

OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT

U.S. Department of the Interior



Annual Evaluation Report for the

Abandoned Mine Land Program

Administered by the New Mexico Mining and Minerals Division



For Evaluation Year 2021
July 1, 2020 to June 30, 2021

Prepared by Western Interior Regions 5, 7-11 (Denver Field Division)
September 2021

EXECUTIVE SUMMARY

The Office of Surface Mining Reclamation and Enforcement - Denver Field Branch (OSMRE – DFB) annually prepares this report to describe the accomplishments of the New Mexico Mining and Minerals Division - Abandoned Mine Land Program (MMD – AMLP) during the previous Evaluation Year (EY). The report includes a discussion of New Mexico’s program administration, public participation and outreach efforts, technical assistance provided by OSMRE, and the results of topic-specific evaluations conducted in coordination with the State.

Denver Field Branch’s annual oversight activities typically involve two different methods of evaluation. First is various administrative reviews designed to ensure accuracy and integrity throughout the grants financial assistance and enhanced Abandoned Mine Land Inventory System reporting processes. Second is on-the-ground site visits that enable us to evaluate various elements of the State’s construction management, abatement selection, and hazard prioritization processes.

According to data available through the enhanced Abandoned Mine Land Inventory System, New Mexico has a remaining inventory of 329.3 coal-related acres to be reclaimed at an estimated cost of \$33,037,106. Since 1978, New Mexico has expended a total of \$21,964,308 in grant funding to reclaim a total of 419.5 coal-related acres. In Evaluation Year 2021, OSMRE awarded New Mexico \$2,829,000 in grant funding to continue carrying out its mission of protecting people, property, and the environment from hazards related to historic mining operations.

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Cover Page Photograph: Tin Pan Canyon project, Colfax County, New Mexico.

I. INTRODUCTION

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) created the Office of Surface Mining Reclamation and Enforcement (OSMRE) in the Department of the Interior. SMCRA provides authority to OSMRE to oversee the implementation of and provide federal funding for state regulatory programs and abandoned mine land programs that have been approved by the Secretary of the Interior as meeting the minimum standards specified by SMCRA. The primary purpose of SMCRA Title IV is to address the adverse effects of past coal mining, though it also allows AML programs to address certain non-coal problems. To this end, Title IV authorizes OSMRE to provide grant support to states and tribes from the Abandoned Mine Reclamation Fund and the general Treasury of the United States. SMCRA puts the highest priority on correcting the most serious AML problems that endanger public health, safety, and property. As amended in 2006, SMCRA also allows AML programs to address certain lower priority coal problems if they are reclaimed in conjunction with or situated adjacent to higher priority problems. OSMRE, state, and tribal AML programs work together to achieve the goals of the national program including annual evaluations.

OSMRE also provides staff training and financial, technical, and management assistance to each state program. This report contains summary information regarding the New Mexico Abandoned Mine Land Program and its effectiveness in meeting the applicable purposes of SMCRA as specified in Section 102. This report covers the 2021 Evaluation Year which ran from July 1, 2020 to June 30, 2021.

Detailed background information and comprehensive reports for the program elements evaluated during the Evaluation Year are available for review and copying at the OSMRE Denver Field Branch; One Denver Federal Center; Bldg. 41; Lakewood, Colorado 80225. To arrange an appointment, contact Howard E. Strand, Denver Field Branch Manager, at (303) 236-2931 or hstrand@osmre.gov.

The reports are also available at the OSMRE Oversight Documents website: <https://odocs.osmre.gov>. Adobe Acrobat Reader® is needed to view these documents. Acrobat Reader® is free and can be downloaded at <https://get.adobe.com/reader>. Follow these steps to gain access to the document of interest:

1. Select the applicable governing body and performance period from the drop-down boxes labeled “State or Tribe” and “Evaluation Year” respectively. The search can be narrowed using the optional “Category” or “Keyword” drop-down menus. Lastly, click “Search”.

2. The oversight documents and reports matching the selected state and evaluation year will appear at the bottom of the page.
3. Select “View” for the document that is of interest and the report will appear for viewing, saving, and/or printing.

The following acronyms are used in this report:

AMD	Acid Mine Drainage
AML	Abandoned Mine Land
AMLPL	New Mexico Abandoned Mine Land Program
ATP	Authorization to Proceed
BLM	Bureau of Land Management
CAD	Computer-Aided Drafting
CFR	Code of Federal Regulations
DFD	Denver Field Division
eAMLIS	Enhanced Abandoned Mine Land Inventory System
EY	Evaluation Year
ESA	Endangered Species Act
FAM	Federal Assistance Manual
FTE	Full-time equivalent
GIS	Geographic Information System
GPRA	Government Performance and Results Act
HASP	Health and Safety Plan
IPaC	Information, Planning, and Consultation System
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NTTP	National Technical Training Program
OIG	Office of the Inspector General
OSMRE	Office of Surface Mining Reclamation and Enforcement
PAD	Problem Area Description
PDF	Priority Documentation Form
SMCRA	Surface Mining Control and Reclamation Act
SWPPP	Storm Water Pollution Prevention Plan
TIPS	Technical Innovation and Professional Services
USFS	United States Forest Service

(a) Program Administration

New Mexico submitted its AML reclamation plan to OSMRE on February 4, 1981; OSMRE approved the plan on June 17, 1981. The New Mexico AMLP is administered by the Mining and Minerals Division of the New Mexico Energy, Minerals and Natural Resources Department. AMLP employs a staff of 11 full-time equivalents (FTE) across a variety of disciplines including project management, engineering, geographic information systems, environmental compliance, geology, and archaeology.

Overall, the Denver Field Branch finds that AMLP is successfully implementing its approved AML program. The AMLP-DFB Team maintains open and productive lines of communication and a cooperative relationship. Through these, effective reclamation of high-priority AML hazards and stewardship of grant funds continue.

II. NOTEWORTHY ACCOMPLISHMENTS

Over the past year, DFB monitored New Mexico's performance in meeting the goals and objectives of SMCRA Section 102. As mentioned, DFB finds that AMLP is successful in implementing its approved AML program. Results of the oversight reviews used to reach this conclusion are included in Section V of this report.

Major accomplishments in AML reclamation during EY 2021 include:

PROJECT CONSTRUCTION

<u>Project Name / PAD Number</u>	<u>County</u>
Tin Pan Canyon Gob Reclamation Project / NM-009	Colfax
Swastika Mine and Dutchman Canyon Stream Restoration / NM-008	Colfax
San Pedro Mine Safeguarding Project Phase II / NM-935052	Santa Fe
Bingham - Hansonburg Mine Safeguarding Project Phases I & II / NM-935053	Socorro
Cookes Peak East Project Phase II / NM-935051	Luna
Cookes Peak West Phase IIIb Project / NM-935051	Luna

PROJECT DEVELOPMENT AND ENGINEERING

<u>Project Name / PAD Number</u>	<u>County</u>
Madrid Stormwater and Erosion Control Project / NM-935060	Santa Fe
Allison Phase IV Project / NM-069	McKinley
Harding Pegmatite Mine Safeguarding Project Phase II / NM-214	Taos
Gallup Fires / (Pending)	McKinley
Navajo Fire Project / NM-935063	McKinley
Enterprise Brown Fire / NM-935062	McKinley
Bell - Aztec Fire / NM-090	McKinley
Biava No. 3 Fire / NM-935064	McKinley
Carbon Coal / NM-070	McKinley
Gallup Coalfield / (Pending)	McKinley
Gallup Dog Park / NM-066	McKinley
San Pedro Project Phase III / NM-935052	Santa Fe
Boston Hill Mine Safeguarding Project Phase II / NM-935059	Grant

III. UTILIZATION OF OSMRE TECHNICAL ASSISTANCE

OSMRE provides direct technical and technological assistance to state AML programs on project-specific efforts including problem investigations, design and analysis, permitting, interagency consultation, and general guidance. OSMRE provides technical and technological support at the national level in the form of conferences, trainings, and initiatives. In 2004 OSMRE formed a regional Technology Transfer Team to support and enhance the technical

skills needed to effectively implement regulatory and AML programs; the Technology Transfer Team includes a representative from each state, including New Mexico.

OSMRE's training catalog includes offerings from the National Technical Training Program (NTTP) and Technical Innovation and Professional Services (TIPS).

In EY 2021 AMLP staff attended the following course available through OSMRE's NTTP training program:

- Historical and Archaeological Resources

In EY 2021 AMLP staff attended the following courses available through OSMRE's TIPS training program:

- Introduction to QGIS for Hydrological Applications
- AutoCAD Essentials
- Global Mapper
- Introduction to Remote Sensing
- Global Mapper LiDAR Module
- Spatial Analysis with ArcGIS Pro
- Creating and Editing Data with ArcGIS Pro
- ArcGIS Pro Essential Workflows
- SEDCAD 4 Application
- Field Data Collection and Management Using ArcGIS Online
- Sharing GIS Content Using ArcGIS
- Virtual Instructor Training

IV. PUBLIC PARTICIPATION AND OUTREACH

The term "public" means stakeholders, including the citizenry at large, industry, other federal, state or local agencies, and environmental groups.

(a) OSMRE - DFB

AMLP maintains a database of interested parties the Team uses each year to solicit comments or suggestions from persons and groups who may have an interest in abandoned mine land reclamation and our oversight process. These stakeholders include state, federal, and local governmental agencies; coal mine permittees; and environmental groups. This year the Team mailed its outreach letter on February 26 soliciting input for Evaluation Year 2022 review topics

in addition to any questions or comments on previous oversight reports or the OSMRE / AMLP oversight process.

For EY 2021 the Team received one public outreach response. In a letter dated March 29, 2021 Chevron Environmental Management and Real Estate Company (CEMREC) noted its appreciation of ongoing efforts by the DFB-AMLP Team to address shortcomings in eAMLIS data reporting. CEMREC also noted they find helpful the AML project inventory and funding table data included at Section VI in each Annual Evaluation Report.

(b) MMD - AMLP

The New Mexico AMLP interacts with the stakeholders described above and provides opportunities for the public to:

- Determine areas of concern and receive suggestions relative to AML reclamation; and
- provide timely information about OSMRE activities to interested groups.

In EY 2021, AMLP staff held a public information meeting in Gallup, New Mexico on June 23, 2021 for the Allison Phase IV Project. The purpose of the meeting was to update residents on the results of a draft Environmental Assessment regarding potential mine subsidence in the community of Allison.

AMLP and BLM staff held two public information meetings with stakeholders and residents of Silver City, New Mexico on December 16, 2020 and February 25, 2021 to discuss AMLP's proposed mine safeguarding project in the Boston Hill Mining District. A follow up public meeting is scheduled for August 25, 2021 to review the draft Environmental Assessment.

In June of 2021, AMLP sent public information flyers to residents of Gallup regarding various proposed mine safeguarding and mitigation efforts in and around Gallup, New Mexico for on-going underground coal fires and unprotected shaft and adit openings.

Other outreach efforts included meetings with Santa Fe County and the Madrid Landowners Association to discuss the objectives of the planned Madrid Stormwater and Erosion Control Project. AMLP continues to use the Esri web application to update its Story Map Journal and promote public awareness of abandoned mines and abandoned mine safety. AMLP also fosters awareness of abandoned mine lands through press releases, the EMNRD website, staff presentations, and through its display at the State Fair Natural Resources Building in Albuquerque each September. The State Fair display provides exposure to a few thousand visitors annually.

AMLP staff hold regular meetings with the Bureau of Land Management, Santa Fe County, and Madrid Landowners Association for project development in the San Pedro Mountains, Florida Mountains, Fluorite Ridge, Cerrillos Hills, and the village of Madrid.

AMLP also uses its cultural resource consultants to produce popular reports summarizing cultural resources investigations and the mining history of specific project areas for public distribution. In EY 21 AMLP consultants produced outreach pamphlets for the Boston Hill Mine Safeguarding Project and the Madrid Stormwater and Erosion Control Project.

V. RESULTS OF EVALUATION YEAR 2021 REVIEWS

National priority reviews and oversight topic reviews can be located and reviewed at OSMRE's website as listed in the Introduction of this report. Individual reports prepared by OSMRE are part of the oversight process of each state and contain findings and details regarding the evaluation of specific elements of the state program.

In EY 2021 the AMLP-DFB Team conducted the following Enhancement and Performance Reviews as specified in the Performance Agreement:

- 1 (a): Does ongoing or completed reclamation meet the goals of the project?
- 2 (e): Does the information the State entered into eAMLIS agree with information in its files?

No reviews were conducted under Principle of Excellence 3 (the State has systems to properly manage AML funds) during EY 2021. These reviews will be conducted as practicable during EY 2022.

2021 Enhancement and Performance Review New Mexico Abandoned Mine Land Program

Measure

Principle of Excellence: 1. The State's on-the-ground reclamation is successful.

Performance Measure: (a). Does ongoing or completed reclamation meet the goals of the project?

Review Dates

This review was conducted in the spring and summer of 2021.

Personnel

Laurence D’Alessandro, Jimmy Hollen, Lloyd Moiola, and Mike Tompson (AMLPL); and Tom Medlin, Office of Surface Mining Reclamation and Enforcement (OSMRE).

Background

This is a cyclical review. We selected this review for 2021 because 1(a) had not been conducted since the OSMRE Denver Field Branch took on oversight responsibilities for the New Mexico Abandoned Mine Land Program in 2017.

Methodology

We reviewed each sample AML feature to determine whether reclamation met the goals of the project. The population for this review included all AML projects completed by AMLP in the past three years. The sample included the San Pedro Phase II and Phase III, Tin Pan Canyon, and Swastika and Dutchman Canyon Maintenance projects. An AMLP project manager was onsite at each project to describe goals for the reclamation, answer any questions that arose, and discuss any challenges or changes necessary to ensure successful reclamation. We conducted this review between April 21 and April 22, 2021.

Findings

San Pedro Phase II A and Phase III / eAMLIS PAD: NM-935052

The San Pedro project was designed to safeguard approximately 60 hazardous abandoned mine shafts and deep pits on Bureau of Land Management and private property in Santa Fe County, New Mexico. The overarching project goal was to enhance public safety, as public visitation to the area has increased in recent years. Feature-specific considerations also resulted in individual sub-goals such as preserving bat habitat, preserving claimant access, and historic / cultural preservation. The oversight team inspected a sample of 14 of these safeguards on April 21, 2021. At the time of inspection the Phase II A work had been completed for several years while the Phase III closures had either been recently finished or were still under construction. See Figures 1-14.

Feature ID and Hazard Type	Closure Type	Goals	Remarks
G-34: Vertical Opening	Backfill w/ dump material	Public safety	Stable.
G-26: Portal	Corrugated metal pipe (CMP) w/ steel grate	Bat access	In-work at the time of inspection; wire mesh bat exclusion in place.
G-25: Portal	CMP w/ steel grate and footer	Bat access	In-work at the time of inspection; wire

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			mesh bat exclusion in place.
15-468: Portal	Steel grate w/ access gate	Wildlife and claimant access, historic preservation	Originally designed with two locking bars which claimants did not like. As a result, AMLP installed swinging gates. Timber header preserved.
15-469: Portal	Backfill and CMP w/ steel grate	Public safety	Stable.
15-529: Portal	CMP w/ steel grate	Bat access	Steel grate had been cut out / vandalized at the time of inspection. Evidence of firearm use. Closure requires attention in order to continue meeting project goals. AMLP noted many of the closures in the San Pedro area remain accessible to vandals as BLM cannot close roads and landowners do not care to. AMLP staff also mentioned somewhat conflicting goals on collaborative work with BLM: BLM is generally more concerned with closing the greatest number of hazardous mine openings for the lowest cost, while AMLP is willing to spend more on fewer closures that may be more robust in their construction. Finally,

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			AMLP noted they would like to see some form of vehicular access restrictions at San Pedro, if possible.
G-14: Vertical Opening	CMP w/ polyurethane foam (PUF), steel grate, and footer	Public safety	In-work at the time of inspection. Due to the irregular dimensions of the shaft, contractors were unable to push the CMP close enough down to the ground. The CMP will need to be cut to about two feet above grade after which a concrete footer will be installed and a steel grate placed over the CMP. This closure also accepted more PUF than originally anticipated, requiring a change order to apply the correct amount.
20-45: Portal	Steel grate w/ removable bars	Wildlife and claimant access, preserve rock muck wall	Rock wall preserved.
20-44: Portal	Steel grate w/ removable bars	Wildlife and claimant access	Evidence of bat use observed (guano).
G-1: Vertical Opening	Earthen backfill	Public safety	Stable.
21-292: Portal	Steel grate w/ removable bars	Wildlife and	At the time of inspection rockfall had blocked off

		claimant access	wildlife access ports at the bottom of the closure. Recommend clearing the debris to ensure continued wildlife access.
21-244: Vertical Opening	High-tensile steel mesh net	Public safety	Threaded quick-links tack-welded to discourage vandalism / mischief.
21-290: Vertical Opening	Steel gate with fencing	Public safety	Irregularly shaped and sloped opening required added fencing to ensure hazard to people fully mitigated.
21-251: Portal	Steel grate	Wildlife access	Some hazard remains due to grate's deep inset into fractured rock. AMLP noted a better design for this closure may have included installation of a CMP to help support incompetent surrounding rock.



Figure 1. Feature G-34.



Figure 2. Feature G-26.



Figure 3. Feature G-25.



Figure 4. Feature 15-468.



Figure 5. Feature 15-469.



Figure 6. Feature 15-529.



Figure 7. Feature G-14.



Figure 8. Feature 20-45.



Figure 9. Feature 20-44.



Figure 10. Feature G-1.



Figure 11. Feature 21-292.



Figure 12. Feature 21-244.



Figure 13. Feature 21-290.



Figure 14. Feature 21-251.

Tin Pan Canyon / eAMLIS PAD: NM-009

The Tin Pan Canyon project was designed to reclaim two large gob piles depositing coal waste into an ephemeral drainage on private property in Colfax County, New Mexico. The goals of the project were to stabilize the coal gob; prevent additional fouling of the receiving stream through placement of mulch, coir rolls, and straw bales; stabilize and protect from undercutting the dirt road running through the canyon; promote revegetation; and enhance public knowledge of the area's history and natural processes. The oversight team inspected this project on April 22, 2021.

At the time of inspection construction had been complete for about one month, with the task of as-needed irrigation remaining to improve vegetative establishment. Once vegetation has successfully established, AMLP or its contractor will also need to return to the site to remove any remaining plastic coir roll netting, wooden stakes, and seedling planter tubes. To the question whether ongoing reclamation meets project goals, we answer in the affirmative. At the time of inspection the receiving stream was running clear; the mulch layer, coir rolls, and straw bales were stable and intact with no visible cutting or exposed gob; the dirt access road was stable and serviceable; and revegetation was underway. With respect to the educational component AMLP indicated local primary schools have visited the project area during field trips. See Figures 15-17.



Figure 15. Mulched-over gob piles with coir roll and straw bale terracing and seedlings. Access road center right.



Figure 16. Reclaimed gob piles, alternate vantage.



Figure 17. Coir roll and straw bale terracing with seedlings.

Swastika and Dutchman Canyon Maintenance / eAMLIS PAD: NM-008

The Swastika and Dutchman Canyon project was designed to stabilize a series of large gob piles and restore a straightened and deeply incised section of stream channel running adjacent to those piles in Colfax County, New Mexico. The project was completed in 2012. Later the same year a 25-year storm event caused flooding in the canyon and widespread erosion, necessitating the follow-on maintenance project. Goals for the maintenance project included repairing the 2012 storm damage, up-arming for future precipitation events, and supporting the channel's chub population. The oversight team inspected this project on April 22, 2021.

At the time of inspection work on the project was in-progress. Rock armoring had been constructed at various points along and within the Swastika Channel including check dams and energy dissipators in an attempt to repair the 2012 storm damage and keep the channel wide and meandering. AMLP also utilized geomorphic reclamation techniques within the channel itself, including excavating large pools to provide diversity of habitat and promote energy dissipation, and in the channel design on the upland revegetated gob piles to prevent erosive cutting. Many chub minnows were observed swimming in the channel, though this inspector was unable to capture a clear photograph. The material the channel runs through is highly frangible. As such, part of the maintenance project included augering hundreds of holes into the embankments and shallow areas of the channel for cottonwood and willow plantings. At the time of inspection some cuttings had been planted, though many hundred remained staged in bundles. The cottonwood and willow plantings will assist in stabilizing the channel from further erosion. According to AMLP the winning bidder for this project was a firm with oilfield interests in

addition to AML reclamation. The contractor mobilized at another project before completing the work at Swastika / Dutchman, a sub-optimal outcome. See Figures 18-23.



Figure 18. Rock armoring in Swastika Channel.



Figure 19. Highly erodible embankment material.



Figure 20. Channel sinuosity showcasing geomorphic design.



Figure 21. Willow and cottonwood cuttings ready for planting.



Figure 22. Augured holes in stream channel and embankment ready for willow and cottonwood plantings.



Figure 23. Geomorphic channel design and rock “medialuna” on reclaimed gob piles upland of Swastika Channel.

Conclusion

We find AMLP was effective in its ability to set and meet appropriate goals for the sample projects evaluated under this performance measure. In accordance with OSMRE Directive 974, AMRP's project goals prioritized preservation of public health and safety. As required by NEPA, NHPA, and ESA, AMRP considered the impacts of its work on sensitive species / historic and cultural resource and included appropriate mitigation where needed. At the San Pedro project, one vandalized closure will require repair to continue meeting project goals. Another closure at San Pedro will require the clearing of rockfall, currently blocking the steel grate's wildlife access port, to continue meeting project goals.

New Mexico Abandoned Mine Land Program 2021 Enhancement and Performance Review

Measure

Principle of Excellence: 2. The State's abandoned mine land (AML) procedures are efficient and effective.

Performance Measure: (e) Does the information the State entered into the Abandoned Mine Land Inventory System (AMLIS) beginning July 1, 2004, agree with information in its files?

Review Dates

This review was conducted throughout the 2021 Evaluation Year.

Personnel

Amanda Muller and Lloyd Moiola, New Mexico Abandoned Mine Land Program (AMLPL) and Tom Medlin, Office of Surface Mining Reclamation and Enforcement (OSMRE).

Background

This is the fifth annual review of this performance measure. OSMRE Directive AML-1, "Abandoned Mine Land Inventory Manual" effective December 12, 2012, requires state and tribal AML programs to update Problem Area Descriptions (PAD) in eAMLIS when OSMRE approves project funding and upon project completion. AML-1 also requires state and tribal AML programs to complete Priority Documentation Forms (PDF) when adding new problem-types to eAMLIS designated as high priority hazards (Priority 1 or Priority 2).

In September 2003, the U.S. Department of the Interior, Office of the Inspector General (OIG), issued report number 2003-I-0074 based on its review of AMLIS data for four eastern states'

AML programs. The report criticized the accuracy of AMLIS data and recommended corrective action. Specifically, the OIG's review concluded that AMLIS data did not match data in those states' files. In part, the OIG recommended establishing "a quality control system that ensures that States, Tribes, and OSM[RE], as applicable, review and certify the accuracy of data entered into AMLIS."

OSMRE responded to the OIG's recommendation with two new reviews. We reviewed the first as performance measure 2 (d) in Evaluation Year (EY) 2005. This assessed whether the states had procedures in place to ensure and certify the accuracy of data entered into AMLIS. The second requirement, performance evaluation 2 (e), was first implemented in EY 2006 and annually compares a sample of AMLIS PAD data to the State's respective project files to ensure they agree. OSMRE did not conduct this evaluation in EY 2011 due to complications with the transition to the enhanced Abandoned Mine Land Inventory System (eAMLIS). We reasoned it would be difficult to conduct a credible evaluation when state and federal staff had not had sufficient time to learn and update eAMLIS.

Methodology

The population for this review included all project completion data entered into AMLIS or eAMLIS since July 1, 2004 which have not already been evaluated under 2 (e). AMLP uses the information in its individual project files to update eAMLIS. AMLP also uses this information to produce Project Completion Summaries (PCS) which aid in this evaluation. We compare the information in the PCS to the costs, quantities, keywords, and construction completion dates contained in the corresponding eAMLIS PADs. We also ensure the PADs under evaluation contain the additional information required by AML-1 such as Priority Documentation Forms and 1:24,000 scale / USGS 7.5 minute quadrangle maps showing the approximate location of each AML problem.

For Evaluation Year 2021, the AMLP-OSMRE Team agreed to conduct the 2 (e) review on an accelerated basis throughout the year.

Findings

1. Lumberton Mine Reclamation

The Lumberton Mine coal project was designed to stabilize approximately two acres of gob and safeguard three adits on private property in Rio Arriba County, New Mexico.

- a. The Planning Unit for the Lumberton Mine Reclamation project includes four eAMLIS PADs: NM-042 (Amargo), NM-045 (Dulce), NM-043 (Monero),

and NM-044 (South Monero). All completion data for the Lumberton project are contained within the Amargo PAD. No maps had been uploaded to the Monero and South Monero PADs while the Amargo and Dulce PADs appear to contain an identical 7.5 minute map which does not show the approximate location of each AML problem in the project area. Since the requirements to upload at least one map per PAD and to indicate the approximate location of each AML problem went into effect after the date these PADs were reclaimed, no action is required.

- b. The Amargo PAD does not contain PDFs for any of the three AML problem types. No PDF is required for the Priority 2 Gob or Priority 2 Water Problem because these problem features were elevated from Priority 3 based on adjacency; AML-1 does not require PDFs for Priority 3 problems. No PDF is required for the Priority 2 Portals because they were reclaimed in 2006, prior to OSMRE's transition to eAMLIS.

The Monero PAD does not contain PDFs for any of the three problem types. However, this PAD was fully reclaimed prior to the transition to eAMLIS so these uploads are not required.

The South Monero PAD does not contain PDFs for either of the two problem types. According to the PAD history the Priority 2 Portals were reclaimed prior to OSMRE's eAMLIS transition so no upload is required. However, two unfunded units of Priority 2 Dangerous Piles and Embankments remain outstanding on the PAD. Since this reclamation will take place at some point after the promulgation of AML-1, when AMLP requests Authorization to Proceed with construction the South Monero PAD will need to be updated with a Priority Documentation Form and map(s) in accordance with AML-1.

The Dulce PAD does not contain PDFs for any of the three problem types. However, this PAD was fully reclaimed prior to the transition to eAMLIS so no action is required.

- c. AMLP's 2014 AML grant, S14AF20025, funded project construction.
- d. Construction ran from March 23, 2006 to June 23, 2006.
- e. The project resulted in no change orders and no maintenance costs have been incurred.

- f. The Lumberton PCS indicates 1.9 acres of Gob were reclaimed at a cost of \$140,185.99 and three Portals were backfilled at a cost of \$5,698.74 for a total of \$145,884.73. Completion data for the Amargo PAD report the exact same figures, with one small difference: the Lumberton PCS indicates a completion date of June 23, 2006 while the Amargo PAD shows a date of July 20, 2006. As a result of this review the Amargo PAD was updated to show a completion date of June 23, 2006.

2. **Carbonate Hill Mine Safeguard**

The Carbonate Hill non-coal project was designed to reclaim 18 high-priority shafts and three high-priority adits on Bureau of Land Management (BLM) property in Hidalgo County, New Mexico.

- a. eAMLIS PAD NM-451 (Carbonate Hill) does not contain a 7.5 minute quadrangle map showing the approximate location of each AML problem. However, this PAD was fully reclaimed prior to the transition to eAMLIS so no uploads are required.
- b. The Carbonate Hill PAD does not contain any PDFs nor are they required.
- c. Project construction was funded through BLM grant L10AC16249. As such these expenditures should be coded AFS-252 (Alternate Funding Source-Bureau of Land Management). However, the Carbonate Hill PAD shows Priority 1 Portals coded as “AFS-1” (it is not clear which funding source this refers to) and Priority 1 Vertical Openings coded “NCA” (non-coal reclamation under Section 409 of SMCRA). As a result of this review both problem-types in the Carbonate Hill PAD were updated to show funding code “AFS-252.”
- d. Construction ran from January 20, 2010 to April 23, 2010.
- e. Two change orders and no maintenance costs have been incurred.
- f. The Carbonate Hill PCS indicates 18 Vertical Openings were safeguarded at a cost of \$187,952 and three Portals were closed at a cost of \$37,394.01. These figures match the construction costs reported in the Carbonate Hill eAMLIS PAD.

3. Bethlehem Hill / French Adit Maintenance

The Bethlehem Hill / French Adit coal project was designed to safeguard two previously reclaimed adits and one previously reclaimed shaft in Santa Fe County, New Mexico.

- a. eAMLIS PAD NM-935056 (Bethlehem Hill) contains a 7.5 minute quadrangle map showing the approximate location of each AML problem as required by AML-1.
- b. The PAD contains a PDF for the Priority 1 Portals as required by AML-1; however, a corresponding PDF for the Priority 1 Vertical Openings was not found. As a result of this review AMLP uploaded a PDF for the Priority 1 Vertical Openings.
- c. AMLP's 2014 grant, S14AF20025, funded project construction.
- d. Construction ran for a single day, September 17, 2014.
- e. Zero change orders were required. This was a maintenance project so maintenance costs and construction costs are one and the same: \$3,099.38
- f. The Bethlehem Hill PCS indicates maintenance work was performed on one Vertical Opening at a cost of \$1,033.12. This figure matches what is reported in the Bethlehem Hill PAD. The PCS also reports construction costs of \$2,066.26 to maintain two Portals. When this maintenance cost is subtracted from the current PAD total for Portals, \$66,327.87, the difference of \$64,261.61 matches construction costs from the subsequent, 2018 phase of construction.

4. Granite Gap Mine Safeguard

The Granite Gap non-coal project was designed to safeguard 29 high-priority shafts and 12 adits on patented and BLM property in Hidalgo County, New Mexico.

- a. eAMLIS PAD NM-449 (Cotton City) does not contain a 7.5 minute quadrangle map showing the approximate location of each AML problem. However, this PAD was fully reclaimed prior to the transition to eAMLIS so no uploads are required.
- b. The Cotton City PAD does not contain any PDFs nor are they required.

- c. AMLP's 2006 grant funded project construction.
 - d. Construction ran from October 4, 2006 to June 20, 2007.
 - e. The project required three change orders. No maintenance costs have been incurred.
 - f. The Granite Gap PCS indicates 29 Vertical Openings were safeguarded at a cost of \$178,456.86. Of those, 18 were backfilled while 11 were designed and constructed for the ingress / egress of bats and other wildlife; these considerations generally increase costs significantly. The PCS also reports 12 wildlife-compatible Portal closures were constructed at \$153,256 for a project total of \$331,713.72. These figures match the construction costs and accomplishments reported in the Granite Gap eAMLIS PAD.
1. As required by 30 CFR § 886.21 AMLP updated eAMLIS with completion data for the sample PADs. These data match the information contained in AMLP's Project Completion Summaries. Applicable problem type units were also updated to reflect completion of the work;
 2. AMLP uploaded maps and PDFs to eAMLIS for each high priority problem type as required by OSMRE Directive AML-1;
 3. AMLP's project information was well organized and easy to interpret; and
 4. The cost data (unfunded, funded, completed, total) in each eAMLIS PAD's problem summary table were prorated by keyword, as applicable.

Conclusion

This review identified a few minor discrepancies related to project completion dates and funding codes. AMLP promptly resolved these issues by entering into eAMLIS corrected completion data and the appropriate alternate funding code indicating BLM as the source of support. We found no further problems in our comparison of the data contained in AMLP's Project Completion Summaries and the information reported by eAMLIS. Therefore, no corrective actions are recommended at this time. We appreciate AMLP's continued assistance with reporting comprehensive and accurate AML accomplishment and construction cost data in eAMLIS. We look forward to collaborating with AMLP in the coming Evaluation Year to review and improve additional PADs while continuing to rebuild institutional knowledge with respect to eAMLIS best practices.

VI. TABLES

Summary of Core Data to Characterize the AML Program

The following tables present summary data pertinent to abandoned mine land activities carried out by the New Mexico AMLP. Unless otherwise specified, the reporting period for the data contained in the tables is the 2021 Evaluation Year. Other data and information used by DFB in its evaluation of AMLP's performance are available for review in the evaluation file maintained by the Denver Field Branch.

Because of the significant variations from state to state and the differences between state programs, the summary data should not be used to compare one state to another.

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Table 1	Status of AML Inventory All Priority 1, 2, and 3 Hazards
Table 2	Accomplishments in Eliminating Health and Safety Hazards Related to Past Mining Priority 1 and 2 Hazards
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Table 7	AML Program Grant Awards and Staffing

Table 1 – New Mexico’s Status of AML Inventory all Priority 1, 2, and 3 Hazards on June 30, 2021

	High Priority		Elevated Priority 3	Stand-Alone Priority 3 (Not adjacent or in conjunction w/ P1&2)	Total
	Priority 1	Priority 2			
UNFUNDED					
GPRA Acres	14.8	67.2	N/A	104.9	186.9
Dollars	\$2,787,556	\$10,803,460	N/A	\$6,225,000	\$ 19,816,016
FUNDED					
GPRA Acres	16.6	14.2	28	18	76.8
Dollars	\$789,936	\$664,272	\$30,700	\$333,000	\$ 1,817,908
COMPLETED					
GPRA Acres	167	93.4	71.9	87.2	419.5
Dollars	\$10,928,099	\$3,122,847	\$4,794,566	\$3,118,796	\$ 21,964,308

Table 1a – New Mexico’s Status of AML Inventory all Priority 1, 2, and 3 Non-Coal Hazards on June 30, 2021

	High Priority		Elevated Priority 3	Stand-Alone Priority 3 (Not adjacent or in conjunction w/ P1&2)	Total
	Priority 1	Priority 2			
UNFUNDED					
GPRAs Acres	99.6	N/A	N/A	N/A	99.6
Dollars	\$1,720,700	N/A	N/A	N/A	\$1,720,700
FUNDED					
GPRAs Acres	17.7	N/A	N/A	N/A	17.7
Dollars	\$865,716	N/A	N/A	N/A	\$865,716
COMPLETED					
GPRAs Acres	178	N/A	N/A	N/A	178
Dollars	\$7,158,220	N/A	N/A	N/A	\$7,158,220

Table 2 – New Mexico’s Accomplishments in Eliminating Health and Safety Hazards Related to Past Mining Priority 1 and 2 Hazards as of June 30, 2021

PROBLEM TYPE (keyword)																		
	Clogged Stream Lands (CSL) (acres)	Clogged Stream (CS) (miles)	Dangerous Piles & Embankments (DPE)(acres)	Dangerous Impoundment (DI) (count)	Dangerous Highwall (DH) (feet)	Dangerous Slide (DS) (acres)	Gases: Hazardous /Explosive (GHE)	Hazardous Equip. /Facilities (HEF) (count)	Hazardous Water Body (HWB) (count)	Industrial/Residential Waste (IRW)	Polluted Water: Agri/Industrial (PWAI)(count)	Polluted Water: Human Consumption (PWHC)(count)	Portal (P) (count)	Subsidence (S) (acres)	Surface Burning (SB) (acres)	Underground Mine Fire (UMF) (acres)	Vertical Opening (VO) (count)	TOTAL
UNRECLAIMED / REMAINING HAZARDS (Unfunded)																		
Units	0	0	38	0	0	0	0	16	1	0	3	0	68	9	4	1	16	N/A
GPRA Acres	0	0	38	0	0	0	0	1.6	5	0	15	0	6.8	9	4	1	1.6	82
Dollars	0	0	\$7,140,960	0	0	0	0	\$1,094,500	\$15,000	0	\$610,000	0	\$872,000	\$2,322,556	\$1,010,000	\$250,000	\$276,000	\$13,591,016

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ANNUAL RECLAMATION EY 2021 only (Completed)																		
Units	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A
GPR Acres	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dollars	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HISTORICAL RECLAMATION 1978 – 2021 (Completed)																		
Units	2	1.5	45.5	0	0	0	0	16	0	0	3	1	264	71.3	35	32	86	N/A
GPR Acres	10	10	45.5	0	0	0	0	1.6	0	0	15	5	26.4	71.3	35	32	8.6	260.40
Dollars	\$416,858	\$155,000	\$2,771,123	0	0	0	0	\$118,840	0	0	\$1,397,541	\$1,728	\$1,256,908	\$6,165,417	\$696,036	\$234,983	\$836,513	\$14,050,946

Table 2a – New Mexico’s Accomplishments in Eliminating Health and Safety Hazards Related to Past Mining Priority 1 and 2 Non-Coal Hazards as of June 30, 2021

PROBLEM TYPE (keyword)																		
	Clogged Stream (CS) (miles)	Clogged Stream Lands (CSL) (acres)	Dangerous Piles & Embankments (DPE) (acres)	Dangerous Highwall (DH) (feet)	Dangerous Impoundment (DI) (count)	Dangerous Slide (DS) (acres)	Gases: Hazardous /Explosive (GHE) (count)	Hazardous Equip. /Facilities (HEF) (count)	Hazardous Water Body (HWB) (count)	Industrial/Residential Waste (IRW) (acres)	Portal (P) (count)	Polluted Water: Agri/Industrial (PWAI)(count)	Polluted Water: Human Consumption (PWHC)(count)	Subsidence (S) (acres)	Surface Burning (SB) (acres)	Underground Mine Fire (UMF) (acres)	Vertical Opening (VO) (count)	TOTAL
UNRECLAIMED / REMAINING HAZARDS (Unfunded)																		
Units	0	0	0	5,000	0	0	0	0	0	0	73	0	0	0	0	0	212	N/A
GPRA Acres	0	0	0	71.4	0	0	0	0	0	0	7.3	0	0	0	0	0	21.2	99.9
Dollars	0	0	0	\$500,000	0	0	0	0	0	0	\$335,000	0	0	0	0	0	\$909,700	\$1,744,700

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ANNUAL RECLAMATION EY 2021 only (Completed)																		
Units	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A
GPRA Acres	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dollars	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HISTORICAL RECLAMATION 1978 – 2021 (Completed)																		
Units	0	0.5	4	286	0	0	0	7	0	0	386	3	0	13	0	0	1,162	N/A
GPRA Acres	0	0.5	4	4.08	0	0	0	0.7	0	0	44	15	0	13	0	0	118.9	200.18
Dollars	0	\$2,500	\$24,500	\$53,292	0	0	0	\$2,460	0	0	\$2,131,019	\$5,000	0	\$31,450	0	0	\$4,986,853	\$7,237,074

Table 3 – New Mexico’s Accomplishments in Eliminating Environmental Problems Related to Past Mining Priority 3 and SMCRA section 403(b) Hazards as of June 30, 2021

PROBLEM TYPE (keyword)															
	Bench , Solid Bench, Fill Bench (BE) (acres)	Equipment and Facilities (EF) (count)	Gob (GO) (acres)	Haul Road (HR) (acres)	Highwall (H) (feet)	Industrial/Residential Waste Dump (DP) (acres)	Mine Opening (MO) (count)	Pit, Open Pit, Strip Pit (PI) (acres)	Slump (SP) (acres)	Slurry (SL) (acres)	Spoil, Spoil Bank (SA) (acres)	Water (WA) (gallons)	Other (specify)	Water Supplies (WS) – Section 403(b) (count)	TOTAL
UNRECLAIMED / REMAINING HAZARDS (Unfunded)															
Units	9	5	186	8	0	0	13	0	0	0	39.5	3	0	0	N/A
GPRA Acres	9	0.5	186	8	0	0	1.3	0	0	0	39.5	3	0	0	247.3
Dollars	\$720,000	\$350,000	\$15,754,090	\$580,000	0	0	\$122,000	0	0	0	\$1,720,000	\$200,000	0	0	\$19,446,090

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ANNUAL RECLAMATION EY 2021 only (Completed)															
Units	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A
GPRA Acres	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dollars	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HISTORICAL RECLAMATION 1978 – 2021 (Completed)															
Units	3	9	105.4	42.5	0	0	13	2	0	2	2	0	0	0	N/A
GPRA Acres	3	0.9	105.4	42.5	0	0	1.3	2	0	2	2	0	0	0	159.1
Dollars	\$7,301	\$10,634	\$4,149,278	\$3,616,417	0	0	\$123,540	\$3,890	0	\$1	\$2,301	0	0	0	\$7,913,362

Table 3a – New Mexico’s Accomplishments in Eliminating Environmental Problems Related to Past Mining Priority 3 and SMCRA section 403(b) Non-Coal Hazards as of June 30, 2021

PROBLEM TYPE (keyword)															
	Bench , Solid Bench, Fill Bench (BE) (acres)	Equipment and Facilities (EF) (count)	Gob (GO) (acres)	Haul Road (HR) (acres)	Highwall (H) (feet)	Industrial/Residential Waste Dump (DP) (acres)	Mine Opening (MO) (count)	Pit, Open Pit, Strip Pit (PI) (acres)	Slump (SP) (acres)	Slurry (SL) (acres)	Spoil, Spoil Bank (SA) (acres)	Water (W/A) (gallons)	Other (specify)	Water Supplies (WS) – Section 403(b) (count)	TOTAL
UNRECLAIMED / REMAINING HAZARDS (Unfunded)															
Units	0	0	0	0	0	0	0	0	0	0	360	0	0	0	N/A
GPRA Acres	0	0	0	0	0	0	0	0	0	0	360	0	0	0	360
Dollars	0	0	0	0	0	0	0	0	0	0	\$72,000	0	0	0	\$72,000

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ANNUAL RECLAMATION EY 2021 only (Completed)															
Units	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A
GPR Acres	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dollars	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HISTORICAL RECLAMATION 1978 – 2021 (Completed)															
Units	0	18	0	0	0	0	25	0	0	0	331	0	0	0	N/A
GPR Acres	0	1.8	0	0	0	0	2.5	0	0	0	331	0	0	0	335.3
Dollars	0	\$9,000	0	0	0	0	\$115,000	0	0	0	\$42,643	0	0	0	\$166,643

Table 5 – New Mexico’s Partnership Financial Resources Dedicated to Protecting the Public from Adverse Effects of Past Mining During EY 2021

PAD Number	Project Name	SMCRA Program Funding Source	Total SMCR A funding	Alternate Non-SMCRA Funding Source	Total Non-SMCRA Funding	In-Kind Services	Total Project Funding
NM-935051	Cookes Peak East Phase II	NCA	0	Bureau of Land Management	\$167,342	0	\$167,342
NM-935051	Cookes Peak West Phase IIIB	NCA	0	Bureau of Land Management	\$481,219	0	\$481,219
TOTAL			0		\$648,561	\$0	\$648,561

Table 6a – New Mexico’s Non-Coal AML Projects Started and / or Completed During EY 2021

Projects Started	Projects Completed
4	3

Table 7 – New Mexico’s AML Program Grant Awards and Staffing During EY 2021

AML Program Costs	
Administration	\$1,831,811
Project	\$997,189
Water Supply Construction	0
AMD Set-Aside	0
Total AML Funding	\$2,829,000
AML Program Staffing	11 FTEs

VII. COMMENTS

The State of New Mexico had no comments on the EY 2021 Annual Evaluation Report.