Mine - Menefee	19	19
MK004RE	Northeast Church Rock Mine	0	17
MK005RE	Section 27 Mine	17	15
MK006RE	St. Anthony Mine	435	0
MK007ME	Star Lake Mine - Mesa Verde	72.5	53.9
MK008ME	Pueblo Alto Mine	51.3	49.3
MK009RE	Old Stope Leach Mine	81	78
MK010MN	U-Mate Mine	5.4	0
MK011MN	Morningstar Mine	14	19
MK012MN	Jaramillo Humate Mine	2	0
MK026MN	Black Spring Mine	22.5	18
MK037MN	Section 2 Mine	25.5	25.5
MK038MN	Double Tree I	0	0
MK039MN	Brie I Mine	32.3	16.1
MK043MN	Ojo Encino Humate Mine	15.3	8.5
OT001RN	Wind Mountain Quarry Mine	0	0
OT002MN	B.O.W. Mine	1.6	1
OT005MN	Orogrande Placer Gold Mine	1.8	0
OT006MN	Iron Duke Mine	0	0
RA001ME	Northstar Mine	1.3	0
RA003ME	Cullum Claims Mine	60	0
RA004RE	Rocky Mountain Mine	195.8	48.3
RA005RE	Velarde Mill	28	27.4
RA006ME	General Pumice Mine	17	90
SA001RE	El Cajete Mine	68	54.5
SA002RE	Clod Buster Mine and Mill	0	0
SA004MN	Copar South Pit Mine	9	18.5
SA005ME	Menefee Mill	9.7	0
SA006MN	Copper City Mine	1	0

SA009MN	Eagle Mesa Mine	32.4	24.5
SA010ME	Mesa Verde Resources Mill	0	0
SA011MN	San Luis Mine	15	10
SA012MN	Horizon Ag-Products Cuba Facility	0	0
SA015MN	H2 Screen Facility	4.2	2.6
SF001ME	San Pedro Mine and Mill	12	12
SF002RE	Cunningham Hill Mine	307	289
SF003ME	Silver Silica Mine	4	0.5
SF006ME	CR Minerals Mill	8	8
SI001ME	St. Cloud U.S. Treasury Mine	10	3
SI005MN	Burbank Canyon Mine	0	0
SI006RE	Zeolite Mine and Mill	51	36.5
SI007ME	Midnight Mine	4	0
SI020MN	Coyote Cliff No. 1 Mine	0.6	0
SI021MN	Coyote Cliff No. 2 Mine	0.8	0
SI025MN	Harding Mine	0	0
SJ001MN	Morningstar Humate Plant	7.7	0
SJ002MN	Chaco Limestone Quarry	2	3.5
SO001RE	Socorro Mine and Mill	160	43.4
SO002MN	Sais Quarry Mine	3.7	0
SO005MN	San Lorenzo Claim Mine	0	0
TA001RE	Questa Mine and Mill	2,300	21
TA002RE	El Grande Mine and Mill	170	14
TA003RE	U. S. Hill Mine	60	61.5
TA005RE	No Agua Mine and Mill	327.4	0
VA001ME	Lucero Quarry Mine	9.3	0
TOTAL:		26,573.2	7,077.9

Appendix B:

Table of Financial Assurance Amounts

Table B-1. Financial Assurance as of December 2017

Permit No.	Permit Name	Type of FA	Amount of FA (\$)
BE001RE	Tijeras Mine and Mill	Surety Bond	1,833,198.00
		Third Party Guarantee	2,812,500.00
		Surety Bond	70,000.00
CA003ME	Hiawatha And Little Jim Mine	Certificate of Deposit	736.00
CI002RE	Mt. Taylor Mine	Letter of Credit	7,606,477.00
CI004MN	Haskani Mine	Certificate of Deposit	32,743.00
CI005RE	Tinaja Pit Mine	Letter of Credit	161,514.00
CI006MN	Ray Claims No. 4 and No. 6 Mine	Certificate of Deposit	20,405.00
CI007RE	JJ No. 1 Mine	Surety Bond	642,298.90
GR002RE	Continental Mine and Mill	Trust	5,300,000.00
		Collateral Bond	13,908,900.00
		Third Party Guarantee	8,146,372.00
		Surety Bond	632,612.00
GR007RE	Little Rock Mine	Surety Bond	1,520,113.00
		Surety Bond	1,424,470.00
GR008RE	Jersey Lily, Snowflake and Virtue Mines	Letter of Credit	46,600.00
GR009RE	Chino Mine and Mill	Third Party Guarantee	45,336,545.00
		Trust	121,000,000.00
		Surety Bond	3,581,931.00
		Surety Bond	5,048,702.00
		Surety Bond	254,800.00
GR010RE	Tyrone Mine and Mill	Third Party Guarantee	91,529,850.00
		Letter of Credit	170,874.00
		Trust	27,018,850.00
		Collateral Bond	27,951,986.00
		Surety Bond	6,780,518.00
		Surety Bond	25,000,000.00
GR011ME	Summit Mine	Surety Bond	95,175.00
GR012MN	KB Mine	Certificate of Deposit	24,182.00
GR020RE	Georgetown Mine	Certificate of Deposit	5,200.00
GR022MN	Farmers Backbreaker Mine	Certificate of Deposit	15,000.00
GR025ME	Mathis Limestone Quarry Mine	Certificate of Deposit	3,000.00
GR030ME	Chemical Lime Mine & Mill	Surety Bond	62,287.00
GR037EM	Codebreaker Enterprises, Inc. Santo Nino Claim	Certificate of Deposit	17,940.00

HI001RE	Lordsburg Banner Mill	Surety Bond	206,471.00
		Surety Bond	25,244.87
		Surety Bond	145,989.00
HI002RE	Brockman Mine	Letter of Credit	276,900.00
HI004MN	KM Mine	Certificate of Deposit	1,824.00
HI008ME	Volcano Mine	Collateral Bond	28,652.00
HI013ER	Lordsburg Exploration Project II	Certificate of Deposit	126,100.00
LI001ME	Warner Gulch Placer Mine	Letter of Credit	10,000.00
LI003ER	Bonito Gold & Silver Project	Cash	200.00
LI005ME	Capitan Iron Mine	Certificate of Deposit	15,000.00
LI013EM	M&E Exploration Project	Certificate of Deposit	6,000.00
LI030EM	KD Placer Claims	Certificate of Deposit	9,690.00
LU001RE	Deming Jigging Mill	Surety Bond	100,000.00
LU008RE	Cyprus Deming Tailings Impoundment	Letter of Credit	132,588.00
LU017EM	Victorio Project	Certificate of Deposit	80,299.00
MK003ME	Star Lake Mine - Menefee	Surety Bond	9,120.00
MK005RE	Section 27 Mine	Surety Bond	377,000.00
MK006RE	St. Anthony Mine	Surety Bond	25,867,200.00
MK007ME	Star Lake Mine - Mesa Verde	Certificate of Deposit	4,408.00
		Certificate of Deposit	5,000.00
		Certificate of Deposit	21,193.00
		Certificate of Deposit	5,000.00
		Certificate of Deposit	24,794.00
MK008ME	Pueblo Alto Mine	Certificate of Deposit	2,160.00
		Certificate of Deposit	2,500.00
		Certificate of Deposit	22,000.00
		Certificate of Deposit	2,677.00
		Certificate of Deposit	21,051.00
		Certificate of Deposit	2,800.00
		Certificate of Deposit	27,825.00
		Certificate of Deposit	1,440.00
MK009RE	Old Stope Leach Mine	Letter of Credit	578,000.00
MK010MN	U-Mate Mine	Certificate of Deposit	8,844.00
		Surety Bond	29,000.00
MK011MN	Morningstar Mine	Certificate of Deposit	2,880.00

MK026MN	Black Spring Mine	Certificate of Deposit	25,000.00
		Certificate of Deposit	11,000.00
MK037MN	Section 2 Mine	Certificate of Deposit	9,080.82

		Certificate of Deposit	5,000.00
MK039MN	Brie I Mine	Letter of Credit	45,600.00
		Letter of Credit	77,992.44
MK043MN	Ojo Encino Humate Mine	Certificate of Deposit	62,964.64
MK049EM	Fruitland Exploration Project	Letter of Credit	29,782.00
OT002MN	B.O.W. Mine	Letter of Credit	15,932.00
OT006EM	Cornudas Project	Certificate of Deposit	22,600.00
OT006MN	Iron Duke Mine	Certificate of Deposit	15,597.00
OT040EM	Cornudas Wind Mountain Project	Certificate of Deposit	58,826.12
RA001ME	Northstar Mine	Certificate of Deposit	11,099.07
RA003ME	Cullum Claims Mine	Letter of Credit	161,500.00
RA004RE	Rocky Mountain Mine	Letter of Credit	97,354.00
		Letter of Credit	250,930.00
RA006ME	General Pumice Mine	Required	15,000.00
SA005ME	Menefee Mill	Certificate of Deposit	16,000.00
SA006MN	Copper City Mine	Cash	800.00
SA009MN	Eagle Mesa Mine	Letter of Credit	50,813.00
SA011MN	San Luis Mine	Letter of Credit	20,000.00
SA012MN	Horizon Ag-Products Cuba Mill	Letter of Credit	34,603.00
SA015MN	H2 Screen Facility	Letter of Credit	28,170.00
SF001ME	San Pedro Mine and Mill	Certificate of Deposit	8,288.00
SI001ME	St. Cloud U.S. Treasury Mine	Certificate of Deposit	1,857.00
SI005MN	Burbank Canyon Mine	Certificate of Deposit	30,000.00
SI006RE	Zeolite Mine and Mill	Collateral Bond	157,719.00
SI025EM	Copper Flat Exploration 2 Project	Certificate of Deposit	133,200.00
SJ001MN	Morningstar Humate Plant	Certificate of Deposit	51,257.06
SO002MN	Sais Quarry Mine	Certificate of Deposit	2,661.89
TA001RE	Questa Mine and Mill	Letter of Credit	66,918,125.00
		Third Party Guarantee	200,754,376.00
		Letter of Credit	1,355,634.00
TA005RE	No Agua Mine and Mill	Surety Bond	1,152,687.00
VA001ME	Lucero Quarry Mine	Certificate of Deposit	24,515.00
TOTAL:			\$697,927,121.81