

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 2017
July 1, 2016 to June 30, 2017
Prepared by Denver Field Branch
September, 2017

EXECUTIVE SUMMARY

This Annual Evaluation Report was prepared by the Office of Surface Mining Reclamation and Enforcement, Denver Field Branch to describe the accomplishments of the New Mexico Abandoned Mine Land Program during the 2017 Evaluation Year. This 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.

OSMRE utilized two basic methods of analysis during the 2017 Evaluation Year. The first method includes various administrative oversight reviews designed to ensure accuracy and integrity throughout the grants financial assistance and electronic Abandoned Mine Land Inventory System reporting processes. The second method includes on-the-ground oversight reviews that enable OSMRE to evaluate various elements of the State's construction management, abatement selection, and hazard prioritization processes.

According to data available through the electronic Abandoned Mine Land Inventory System, New Mexico has a total remaining inventory of 210 Government Performance and Results Act acres to be reclaimed, estimated at \$23,727,748.22. Since 1978, New Mexico has expended a total of \$17,575,152.89 in grant funding to reclaim a total of 399.5 Government Performance and Results Act acres. New Mexico was awarded \$2,793,000.00 in grant funding this year 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: Allison Mine Subsidence, McKinley County, 2017

I. GENERAL

(a) 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 the 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 (the 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 in conjunction with or 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 (AMLPL) and the effectiveness of the New Mexico program in meeting the applicable purposes of SMCRA as specified in Section 102. This report covers the 2017 Evaluation Year (EY) July 1, 2016 to June 30, 2017.

Detailed background information and comprehensive reports for the program elements evaluated during the EY are available for review and copying at the OSMRE Western Regional Office, 1999 Broadway, Suite 3320, Denver, Colorado, 80202. To arrange an appointment time, contact Howard Strand, Denver Field Branch Manager at (303) 293-5026 or hstrand@osmre.gov.

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

1. Select NM from the drop down box labeled “State”. Also select 2017 as the “Evaluation Year”, and then click “Submit”. The search can be narrowed by choosing selections under the “Keyword” or “Category” headings.
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:

AML	Abandoned Mine Land
AML P	New Mexico Abandoned Mine Land Program
ATP	Authorization to Proceed
eAMLIS	Electronic Abandoned Mine Land Inventory System
EY	Evaluation Year
FAM	Federal Assistance Manual
FTE	Full-time equivalent
OSMRE	Office of Surface Mining Reclamation and Enforcement
PSA	Professional Services Agreements
SMCRA	Surface Mining Control and Reclamation Act of 1977

(b) Program Administration

New Mexico submitted its AML reclamation plan (as amended) to OSMRE on February 4, 1981; it was subsequently approved on June 17, 1981. The New Mexico Abandoned Mine Land Program is administered by the Mining and Minerals Division of the New Mexico Energy, Minerals and Natural Resources Department. AMLP employs seven FTE across a variety of disciplines including project management, environmental compliance, engineering, and archaeology.

Overall, OSMRE finds that AMLP is successfully implementing its approved AML program. The OSMRE-DFB and AMLP Team maintains open and productive lines of communication and a cooperative relationship. Through these, the public’s interests in effective reclamation of high-priority AML problems and stewardship of grant funding are upheld. The Team encountered one issue during EY 2017 which concerns emergency projects. In order to conduct emergency AML reclamation operations, state AML programs must include an emergency component in their approved AML plan. By letter dated August 22, 1988, the Director of New Mexico MMD withdrew an amendment to the approved New Mexico AML plan that would have incorporated the administrative and procurement procedures necessary to respond to AML emergencies with the appropriate urgency. As a primacy state, it is New Mexico’s prerogative to exclude an emergency component from its approved AML plan. However, under that scenario, any AML emergencies in New Mexico would be referred to the OSMRE Federal Reclamation Program (FRP). This issue surfaced in 2015 when a sinkhole suddenly opened in the former coal town of Allison, McKinley County. Discussions between FRP and AMLP resulted in the decision to authorize AMLP to utilize its resources and expertise to abate the subsidence hazard. That project continues to date, largely due to a lack of necessary emergency infrastructure the program amendment would have created. In order to respond to potential future emergencies

with appropriate urgency, the Team recommends AMLP submit a program amendment to its approved AML plan incorporating the appropriate administrative and procurement procedures.

II. NOTEWORTHY ACCOMPLISHMENTS

(a) Overall Performance

Over the past year, OSMRE monitored New Mexico's performance in meeting the goals and objectives of SMCRA Section 102. As previously mentioned, OSMRE 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 VII of this report.

Major accomplishments in AML coal reclamation during EY 2017 include:

Construction

Allison Subsidence Emergency project

Design

Dandee Coal Mine Safeguard

Allison Mine Subsidence Phase II

Madrid-French Adit Backfill

Rogersville Gob Reclamation

Vermejo Park Ranch – Swastika/Dutchman Maintenance projects

Project Development

Navajo No. 1 Mine Fire

Sugarite Phase IX

Vermejo Park Ranch – Tin Pan Canyon Gob Reclamation projects

Initiation

Biava Mine Fire and Gob Reclamation Gallup Area

Jones Mine Fire

Madrid Stormwater Improvements

Monero Coal Mines

Vermejo Park Ranch – Various projects

Professional Services Agreements (PSA)

AMLP also entered into PSAs for geotechnical evaluation at the Allison Subsidence project, as-needed archaeological services, as-needed bat habitat evaluation, as-needed cultural resources compliance services, as-needed environmental compliance services, as-

needed professional engineering services, coal seam fire monitoring services, and stream restoration and sediment and erosion control design and construction.

Major accomplishments in AML non-coal reclamation during EY 2017 include:

Construction:

Bradley Mine Group Frederick Mine Safeguard
Carrizalillo Hills
Cokes Peak West Mine Safeguard – Phase II
Fluorite Ridge Maintenance
Gage Mine Safeguard Project – Phase II

Design:

Cokes Peak West Mine Safeguard – Phase III
Cokes Peak East Mine Safeguard – Phase I
Harding Pegmatite Gate Maintenance
Lemitar Mine Safeguard
San Pedro Mine Safeguard – Phase II
White Signal Mine Safeguard – Phase II

Project Development:

Bingham Hansonburg Mine Safeguard
Boston Hill Phase II
Bradley Mine Safeguard Phase II
Cerrillos Mine Safeguard
Luis Lopez Adit
Mahoney Mines
San Pedro Golden Placer Field
Rincon Manganese/Red Hill

Initiation:

Bonito Lake Maintenance
Black Rock Canyon
Cimarron Horseshoe Mine Adit
Kingston Mine Safeguard
Orogrande Maintenance

PSA:

AMLPLP also entered into PSAs for as-needed archaeological services, as-needed bat habitat evaluation, as-needed cultural resources compliance services, as-needed environmental compliance services, as-needed engineering services, and mine-site inventory and characterization services.

Major technological innovations for this year include:

AMLPLP is continuing to experiment with the use of drones for 3D terrain modeling and to monitor reclamation sites for vegetative cover and erosion. It is also beginning to conduct field data collection using tablets and Esri's collector app.

III. UTILIZATION OF OSMRE TECHNICAL ASSISTANCE

OSMRE provides technical assistance and technology support to AML Programs at the individual state level on project specific efforts, and at the national level in the form of national meetings, forums, and national initiatives. OSMRE provides direct technical assistance in project and problem investigation, design and analysis, permitting assistance, developing technical guidelines, training and support. OSMRE initiated a regional Technology Transfer Team in 2004 to support and enhance the technical skills needed to operate regulatory and reclamation programs which includes a representative from each state, including New Mexico.

(a) National Technical Training Program (NTTP)

- AMLPLP staff attended the NTTP NEPA Procedures course in 2017.

(b) Technical Innovation and Professional Services (TIPS)

- AMLPLP staff did not attend any TIPS courses in 2017.

IV. PUBLIC PARTICIPATION AND OUTREACH

The term "public" includes all stakeholders (i.e., citizenry at large, industry, other federal, state or local agencies, and environmental groups).

(a) OSMRE-PSD-FOB

For EY 2017, OSMRE's public outreach duties were performed by the Program Support Division's (PSD) Field Operations Branch (FOB). The New Mexico Regulatory and AML programs maintain databases of interested parties which OSMRE uses each year to solicit comments on our oversight process, including recommendations for evaluation topics, general concerns, questions, and suggestions for improving our annual reporting process. No stakeholder input was received for EY 2017.

The public can also access OSMRE annual reports and Performance Agreements (PA) through the OSMRE Oversight Documents website at <http://odocs.osmre.gov/>. The Introduction section of this report details how to access information using this website.

(b) New Mexico AMLP

The New Mexico AML program 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 2017, AMLP staff developed and uploaded a story map journal on its website to highlight a selection of projects and initiatives that represent the diverse activities covered by the Program (go to <http://www.nmmines.com>, click on the link for the “Abandoned Mine Land Program,” and on that page click on the link on the upper right to “AML Program Story Map Journal”). The Story Map Journal is an Esri web application that allows the Program to create multimedia stories and narratives that combine text, maps, images, videos and links to other source materials. The Program also continues to promote public awareness of abandoned mines and abandoned mine safety through the Story Map Journal and other portions of its website, as well as through its display at the State Fair in Albuquerque, held in September of each year. The State Fair exposes a few thousand visitors who visit the Natural Resources Building at the Fair to this display.

V. RESULTS OF EVALUATION YEAR 2017 REVIEWS

National priority reviews and oversight topic reviews can be located and reviewed at OSMRE’s website as listed at 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.

Oversight Topic Reviews were conducted as specified in the OSMRE-AMLP Performance Agreement. For EY 2017, the Team conducted the following reviews.

- 1(c): Does the State’s abatement selection process effectively address site-specific parameters?
- 2(e): Does the information the State entered into eAMLIS agree with information in its files?
- 3(f): Is the State obligating its grant funds in a timely manner?

**New Mexico Abandoned Mine Lands Program (AMLP)
2017 Enhancement and Performance Review Report**

Measure

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

Performance Measure: (c) Does the State's abatement selection process effectively address site-specific parameters?

Review date

This review was conducted and the report composed during the summer of 2017.

Personnel

John Kretzmann, Erin Marynak, Meghan McDonald, Lloyd Moiola, Joe Vinson, and Rick Wessel (AMLP); and Tom Medlin (OSMRE).

Background

The Team developed this new performance measure and will conduct the review for the first time in Evaluation Year 2017. Appropriate abatement method selection is integral to the overall success of Abandoned Mine Land (AML) reclamation. Multiple factors regularly contribute to abatement method selection. This review is intended to evaluate how the State chooses closure or other abatement methods based on site-specific conditions such as access limitations, native materials available, drainage / venting, visitation / vandalism, landowner preference, historic preservation, wildlife habitat, etc.

Methodology

The population for this review included all AML abatement methods previously completed, currently under construction, or planned for construction within the state. The Team selected a minimum of four abatement types for review. Multiple abatement types within one project area were deemed acceptable. The Team reviewed each sample AML feature to determine whether the State adequately considered site-specific parameters and characteristics in determining the selected abatement type. Prior to evaluating each feature in the field, Team members reviewed available information including plans and specifications, NEPA documentation, Sections 7 and 106 consultation documentation, closeout reports, and other file documents. We discussed each feature with the project manager(s) who coordinated the sample projects. Field evaluation confirmed identified and other site-specific parameters which could have influenced the abatement type selection process.

Findings

(1) Madrid Hillside Stabilization / Low-Impact Stormwater project (eAMLIS PAD: NM-75)

Madrid is a former coal community located in Santa Fe County; mining operations date to 1835 and ceased in 1954. In the time since, Madrid's identity has shifted significantly, from company-town to counterculture enclave to tourist destination, but throughout much of the

mining-related infrastructure has remained in place, cherished for its historic and cultural significance.

The Team visited Madrid on June 20, 2017. Mr. Kretzmann provided a summary of the site's extensive history, past reclamation work performed, and various factors that influenced the abatement selection process more recently. The Madrid site features a number of coal gob piles that both add to its historical and cultural significance and react poorly (through significant erosion and deposition) to major storm events. Mr. Kretzmann explained that the primary outcome of a 2010 public meeting with the citizens of Madrid was a request for improved stormwater treatment. This point was driven home by severe precipitation and flooding in September, 2013, that affected not only the Colorado Front Range, but much of New Mexico, including Madrid, as well.

Accordingly, reclamation priorities included hillside stabilization, stormwater treatment, landowner coordination, and historical and cultural resource protection. Public input, aesthetics, and ease-of-maintenance were also incorporated into AMLP's design and construction planning.

The Team observed several AML reclamation features at Madrid, including:

- “medialuna” (half-moon) hydrologic velocity-dissipation structures;
 - hand-constructed of native rock; designed to weather-in-place and blend in with the hillside.
- reconstructed drainage channels;
 - hand-built of variously-sized riprap for a natural, blended appearance; interlocking design helps prevent shifting downslope, reducing maintenance; multiple settling-pools incorporated in the design for further hydrologic velocity reduction; AMLP utilized the same specialty contractor for both design and construction; coordinating construction with local landowners helped avoid impacts to Madrid's tourism season.
- revegetation;
 - fourwing saltbrush is well-adapted to the local soils, aids in hillslope cohesion, and contributes to hydrologic velocity reduction. Jute erosion-control netting was also utilized as a topsoil retention measure.
- retaining walls; and
 - constructed of rock for a natural appearance; designed to divert hydrologic flow from across remaining gob piles; also replaced modular concrete (“Jersey”) barriers temporarily-installed at roadside to prevent any additional gob transport into town following the flooding of 2013.
- box culvert drainage improvement
 - AMLP lined an historic box culvert that was involved with the 2013 flooding with a 36” corrugated metal pipe (CMP). The culvert directs drainage from the gob-laden slopes above Madrid underneath the town, and ultimately reports to New Mexico Department of Transportation's drainage network. The Team visited the town's historic theatre that was overrun with coal gob during the 2013 flood due to the box culvert's dated design and capacity. That event

directly influenced AMLP's design and construction considerations in upgrading this feature. The drainage network was also contoured to improve flow characteristics and reduce flooding during future outlier storm events.

With respect to AMLP's consideration of site-specific parameters, potential alternative abatement types, and site-specific parameter prioritization, we find AMLP's processes and outcomes comport with the goals of the Program and demonstrate a reasoned approach resulting in successful on-the-ground reclamation.

(2) Cerrillos Hills project (eAMLIS PAD: NM-443)

The Cerrillos Hills Mining District is located in Santa Fe County. The District is approximately 30 square miles in size and has an extensive history dating to 700 AD when Pueblo Indians began extracting the region's world-renowned turquoise. In 2000 Santa Fe County completed its purchase of land within the District for use as an interpretive / open-space park (now known as Cerrillos Hills Historic Park) and requested AMLP begin constructing closures of the District's extensive network of AML features.

The Team visited the park on June 21, 2017 to evaluate the State's abatement selection process and discuss potential alternate abatement methods. As the primary project managers at Cerrillos Hills, Mr. Moiola and Ms. Marynak provided background information on the project's recent history, with input from Mr. Wessel as well.

Reclamation priorities included safeguarding the project area's extensive catalogue of abandoned shafts and adits, particularly in light of a child's accidental fall into an abandoned shaft which at least in part drove AMLP's initial involvement; bat and bird compatibility, as applicable; ensuring reclamation work preserves the project area's significant historical and cultural characteristics (the entire Cerrillos Hills Mining District is eligible for listing on the National Register of Historic Places [NRHP]); aesthetic consistency; and minimization of surface disturbances.

The Team observed several AML reclamation features at Cerrillos Hill, including:

- Polyurethane foam (PUF) shaft closures; and
 - AMLP's earlier choice for shaft closures, PUF is still used in certain cases where access is extremely limited, as it requires less equipment and material to construct; the PUF plug is covered with two feet of local material to prevent UV degradation and maintain natural character; surface grates help to vent mine-gas; brass monuments memorialize the feature and its closure; and waste-rock piles largely left intact for aesthetic appeal and historical preservation.
- single-wire and three-wire mesh shaft closures
 - AMLP's more recent choice for shaft closures, steel mesh represents a cost savings over comparable PUF closures; bats and owls are willing and able to fly through; anchors are drilled into bedrock for security and durability; the switch to three-wire mesh reflects AMLP's experience with vandalism at single-wire mesh closures and efforts to increase value by

reducing/eliminating maintenance/repair work; interpretive signage of weathering-steel construction blends well with the park's natural character, eliminates the need for powdercoat and maintenance, and aid visitors' understanding of the site's storied history.

With respect to AMLP's consideration of site-specific parameters, potential alternative abatement types, and site-specific parameter prioritization, we find AMLP's processes and outcomes comport with the goals of the Program and demonstrate a reasoned approach resulting in successful on-the-ground reclamation.

(3) Allison Subsidence (eAMLIS PAD: NM-69)

The multiphase Allison Subsidence AML project is currently underway to safeguard a sinkhole which suddenly opened in 2015 in the small former coal community of Allison in McKinley County. AMLP learned about the hazard through a report submitted by a concerned landowner. According to the report, the sinkhole opened adjacent to the owner's property following monsoon rains. The feature initially measured approximately 40'l x 20'w x 20'd and later enlarged to about 90'l x 40'w x 20'd and displayed tension cracking due to storm-related water intrusion and sidewall spalling. Complicating matters, a drainage channel runs across the subsidence area. AMLP's response included preliminary geotechnical evaluation, excavation, backfill, and drainage work.

The Team visited the town of Allison on June 22, 2017 to evaluate the State's abatement selection process and discuss potential alternate abatement methods. At the time of the visit, the sinkhole was cordoned off with orange fencing to mark the hazard. Mr. Vinson collected soil samples in preparation for construction. Ms. McDonald provided a brief history of the Allison Mine's operations, as well as more recent events related to the subsidence events. According to Ms. McDonald, coal mining at Allison was a two-seam drift operation that ceased in 1940. The most current map of the underground workings (which are collapsing) is dated 1936, however, leaving a four year "knowledge gap" of the direction and extent of mining operations from 1936 onward. Initial backfill of rubbleized concrete and re-establishment of the drainage was performed in January, 2016. In March, 2016, a second sinkhole appeared, adjacent to the first. These factors led to AMLP's decision to conduct extensive geotechnical investigation work prior to additional construction. That investigation resulted in an updated mine map which AMLP used to decide on compaction grouting as the best method to permanently mitigate the hazard, in light of the reclamation priorities of safeguarding people and property and durability of construction. AMLP will drill into the failing drift, beginning at the edges of the cone of depression, and establish a bulkhead for the compaction grout. As the sinkhole is stabilized, the work will proceed towards the center of the depression where danger is the highest. Later reclamation work will address the drainage issue which has been exacerbated by significant earthwork at adjoining properties and will requires additional landowner coordination.

With respect to AMLP's consideration of site-specific parameters, potential alternative abatement types, and site-specific parameter prioritization, we find AMLP's processes and

outcomes comport with the goals of the Program and demonstrate a reasoned approach that should result in successful, long-term, on-the-ground reclamation.

Conclusion and recommendations

We conclude the AMLP's prioritization and abatement selection processes are reasonable and reflect site-specific factors present at the Madrid, Cerrillos Hills, and Allison project areas, including hazardous conditions to humans, property, and the environment; landowner and public input; historical and cultural preservation; access limitations; vandalism; aesthetics; and durability-of-design. We appreciate AMLP's thoughtful approach to AML reclamation, cooperation in conducting this evaluation, and service in pursuit of our mutual goals of safeguarding abandoned mine land hazards in New Mexico.

New Mexico Abandoned Mine Lands Program (AMLP) 2017 Enhancement and Performance Review Report

Measure

Principle of Excellence: 2. The State 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 date

This review was conducted in the summer of 2017.

Personnel

John Kretzmann, and Erin Marynak (AMLP); and Tom Medlin (OSMRE).

Background

State and tribal AML programs are required to update Problem Area Descriptions (PAD) in AMLIS when the Office of Surface Mining Reclamation and Enforcement (OSMRE) approves funding for a project and upon project completion. OSMRE interprets the project's starting point as the date at which it issues Authorization to Proceed. The State defines a different starting point for projects; the starting point date for a project is when the State issues notice to proceed to its contractor for the work. This requirement is outlined in the Abandoned Mine Land Inventory Manual, which OSMRE Directive AML-1 implemented no later than December 12, 2012. This Directive also requires completion of Priority Documentation Forms to support the Priority 1 and 2 designations assigned to AML keywords in PADs.

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. That 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 data in a sample of each state's AMLIS PADs to data in the respective state's files to ensure that they agree.

OSMRE was unable to conduct this evaluation in EY 2011 due to complications with the transition to eAMLIS. OSMRE reasoned that 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 2(e) evaluation was all New Mexico data for completed projects entered into PADs since July 1, 2004, which have not already been subject to evaluation under this performance measure. The sample consisted of one coal and one non-coal AML project. AMLP uses data from its project completion summaries to update eAMLIS. We compared cost and accomplishments information, eAMLIS keywords, and construction completion dates in the project completion summaries to the information contained in these projects' respective eAMLIS PADs. For 2017, the New Mexico 2(e) sample consisted of the Allison Subsidence Phase I and San Pedro Phase I AML projects.

Findings

1) Allison Subsidence Phase I

The multiphase Allison Subsidence AML project is currently underway to safeguard a sinkhole which suddenly opened in the small former coal community of Allison in McKinley County. Phase I of the project was initiated in response to a 2015 citizen report about a sinkhole approximately 40' l x 20' w x 20' d, which subsequently enlarged to about 90' l x 40' w x 20' d and displayed tension cracking due to storm-related water intrusion and sidewall spalling. AMLP's response included preliminary geotechnical evaluation, excavation, backfill, and drainage work.

A comparison between AMLP's project completion summary and data contained in the eAMLIS repository indicated the following:

- a. eAMLIS PAD NM-69 (Allison) contains two different maps and a Priority Documentation Form for the Subsidence problem type, as required by AML-1.
- b. Grants used to fund the project included: S15AF20044, S09AP15297, S11AF20023, S13AF20046, and S12AF200009.
- c. Construction completion date was February 11, 2016.
- d. Change orders/maintenance: \$8,631.92 (change order).
- e. Total project cost reflected in AMLP's closeout report was \$387,015.85 which matches the figure reported in eAMLIS.

2) **San Pedro Phase I**

The San Pedro Phase I AML project is located in Santa Fe County near the village of Golden. The project consisted of backfill and closure of ten shafts and 13 adits, construction of six surface structures, and revegetation of disturbed areas related to the reclamation work.

A comparison between AMLP's project completion summary and data contained in the eAMLIS repository indicated the following:

- a. eAMLIS PAD NM-935052 (San Pedro) included a map and Priority Documentation Forms for both Portal and Vertical Opening problem types, as required by AML-1.
- b. Grants used to fund the project included S08AP12751 (non-construction costs), S10AB20005, S11AF20023, and L10AC16249 (BLM)
- c. Construction completion date was May 28, 2015
- d. Change orders/maintenance: \$25,222.50 (change order)
- e. Total project cost reflected in AMLP's closeout report was \$295,354.42 which matches the amount reported in eAMLIS (minus \$.42, a negligible difference).

Overall

- 1) As required by 30 CFR 886.21, AMRP updated eAMLIS PADs with completion cost data for both sample projects, which matched the information contained in its project completion summaries. Applicable problem type units were also updated to reflect completion of the work;
- 2) AMLP uploaded maps and Priority Documentation Forms to both PADs (NM-935052, San Pedro; and NM-69, Allison) as required by 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 PAD's problem summary table within eAMLIS were prorated by keyword, as applicable.

Conclusion and recommendations

With oversight of the New Mexico AML Program recently turned over to DFB, this year's 2(e) evaluation was a useful exercise with regard to communication and reporting expectations among the Team. As a result of this evaluation, AMLP designed one-page project completion summaries which provide a useful "snapshot" of AML reclamation construction and non-construction costs by project and grant. AMLP will use these moving forward which will greatly aid future 2(e) evaluations, data retrieval, and the accuracy of cost data reported in eAMLIS .

During the course of this evaluation, minor discrepancies were noted between the completion cost data as reported in AMLP's project completion summaries versus eAMLIS. However, AMLP was quick to amend the eAMLIS data to match the information correctly reported in its project completion summaries. Since the key point of this evaluation is to review and certify the accuracy of data reported in eAMLIS, we take no issue with corrections made during the process. Overall, AMLP was responsive and receptive to requests or queries from OSMRE. We conclude that AMLP is engaging in a good faith effort to enter its AML reclamation accomplishments and cost data in a system admittedly not designed as much of an accounting tool (eAMLIS). We appreciate AMLP's efforts to date and recommend continued collaboration and cooperation with OSMRE toward our mutual goal of safeguarding the public and environment from hazards associated with abandoned mine lands in New Mexico.

New Mexico Abandoned Mine Lands Program (AMLP) 2017 Enhancement and Performance Review Report

Measure

Principal of Excellence: 3. The State must have systems to properly manage AML funds.

Performance Measure: (f) Is the State obligating its grant funds in a timely manner?

Review Date

This review was conducted in the summer of 2017.

Personnel

Dawn Lewis, OSMRE Program Services Branch

Background

This is a cyclical review. Varies grants financial management elements of within the New Mexico EMNRD have been reviewed by OSMRE in previous Evaluation Years. This is the first time the 3(f) review has been conducted.

Methodology

This audit examined drawdown information for all active AML grants available through OSMRE's Financial Business Management System (FBMS). The population sample included all active AML grants awarded to AMLP: S14AF20025, S15AF20044, and S16AF20032.

Findings

This review focused on the timeliness of withdrawals to pay state obligations. Between October 4, 2016 and June 30, 2017, nine withdrawals were documented, or one per month, in the total amount of \$1,046,577.74. This review was designed to include interviews between OSMRE and AMLP grants financial staff to ensure the State timely pays its vendors without incurring late fees. However, these interviews did not take place due to staffing shortages.

Conclusion and recommendations

The Team concludes AMLP is obligating its grant funds in a timely manner and recommends this practice continue.

VI. TABLES

Summary of Core Data to Characterize the AML program

The following tables present summary data pertinent to abandoned mine land activities under the New Mexico AML program. Unless otherwise specified, the reporting period for the data contained in the tables is the 2017 Evaluation Year. Other data and information used by OSMRE in its evaluation of AMLP's performance are available for review in the evaluation file maintained by the Western Region Office in Denver, Colorado.

Because of the enormous 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 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, 2017

	High Priority		Elevated Priority 3	Stand-Alone Priority 3 (Not adjacent or in conjunction w/ P1&2)	Total
	Priority 1	Priority 2			
UNFUNDED					
GPR Acres	15.1	67.2	N/A	80.3	162.6
Dollars	4,118,781.22	10,803,460.00	N/A	6,570,000.00	21,492,241.22
FUNDED					
GPR Acres	2.0	12.2	10.2	23.0	47.4
Dollars	82,556.00	889,497.00	580,300.00	683,154.00	2,235,507.00
COMPLETED					
GPR Acres	161.5	88.1	63.5	86.4	399.5
Dollars	8,018,801.89	2,518,096.00	4,146,113.00	2,892,142.00	17,575,152.89

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, 2017)

PROBLEM TYPE (keyword)																			
	Clogged Stream (CS) (miles)	Clogged Stream Lands (CSL) (acres)	Dangerous Pile or Embankment (DPE)(acres)	Dangerous Highwall (DH)	Dangerous Impoundment	Dangerous Slide (DS)	Gases: Hazardous	Hazardous Equip./Facilities (HEF) (count)	Hazardous Water Body (HWP) (count)	Industrial/Residential	Portal (P) (count)	Polluted Water: Agri/Industrial (PWAI)(count)	Polluted Water: Human Consumption	Subsidence (S) (acres)	Surface Burning (SB) (acres)	Underground Mine Fire (UMF) (acres)	Vertical Opening (VO) (count)	TOTAL	
UNRECLAIMED/REMAINING HAZARDS (Unfunded)																			
Units	0	0	40	0	0	0	0	16	1	0	51	3	0	9	4	1	16	N/A	
GPR Acres	0	0	40	0	0	0	0	1.6	5	0	5.1	15	0	9	4	1	1.6	82.3	
Dollars	0	0	8,440,960	0	0	0	0	1,094,500	15,000	0	812,000	610,000	0	2,413,781.22	1,010,000	250,000	276,000	14,922,241.22	
ANNUAL RECLAMATION - EY2017 only (Completed)																			
Units	0	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	00
Dollars	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HISTORICAL RECLAMATION - EY1978 - 2017 (Completed)																			
Units	2	1.5	40.5	0	0	0	0	16	0	0	258	2	1	71.3	35	32	85	N/A	
GPR Acres	10	10	40.5	0	0	0	0	1.6	0	0	25.7	10	5	71.3	35	32	8.5	249.6	
Dollars	416,858	155,000	2,157,123	0	0	0	0	118,840	0	0	1,175,564	1,300,000	1,728	3,445,285.89	696,036	234,983	835,480	10,536,897.89	

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, 2017)

PROBLEM TYPE (keyword)															
	Bench , Solid Bench, Fill Bench (BE) (acres)	Industrial/Residential Waste Dump (DP) (acres)	Equipment and Facilities (EF) (count)	Gob (GO) (acres)	Highwall (H) (feet)	Haul Road (HR) (acres)	Mine Opening (MO) (count)	Pit, Open Pit, Strip Pit (PI) (acres)	Spoil, Spoil Bank (SA) (acres)	Slurry (SL) (acres)	Slump (SP) (acres)	Water (WA) (gallons)	Other (specify)	Water Supplies (WS) – Section 403(b) (count)	TOTAL
UNRECLAIMED/REMAINING HAZARDS (Unfunded)															
Units	9	0	5	163	0	8	15	0	39.5	0	0	3	0	0	N/A
GPRA Acres	9	0	0.5	163	0	8	1.5	0	39.5	0	0	3	0	0	224.5
Dollars	720,000	0	350,000	16,319,090	0	580,000	142,000	0	1,720,000	0	0	200,000	0	0	20,031,090
ANNUAL RECLAMATION - EY2017 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 - EY1978 - 2017 (Completed)															
Units	3	0	11	103.5	0	36.5	13	2	2	2	0	0	0	0	N/A
GPRA Acres	3	0	1.1	102	0	36.5	1.3	2	2	2	0	0	0	0	149.9
Dollars	7,301	0	13,634	3,833,171	0	3,054,417	123,540	3,890	2,301	1	0	0	0	0	7,038,255

**Table 4 – New Mexico’s Public Well-Being Enhancement
(All Priority 1, 2, and 3 AML projects completed during EY 2017)**

#	PAD Number	Project Name	Problem Type(s) Reclaimed	GPRA Acres	Cost	Number of People with Reduced Exposure Potential (State Estimated /or/ Census Data)
1	NM-935058	Carrizalillo	Vertical Openings	0.2	4,000	10
TOTAL				0.2	4,000	10

Table 5 – New Mexico’s - Partnership Financial Resources Dedicated to Protecting the Public from Adverse Effects of Past Mining (AML projects completed during EY 2017)

#	PAD Number	Project Name	SMCRA Program Funding Source	Total SMCRA funding	Alternate Non-SMCRA Funding Source	Total non-SMCRA Funding	In-Kind Services	Total Project Funding	Comments
1	935058	Carrizalillo		0	BLM	4,000	0	4,000	
TOTAL				0		4,000	0	4,000	

Table 6 – New Mexico’s Reclamation Projects Started and/or Completed (AML projects started and/or Completed during EY 2017)	
Projects Started	Projects Completed
4	1

Table 7 – New Mexico’s AML Program Grant Awards and Staffing (During EY 2017)	
AML Program Costs	
Administration	\$504,844.00
Project	\$2,010,703.00
Water Supply Construction	0
AMD Set-Aside	0
Indirect	\$277,453.00
Total AML Funding	\$2,793,000.00
AML Program Staffing (full-time equivalents on June 30, 2017):	7

VII. COMMENTS

The New Mexico AMLP had no comments on the 2017 Annual Evaluation Report.