

**OFFICE OF SURFACE MINING
ANNUAL EVALUATION REPORT
for the
New Mexico Abandoned Mine Land Reclamation Program
Evaluation Year 2003
(October 1, 2002 through June 30, 2003)**



Cover Photo:
Cerrillos Mine Safeguard Reclamation Project
Cerrillos, New Mexico
(Prior to Reclamation)

INTRODUCTION

This annual evaluation report is produced by the Office of Surface Mining Reclamation and Enforcement (OSM) in fulfillment of its Statutory responsibility [under the Surface Mining Control and Reclamation Act of 1977, (SMCRA)] to annually assess the accomplishments of the New Mexico Mining and Minerals Division, Abandoned Mine Lands Reclamation Program (New Mexico AML). The annual report consists of OSM's oversight findings based on field inspections and meetings with the New Mexico AML during the 9-month evaluation period beginning October 1, 2002 and ending June 30, 2003. This evaluation period is 9-months duration rather than the usual 12-months, in order to accommodate OSM's desire to move to an annual oversight schedule that will end in June rather than September. Henceforth, there will be a 12-month oversight evaluation period that begins on July 1st and ends on June 30th.

OSM has responsibility under SMCRA for approving State and Tribal AML Programs in carrying out the goals of Title IV of SMCRA. The primary goal of Abandoned Mine Land (AML) Programs is to mitigate the effects of past coal mining by reclaiming abandoned mines. The primary emphasis is placed on correcting the most serious problems endangering public health, safety, general welfare, and property. Once this is accomplished, secondary emphasis is placed on remediation of mining related impacts on impacted communities.

On behalf of the Secretary of the Interior, OSM administers the Abandoned Mine Reclamation Fund by awarding grants to States and Tribes, to cover their administration and reclamation costs of running their Programs. The OSM Western Regional Coordinating Center's (WRCC) Albuquerque Field Office (AFO) through its oversight process, annually monitors the progress and quality of the New Mexico AML Program.

In conducting this annual review, AFO followed OSM Directive AML-22, which contains general procedures for evaluating Abandoned Mined Land Reclamation Programs. This requires OSM and State Programs to annually develop an oversight work plan with specific topics (principles of excellence) for evaluation during the evaluation period. The work plan identified specific performance measures to assess Program performance for each principle of excellence and to make recommendations to improve performance, if necessary.

This annual evaluation report documents the activities and accomplishments of the New Mexico AML Program. In summary, the New Mexico AML Program is considered to be an excellent and well managed State Program. The New Mexico AML Program has also received outstanding evaluations in the past. OSM did not make any recommendations for improvement as a result of this year's oversight activities.

The oversight activity draws upon staff from New Mexico AML and OSM. EY-2003 oversight activities involved the following personnel:

NM-AML

Mr. Robert Evetts, Program Manager
Mr. Randall Armijo, Recl. Specialist
Mr. Ray Rodarte, Recl. Specialist
Mr. John Kretzmann, Engineer

OSM-AFO

Mr. Willis Gainer, Field Office Director
Mr. Vernon Maldonado, AML Spec.
Mr. Dan Martinez, Grants Specialist

PART I. GENERAL INFORMATION

The State of New Mexico contains a diversity of ecosystems ranging from high, steeply sloping mountainous areas to semiarid plains and arid desert. Vegetative communities and wildlife are equally diverse across the state. Average rainfall ranges from a high of approximately 20 inches per year to a low of about six inches depending on elevation. New Mexico's coal resource underlies approximately one-fifth of the state's surface (over 15 million acres) and totals over 40.6 billion short tons of coal. A significant amount of pre-law mining has occurred within the state since the turn of the century, leaving numerous high priority hazards.

New Mexico's demographics are gradually changing. This has caused hazards once considered to be remote, to now be easily accessible, and thus could change the SMCRA priority (hazard classification) for those sites. Land ownership in New Mexico is approximately 34.1% Federal (BLM, USFS, NPS) and 11.6% State Trust Land for a total of 45.7% public lands (55,566 sq. mi.). Much of this public land is where the highest concentration of AML hazards occur. Public land is increasingly being developed for open space public recreation such as camping, biking, hiking, campgrounds, etc.

The state of New Mexico has a long mining history. One of the oldest existing (unreclaimed) mines in the United States, is just East of Santa Fe, New Mexico. It dates back to 1200 A.D. Some pre-historic mining occurred as early as 600 A.D. Indians mined turquoise, lead and copper for years prior to the arrival of Europeans. Spanish explorers mined for silver and gold in the 1800. The Cerrillos area was an important mining district in New Mexico. Gold mines also existed near Oro Grande. Whether mineral or coal, mines exist throughout the state. Abandoned coal mines exist in several parts of the state, including Raton, Gallup, Socorro, and Carthage.

New Mexico AML Program History:

New Mexico received primacy under SMCRA on December 31, 1980. New Mexico's AML Program was subsequently approved by the Secretary of Interior on June 17, 1981. Since that time, the New Mexico AML Program has been working on both its high priority coal and non-coal inventory. Although the State has not yet certified completion of its high priority coal reclamation, the bulk of the high priority coal reclamation has been completed.

Based on the cost estimates reflected in OSM's AMLIS database as of July 2003, New Mexico has \$6,753,438 in high priority coal problems that remain unfunded. However, New Mexico estimates that the AMLIS database underestimates the cost of reclamation in 2003 dollars and the true cost would be closer to \$13.5 million. In addition, New Mexico believes that a more current and exhaustive inventory of AML sites would substantially add to the workload listed in AMLIS. New Mexico estimates that if one were to add administrative and project development costs to the above construction cost estimate, that it would take approximately \$19.2 million to reclaim all remain high priority coal hazards in the state. At current staffing (8 FTEs) and funding levels (\$1.5 to \$1.8 million per year), it would take approximately 11 years for the State to complete the reclamation work in its AMLIS inventory.

Historically, much of the New Mexico AML Program's reclamation work has involved abandoned coal mines. As the State continues to reclaim the high priority coal hazards in its inventory, resources will also be directed toward safeguarding equally hazardous abandoned

“non-coal” mine sites in its inventory that are also eligible for safeguarding and reclamation under the Surface Mining Control and Reclamation Act of 1977 (SMCRA).

Program Staffing:

The New Mexico AML Bureau is within of the New Mexico Mining and Minerals Division, which is within the New Mexico Energy, Minerals and Natural Resources Department. The AML Program consists of eight full time employees plus the equivalent of one additional support staff within the Mining and Minerals Division. Three of these positions cost share with other programs in the Division. Annual salaries for the AML Bureau total \$456,788 plus benefits. All of the AML staff work out of the New Mexico AML Office, Energy and Minerals Department located at 1220 South St. Frances Drive, Santa Fe, New Mexico. The AML Bureau has had an average staffing level of 9 FTE’s during the past 23 years. AML construction contracts are estimated to have created 1,000 jobs during that period, improving the overall economy of the State and perhaps some communities.

Status of Fee Collections and Fund Distributions:

About \$3 million in AML fees are collected annually from active coal production in New Mexico and is deposited in the National AML Fund. New Mexico coal producers have paid \$101,179,387 in coal fees since 1977 when AML fee collection first began. State Share (50%) collections for this amount would therefore be \$50,589,693. However, State Share distributions thus far have only totaled \$31,082,955. The difference, \$19,506,738.00, is the undistributed State Share balance (as of September 30, 2002) for New Mexico. At the end of the evaluation period (June 30, 2003) the undistributed State Share balance had dropped slightly to \$19,228,367.

SMCRA mandates that the minimum funding level for AML Programs shall be \$2 million. AML Programs whose 50% State share in collections fall below this level are supposed to be brought up to the \$2 million minimum funding level with Federal share money. Congress has not honored the \$2 million minimum funding level and has instead implemented a minimum funding level of \$1.5 to \$1.6 million. New Mexico is one of the few States in the peculiar position of being negatively impacted by the decrease in minimum program funding from the level authorized by SMCRA. New Mexico believes that their ratio of administration to construction costs could be improved if the \$2 million minimum program funding level were honored because staffing levels (overhead costs) would not increase.

The New Mexico AML Program receives grant funding of about \$1.5 to \$1.8 million annually. These grants include Administration and Construction sub-accounts. The Program’s current appropriation (awarded October 2002) totals \$1,814,300 of which \$611,373 is targeted for on-the-ground construction. The remainder goes to Program administration which includes project development costs such as design engineering and NEPA compliance. For projects to become “design complete and construction ready,” requires 1 ½ to 2 years of project development work. New Mexico estimates that actual administrative costs average between 20% and 30% of total funding, making the Program quite cost effective none-the-less. However, the State believes that further cost efficiencies would exist at a higher annual funding level. Other than construction work, very little is contracted out by the Program as most work is done in-house. This partially accounts for the cost effectiveness of the Program.

Grants and Financial Information:

According to data published on OSM’s Web Page, the undistributed State Share Balance for New Mexico as of the start of the evaluation period (September 30, 2002) was over \$19 M (\$19,506,738). Midway through the evaluation period (March 31, 2003), this undistributed Tribal Share Balance had decreased by \$278,371 (to \$19,228,367). State Share Balance data for the end of the evaluation period (June 30, 2003) is not yet published and available.

The following AML grants were active during the evaluation period:

Grant Number	Grant Period	Amount
GR007350	07/01/00 to 06/30/03	\$5,285,599.
GR107350	07/01/01 to 06/30/04	\$2,303,941.
GR207350	07/01/01 to 06/30/05	\$3,536, 930.
GR307810	07/01/03 to 06/30/06	\$1,814,300.

PART II. PROGRAM ACCOMPLISHMENTS

Overall Program Accomplishments to Date:

New Mexico AML has funded or completed 151 AML Projects since the beginning of the Program. Approximately 77 of the 151 projects were coal and 74 were non-coal. This split coincides with the ratio of coal to non-coal in the State. Like most states, New Mexico is under a lot of public and political pressure to safeguard those hazards most accessible to the public. New Mexico has experienced eight (8) abandoned mine related fatalities in the last 40 years and numerous AML related injuries. Recent fatalities have placed a lot of attention and emphasis on the AML Program and have forced the Program to focused attention on several non-coal sites that were previously considered to be remote. Increased off-road recreational vehicle use has caused the SMCRA priority to be revisited for several sites in the inventory.

Having completed 151 AML reclamation projects to date, New Mexico AML has closed or safeguarded more than 3000 hazardous mine features. Among these were some of the most hazardous features (vertical shafts) in the state. Although other serious hazards still exist, certainly lives have been saved and injuries prevented because of this work. Substantial environmental degradation is typically associated with abandoned mines. The 151 reclamation projects completed to date have certainly had a positive environmental effect on much of the State. These positive environmental effects can be measured in terms of protection of cultural and historic property, wildlife enhancement and protection of habitat, re-vegetation and associated decreases in erosion, improvements in water quality, improvements in air quality and overall a discernable improvement in the quality of life for the citizens of New Mexico. A lot of work remains to be done.

For example, after permanently backfilling several underground mines in the early years of the AML Program, New Mexico noticed a substantial decrease in bat populations. As a result, New Mexico AML conducted studies that eventually attributed the decrease to loss of habitat due primarily to reclamation of underground mines. As a result, the Program altered its reclamation

methods to install bat grates and cupolas that preserve bat habitat while removing the hazard to the public.

Summary of Project Workload During EY-2003:

During this evaluation year, the following projects were in some phase of project development. Project development means site characterization, obtaining biological, archaeological or cultural / historic clearances for Environmental Policy Act (NEPA) compliance and project design engineering including development contract designs and specifications.

AML Sites in Project Development:

Black Jack Mine	
Burro Peak	Archaeological surveys
Dillon Canyon (coal)	Realty & Mapping work
Galesto West	Realty work, Archeological surveys
Gold Hill	
Granite Gap	Archaeological surveys,
Lake Valley Phase-1 [BLM Land]	(EA completed, have SHPO clearance, doing engineering design, Construction contract to be awarded in late 2003.)
Lake Valley Phase-2 [Private Land]	Contract awarded for archaeological surveys.
Lumberton	
Madrid North Gob	(Shafts to be safeguarded, community does not want gob- piles disturbed.)
Mogollon Road	(In Proj. Devel. for some time due to a right-of-way issue.)
Orogrande II	Archaeological Surveys
San Pedro	Archaeological Surveys
Spar Group	(Contract awarded, entered into construction in Aug. 2003.)
Steins North & South	Aerial mapping
Stephenson / Bennett Adit	(BLM funded project)
Tres Hermanos	(Pvt. non-coal w/ active claims, so NM may drop this project.)
Yankee Canyon	Archaeological Surveys
Yankee Vukonich	Archaeological Surveys, Engineering Design

In addition, the Program has contracted out Bat studies to University of New Mexico.

Sites in Construction:

Abbe Springs Safeguard Project	(Safeguard of 2 shafts under construction.)
Bog Canyon Safeguard Project	(Safeguard of 2 adits under construction.)
Bradley Group	(In construction, contract Awarded August 2003.)
Cerrillos South Reclamation Project	
Derry I-25 Safeguard Maintenance Project	(Backfill of vertical shaft near I-25.)
Gallup NM	(Subsidence maintenance.)
La Madera	(Mica mines, maintenance project.)
Madrid Drain Project	(Completed, drain construction was the last phase.)
Real de Delores Safeguard Project	(Final inspection completed August 21, 2003.)
Sugarite IV Reclamation Project (coal)	(Ongoing construction.)

Protection of Bats / Habitat:

The New Mexico AML Program continues to make a dedicated effort to identify and protect bat populations that use abandoned mines for habitat. New Mexico AML installs bat grates as necessary to provide for bat access while restricting public access. Designs have included access panels for follow-up studies on the effectiveness of the bat-compatible closures. This year, New Mexico installed numerous bat cupolas at the Cerrillos and Real De Delores (Ortiz) Projects. These bat cupolas were designed to be more visually pleasing than past designs, due to the community's desire to preserve the historical mining attributes of the area. These projects are near or on public lands belonging to the Park Service that is being used for "open space," and tourist attractions. In some locations, the reclamation engineering designs allowed for a small portion of the shaft to be left visible through cable nets, so that the mine locations and entry were preserved while the hazard was removed. Viewing platforms were also incorporated into the designs for strategic sites. These platforms are intended to direct tourist traffic toward safe areas for viewing the sample of mine workings that were preserved. Numerous other shafts and adits were backfilled. A lot of public coordination was needed for these two projects with the local community, citizen groups, and public land management agencies as well as with private enterprises that cater to tourism.

The Madrid Project also required a lot of public interaction. Public outreach was scheduled for evaluation this year, however, due to the shortened oversight period this year this evaluation was postponed for coverage in next year's oversight. These three projects will provide a lot of material to review next year, for public outreach efforts conducted by the New Mexico AML Program.

Programmatic Agreements:

1. New Mexico AML developed an agreement with the Bureau of Land Management (BLM) under which they received approximately \$250,000 from BLM to provide temporary safeguarding measures for non-coal hazards located on BLM lands. The first project to be included in this partnership effort was the Orogrande Safeguard Reclamation Project south of Alamogordo, New Mexico. This approach is also being used for the Stephenson / Bennett Adit Project near Organ, New Mexico.

2. The AML Program also finalized a Programmatic Agreement between MMD, the State

Historic Preservation Office, the Advisory Council of Historic Preservation and OSM regarding procedures for complying with Section 106 of the National Historic Preservation Act.

Project Approvals:

The OSM-AFO reviewed grants applications and close out reports and reviewed project packages submitted for funding and issued Findings of No Significant Impact (FONSI) and Authorizations to Proceed (ATP) for the AML Program. Materials submitted by the AML Program for OSM approval were of excellent quality. This year New Mexico submitted NEPA packages and OSM issued Findings of No Significant Impact with Authorization to Proceed for the Abbe Springs, Yankee Vukovich and the Madrid Drain Project. All three packages were found to be complete and OSM was able to immediately issue a Finding of No Significant Impact (FONSI) and Authorization to Proceed (ATP) for these projects without requesting additional information.

Program Recognition:

1. The Energy, Minerals and Natural Resources Department, Mining and Minerals Division's AML staff Archaeologist (Mr. Loyd Moiola) was recognized by the Office of Cultural Affairs, Historic Preservation Division (HPD) on May 9, 2003 for his proactive policy in meeting agency responsibilities for complying with the National Historic Preservation Act. The HPD recognized Mr. Moiola with the 2003 Heritage Preservation Award. During the last six years, Mr. Moiola conducted archaeological surveys, ran mapping and survey contracts and completed Section 106 obligations for the AML Program that account for the effects of AML reclamation activities on historic properties.

2. There are over 20,000 abandoned mines in New Mexico. Nearly two dozen bat species inhabit abandoned mines in New Mexico. As mines in the State were being reclaimed, bat habitat was being destroyed and bat populations plummeted. The Mining and Minerals Division recognized that a relationship existed between declining bat populations and the mine closures. The Albuquerque Journal published an article on April 7, 2004 that examined the contributions of the Mining and Minerals Division's Environmental Engineer, Mr. John Kretzmann, to revive bat populations in the Southwest over the last decade. Although the Mining and Minerals Division, AML Program still closes (safeguards) abandoned underground mines, for the last decade it has been done in a way that preserves or enhances the bat habitat while eliminating the mine hazard to humans. This is accomplished by placing bat compatible closures called grates or bat cupolas. (See photographs in the Appendix to this report.)

PART III. RESULTS OF ENHANCEMENT AND PERFORMANCE REVIEWS

The oversight workplan for EY-2003 identified two topics or principles for review. Due to the shortened evaluation period, only one of the two principles was evaluated. The other principle will be evaluated in EY-2004. The goal of these principles is to evaluate the quality of on-the-ground reclamation work and to generate ideas for improving the program. In evaluating these principles, New Mexico AML and OSM held meetings, inspected various reclamation sites, reviewed quarterly AMLIS printouts and reviewed grants files, NEPA Documents, contract specifications, and procurement files.

This year the AFO conducted site inspections of Cerrillos Safeguard Project, Real de Dolores safeguard Project and the Madrid Drain Project. These AML sites were visited during pre-construction, during construction and post construction. Representatives from the New Mexico AML Program sponsored and led OSM on the site inspection tours. No short or long-term problems were identified as result of the oversight inspections. The New Mexico AML Program is a mature program, and past oversight has consistently documented high quality reclamation work. New Mexico AML Program staff and management maintained ongoing communication with OSM as needed throughout the evaluation period.

Principle No. 1 - On-the-ground reclamation –quality, accomplishments and cost-effectiveness.

There are no performance standards for AML reclamation set forth in SMCRA. OSM inspects field reclamation and may occasionally offer suggestions or recommendations. Each State Program sets its own standards for reclamation as a matter of policy. The New Mexico AML Program has set high standards for itself in the past and continues to do excellent reclamation work and project design work. The New Mexico AML Program has relied heavily on its detailed contract specifications and its contract bidding procedures to ensure the quality and cost effective reclamation that is achieved. The New Mexico State Legislature has adopted a performance based budgeting plan, which requires that all programs have targets and measurable outcomes.

This year's review showed that reclamation work, accomplished under the New Mexico AML Program, is accomplished in a manner that minimizes the need for maintenance, promotes landscape stability, establishes vegetation and enhances wildlife (where it is consistent with adjacent land uses). This finding is consistent with past oversight evaluations that concluded that reclamation work accomplished under the New Mexico AML Program is of excellent quality. Hazards are effectively eliminated or safeguarded.

OSM also evaluated reclamation success in terms of landscape stability and vegetation success, because these topics seem to accurately reflect the long-term effectiveness of reclamation and stress on-the-ground results.

OSM conducted on-site inspections of Real de Dolores Safeguard Project, Cerrillos Safeguard Project and the Madrid Reclamation / Drain Project. The Cerrillos Project was in the pre-construction stage on the first visit during the pre-bid inspection. The project was 75% complete during the second site visit on July 24, 2003. Physical hazards, were effectively eliminated at all sites inspected.

Sugarite Gob Stabilization / Reclamation Project (Phase III):

This AML site is located just east of Raton, New Mexico within the Sugarite State Park. Huge volumes of coal gob piles exist at this site that have been eroding into Chicoria Creek since the site was abandoned. The creek is situated right at the toe or base of the gob piles. Because the

gob contains toxic materials (for plants), little vegetation was growing on the gob piles and rainfall runoff resulted in huge erosion ditches throughout the face of the gob piles. The volume of the gob piles is so large that hauling of gob to relocate the pile is not an option for reclamation. The AML Program has been working to stabilize the gob piles in place. There are several gob piles on both sides of the steeply sloping canyon. The project has been ongoing since 1998 and is being done in phases. Each phase addresses stages of reclamation work and different gob piles located in the canyon. The AML Program received the OSM Western Regional AML Reclamation award and the Peoples Choice Award in 2002, for this project.

This year work was ongoing for Sugarite, Phase IV on the west side of the canyon. OSM did not inspect the project this year.

Madrid Gob Reclamation Project:

The Madrid Reclamation Project involves the stabilization of numerous coal waste piles scattered all around the east and north side of the town of Madrid, New Mexico. Madrid is located in a mountainous area a few miles south east of Santa Fe, New Mexico. This reclamation site has also undergone numerous phases of reclamation. The town of Madrid has given mixed feedback with regard to the project. Some feel that reclamation takes away from the tourism, largely being attracted by interest in old mines. Others have expressed strong emotions about the health hazards associated with coal dust coming from the waste piles. The New Mexico AML office has had to balance these concerns in its reclamation designs for the project. In addition, the amount of public involvement from this project has been substantial.

Reclamation of this site involved mostly grading and stabilizing of gob piles and treating of coal waste material with nutrients, cover material, application soil stabilizing amendments/ mulch (bonded fiber matrix) and drainage controls. The drain portion of the project also involved redesigning the existing mine drainage structure that allows surface runoff from the mine area to be directed under a State Highway, thereby reducing the incidence of flooding along the main street and around local businesses. The existing drainage structures were inadequate and dilapidated. The Madrid Drain Project included the installation of pipes and drains to collect water from the gob piles and surrounding areas and direct it into an arroyo. The drains were installed under Madrid's main street in front of business and residences. The drains also collect runoff from the road / Highway. Because of the highway, this project required substantive coordination with the State Department of Transportation / Highway Department for both design and construction.

Two concrete drain inlets with metal grates were installed in the business district. Corrugated metal pipes were installed to direct drainage from these structures southwest into the arroyo. The inlets and discharge points in the arroyo were stabilized with rip-rap. Discussions with landowners in the area indicate satisfaction with the project. However, AML was asked to eliminate the small amount of ponding that occurs at the bottom of the concrete drains in order to prevent possible mosquito breeding. New Mexico agreed to eliminate the ability of the structures to retain water in the two concrete drains. New Mexico also agreed to place a screen or smaller mesh over the grates / drains to facilitate foot traffic.

OSM inspected this site in August, 2002 and did a follow-up inspection on October 9, 2002 and on July 24, 2003. The State was experiencing a severe drought during this period. Although the

reclamation work at this site was initially of excellent quality, lack of moisture due to severe drought conditions for the last two years has negatively impacted revegetation efforts. Vegetation is definitely showing signs of stress as well as losses. However, some seedlings and about 50% of the other vegetation has survived. The AML Program has planted a diverse vegetation mix on the site, selected for drought tolerance and for poor soil conditions. The Program has also used soil amendments to neutralize soils and to provide nutrients, soil amendments and erosion controls. The drain project was excellent if not over designed. The workmanship was attractive and sturdy.

A revegetation test site was installed in one area by Tall Grass Restoration Company to demonstrate to the AML Program an alternative method available for this type of area. The method involves the application of a high seeding rate / density of native grasses, a special grass mulch, a tac-ifier and soil amendments. If successful, the AML Program plans to implement the method.

Cerrillos South Mine Safeguard / Reclamation Project:

This project entered into construction early in the evaluation period and was completed by the end of the evaluation period. There are more than 100 hard-rock mines in the area. The project involves approximately 93 mine shafts within about a six-mile radius. The project involved many different styles of closures including backfill, fencing, Poly Urethane Foam, and steel frame bat closures. There are many mines that worked the area for silver and gold exploration. These mines were in operation in the 1800's. Many did not actually produce significant amounts of ore but were prospect portals that produced serious hazards. Some of the mine names are the Mina del Tiro Aroyo a mine worked by the Spanish around 1830 to 1844 and the Bethsheiba Mines which has a pre-historic head-frame that will be protected. The AML Program worked with the SHPO to construct plans and specifications that will protect archaeological resources when necessary. In addition the AML Program worked very closely with local land owners, tour guides, Bureau of Land Management, Santa Fe County (open space) and the Cerrillos Hills Historical Park, and a citizen group called Cerrillos Hills Historical Park Coalition. This coordination involved the design, planning and construction phases of the operation. The intent was to safeguard the mining hazards to the public while preserving the historical mining landscape. The Cerrillos Mining District is the oldest mining district in New Mexico. The open space designation recently acquired for the area is expected to increase public access and therefore increased the urgency for this safeguard / reclamation project.

Shaft depths ranged from around 200 feet deep to only a few feet. Although most of the area was easily accessible by heavy equipment, the Program agreed to use smaller rubber-tire equipment as a concession to the citizen group. The presence of bat populations was evaluated for some of the mines, and some bat compatible closures (cupolas) were used.

OroGrande Project :

New Mexico AML Program completed the first phase of an anticipated multi-project this year. The work included backfilling of 18 abandoned adits, 19 shafts and one (1) winze. Bat compatible closures were installed at eight (8) adits and five (5) shafts, allowing for airflow.

Horizontal bat closures were installed at two shafts and steel bat cupolas were constructed at three shafts. Polyurethane foam closures were used at other openings where adequate backfill was not readily available. The hazards safeguarded include a 200-foot deep shaft, which was the site of a mine fatality in March of 2000.

Real de Dolores Mine Safeguard Project (Ortiz Mine):

This project is near Santa Fe, New Mexico. Construction work consisted of closing 13 hazardous openings associated with abandoned gold mines. These include backfilling eight shafts, installation of polyurethane foam closures at two openings, one cable net closure and construction of two bat and owl compatible cupolas (constructed with weathering steel) at two shafts. The bat cupolas designed and installed at this site are visually attractive to the public due to the historical significance of the site and the public land use designation “Cerrillos Hills Mining Park, and Santa Fe Botanical Garden Nature Preserve.” A metal bridge was installed and several platforms were installed to facilitate viewing of selected mining entries / workings. In addition, the project implemented several cable nets, constructed of 160 psi galvanized tecco-mesh cable. This material is expected to have a life span of 100 years. One of the bat grates was installed over a 66 inch diameter culvert placed into a 40 foot deep shaft and held in place with polyurethane foam (PUF). Another 60 foot deep vertical shaft was closed with 300 cubic yards of PUF and covered with light-weight scoria. This is the largest PUF plug done by the AML Program to date. Bat grates were constructed of special weathering steel included special hidden locks in the design for access by biologists. Revegetation included shrubs and forbes and dry-water to facilitate transplant success. A fence was placed along the highwall in one area to protect hikers. Vent pipes were installed with drain holes for the prevention of the accumulation of any hydrostatic load on the PUF closures. A notable feature of the project is the protection and safeguarding of a large headframe that was protected. The Ortiz mine is the oldest known gold lode mine in the US.

Spar Group Mine Safeguard Project :

This project is located in southern New Mexico 10 miles southeast of Deming, in Luna County. The project consists of safeguarding and reclaiming 28 hazardous mine openings at a cost of \$91, 528.00. The hazards were eliminated by means of backfilling or installing steel closures compatible with existing owl and bat habitats.

Principle No. 2 – Public Outreach and responsiveness to public concerns.

This is an excellent topic for the current projects. Unfortunately, due to the shortened evaluation period this year it could not be evaluated. The principle will be included in the EY-2004 workplan for evaluation.

PART IV. AML INVENTORY STATUS

Because very little surface coal mining occurred in the State prior to SMCRA, most reclamation work involves the reclamation of underground mine hazards. Although the acreage associated with underground mining is small relative to surface mining, the numbers of hazards

encountered are high and the danger associated with these hazards is extreme. The New Mexico AML Program often refers to abatement of hazards such as mine openings and shafts and the removal of hazardous structures and facilities as safeguarding of the site. Reclamation performed by the AML program has predominately returned the land to its pre-mining land use of grazing; incorporated other post-reclamation land uses, such as wildlife enhancement, into its designs; and has effectively eliminated dangers to public health and safety.

The AMLIS database contains an inventory of priority 1, 2, and 3 hazards associated with abandoned coal mines and a list of non-coal abandoned mines that have been funded (or completed). The following tables show AMLIS accomplishments for EY-2003 and cumulative accomplishments to date.

Table 1
New Mexico AML Reclamation Program
EY-2003 Accomplishments

Problem Type and Description	Completed EY-2003	Costs
Benchs	0.0 acres	\$ 0.00
Clogged Stream Lands	0.5 miles	\$ 107,000.00
Dangerous Highwalls	0 feet	\$ 0.00
Dangerous Impoundments	0 (count)	\$ 0.00
Dangerous Piles & Embankments	0 acres	\$ 0.00
Dangerous Slides	0 acres	\$ 0.00
EF-Equipment/Facilities	0 (count)	\$ 0.00
Gob (coal piles)	50 acres	\$ 250,000.00
Highwalls	0 feet	\$ 0.00
Hazardous Equipment & Facilities	0 (count)	\$ 0.00
Haul Roads	0.0 acres	\$ 0.00
Industrial/Residential Waste	0 acres	\$ 0.00
Mine Openings	0 (count)	\$ 0.00
Other	0 (count)	\$ 0.00
Portals	3 (count)	\$ 22,559.00
Pits	0.0 acres	\$ 0.00
Polluted Water: Agric. & Indust.	0 (count)	\$ 0.00
Subsidence	0.0 acres	\$ 0.00
Spoil Areas	50 acres	\$ 96,000.00
Surface Burning	0.0 acres	\$ 0.00
Slurry	0.0 acres	\$ 0.00
Underground Mine Fires	0.0 acres	\$ 0.00
Vertical Openings	128 (count)	\$ 712,520.00
Water Problems	0 (count)	\$ 0.00
NEW MEXICO TOTAL COSTS		\$ 1,188,079.00

This table is based on a Problem Type Unit and Cost Detail Report from the Abandoned Mine Land Inventory System. Neither AMLIS nor this table contains an inventory of un-reclaimed non-coal hazards.

Table 2
New Mexico Abandoned Mine Reclamation Program
Cumulative AML Reclamation Accomplishments YTD

Problem Type and Description	Completed to Date	Costs
Benches	3.0 acres	\$ 7,301.00
Clogged Stream Lands	1.0 miles	\$ 109,500.00
Dangerous Highwalls	0 feet	\$ 0.00
Dangerous Impoundments	0 (count)	\$ 0.00
Dangerous Piles & Embankments	8.5 acres	\$ 350,000.00
Dangerous Slides	0 acres	\$ 0.00
EF-Equipment/Facilities	12 (count)	\$ 13,635.00
Gasses: Hazardous / Explosive	0 (count)	\$ 56,563.00
Gobs	118.0 acres	\$ 2,370,148.00
Highwalls	0 feet	\$ 0.00
Hazardous Equipment & Facilities	17 (count)	\$ 119,467.00
Haul Roads	6.0 acres	\$ 2,300.00
Hazardous Water Bodies	0.0 acres	\$ 0.00
Industrial/Residential Waste	0 acres	\$ 0.00
Mine Openings	4 (count)	\$ 7,140.00
Other	0 (count)	\$ 0.00
Portals	466 (count)	\$ 1,915,091.00
Pits	2.0 acres	\$ 3,890.00
Polluted Water: Agric. & Industrial	4 (count)	\$ 13,400.00
Polluted Water: Human Consumption	1 (count)	\$ 1,728.00
Subsidence	36.6 acres	\$ 4,617,644.00
Spoil Areas	257.0 acres	\$ 120,301.00
Surface Burning	35.0 acres	\$ 760,406.00
Slurry	2.0 acres	\$ 1.00
Underground Mine Fires	168.0 acres	\$ 234,983.00
Vertical Openings	768 (count)	\$ 3,132,314.00
Water Problems	0 (gal./min.)	\$ 0.00
NEW MEXICO TOTAL COSTS		\$ 13,836,613.00

Non-coal hazards in New Mexico are not all inventoried in AMLIS. New Mexico AML estimates that an additional 2,000 un-reclaimed portals and 14,000 vertical openings exist in New Mexico that still require safeguarding (hazard abatement / reclamation).

PART V. Summary and Recommendations:

OSM's review did not raise any major concerns with regard to New Mexico AML Program efficiency. OSM considers the New Mexico AML Program to be an exemplary Program. OSM views the New Mexico AML Program as a State partner in meeting mutual environmental goals and challenges. The Program has always been willing to provide assistance to other State and Tribal Programs and has established a cooperative, productive relationship with OSM. OSM considers it a pleasure to work with and oversee this AML Program.

The New Mexico AML Program makes cost-effective use of its AML funds while achieving quality reclamation. Construction work accomplished by the New Mexico AML Program is done under contract through competitive open bid, wherein all bids are publicly opened and contracts are awarded to the low-bidder. Both open competition and sound project designs ensure that all reclamation work is cost-effective.

Field oversight inspections have confirmed that effective monitoring of contractors by New Mexico AML ensures that all reclamation work is of high quality, timely, and consistent with contract specifications. Reclaimed sites require little maintenance, with the exception of repairing infrequent damage due to vandalism. OSM determined that New Mexico's overall use of AML funds during this evaluation period is consistent with the priorities established under SMCRA.

New Mexico is to be commended for excelling in its initiative to protect bat populations by its innovative design closures. New Mexico is also commended for being recognized by the Office of Cultural Affairs, Historic Preservation Division (HPD) for meeting Section 106 obligations and responsibilities Under the Historic Preservation Act. In addition, the Program is commended for completing a programmatic agreement with the SHPO and HPD.

Finally, the AML Program is commended for constructing a Five-year Action Plan (2003-2008) that should increase the number of abandoned mine land projects completed during the first and second years of the three-year grant periods. The plan includes the development of a "fast track list," an expanded "routine prioritized list" that should improve operational efficiency and on-the-ground results. In addition, the action plan includes a section for self-evaluation of reclamation effectiveness in both short-term and long-term results.