OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT
ALBUQUERQUE AREA OFFICE

TOPIC-SPECIFIC EVALUATION REPORT

Evaluation Year 2009
New Mexico Regulatory Program

I. Introduction

The purpose of oversight is to evaluate a State or Tribe's ability to accomplish the goals and responsibilities of the Surface Mining Control and Reclamation Act. OSM and State personnel developed a workplan, which governed the oversight of the New Mexico Title V program for the 2009 evaluation period. The Workplan contained site-specific topics, which focused on the major goals of SMCRA: elimination of off-site impacts and achieving successful reclamation according to the requirements of the post-mining land use. The strategic plan was to use oversight to generate ideas for improving regulatory efficiency and on-the-ground reclamation.

OSM and MMD agreed on topics for the Evaluation Year 2009 Workplan, and a final State/Federal Workplan was sent it out for public comment on November 20, 2008.

The final oversight report summarizes the methods used, problems identified, and solutions implemented by the Team during the oversight period. The report provides a summary of the State's program performance during the oversight period based on the performance measurements described in the Workplan.

The reporting period for this evaluation began on July 1, 2008 and ended on June 30, 2009.

This report is formatted to comply with OSM Directive REG-8.

II. List of Acronyms and Abbreviations Used

AER	Annual Evaluation Report
AAO	Albuquerque Area Office
AOC	Approximate Original Contour
ASP	Approved State Program
CO	Cessation Order
EY	Evaluation Year
GPRA	Government Performance and Responsibility Act
MMD	Mining and Minerals Division
NOV	Notice of Violation
OSM	Office of Surface Mining Reclamation and Enforcement
PMLU	Post Mining Land Use
SMCRA	Surface Mining Control and Reclamation Act

III. Topic-Specific Evaluations

Required Program Area of Review: **Off-site impacts**

Review Scope: MMD identified and reported the number, degree and cause of off-site impacts to OSM. MMD and OSM determined if any programmatic improvements were necessary to lessen the number and degree of any impacts reported. If evaluation of data related to off-site impacts indicated program or implementation related problems, MMD was to implement changes, where possible, to minimize recurring impacts. The goal of the effort was for OSM and MMD to direct efforts to decrease the occurrence of off-site impacts.

Review Methodology: OSM and MMD evaluated State and OSM inspection reports, enforcement actions, penalty assessment data and citizen complaints.

Dates of Review: The State's actions, documents pertaining to those actions, as well as the results of joint MMD/OSM inspections were evaluated during the period from July 1, 2008 through June 30, 2009.

Findings: There were no documented off-site impacts this evaluation period. This finding is further documented in an off-site impact report which includes detailed information on data collection, verification, and analysis; conclusions on the effectiveness of the State program in preventing off-site impacts; and measures taken to address any identified program implementation deficiencies. The Off-Site Impact Oversight Report for EY-2009 is on file at AAO.

Additionally, Table 4, Appendix A, of the EY-2009 AER, shows no off-site impacts.

Facts Supporting the Findings: MMD conducted eighty-eight (88) partial, thirty-six (36) complete inspections. All inspection reports filed for those inspections were reviewed by OSM. These inspections resulted in seven (7) NOV's, containing eight (8) total violations. The reason for each NOV issued by MMD, along with the assessed civil penalty and the status of each are listed below as follows:

NOV#	Reason	Date	Penalty	Status
683	Failure Protect Topsoil	9-18-09	$1900	Abated
701	Permit Compliance	1-14-09	$420	Abated
702	Failure Protect Topsoil	1-23-09	$2100	Abated
703	Failure Protect Topsoil	1-23-09	$1700	Abated
705	Permit Compliance	5-19-09	$350	Abated
706	Compliance w/ Permit	6/24/09	$700	Abated
707-1	Use of Explosives	6/30/09	$210	Abated
707-2	Use of Explosives	6/30/09	$210	Abated

MMD considered a issuing a Show Cause Order to address the three topsoil salvage violations, which occurred on the same permit and within a twelve (12) month period. However, after approving modification 2009-03 to the permit which required; additional crew meetings, new topsoil monitoring and handling procedures, more environmental department oversight, dedicated operator crew, doubling the archaeological crew size, new drilling procedures and annual safety refresher training, MMD decided against issuing the order.

List of Specific Permits, Mine Sites, or State Actions Reviewed: All inspection reports issued by MMD pertaining to the one hundred twenty-four (124) inspections conducted during the evaluation period, documentation of enforcement actions, penalty assessment data and citizen complaints occurring during the evaluation period, as well as OSM oversight inspection reports were reviewed.

The actual or Potential Impact or Significance of Any Deficiencies Identified: There were no deficiencies noted.

Description of Any Corrective Action Required or Recommended: None.

Technical or Administrative Assistance Offered: None necessary.

Required Program Area of Review: **Reclamation Success**

Review Scope: OSM and MMD measured program performance in the areas of: a. Land form/approximate original contour, b. Land capability, c. Hydrologic reclamation, and d. Contemporaneous reclamation.

Review Methodology: OSM and MMD collect data on the reclamation status of areas disturbed by each mining operation under the jurisdiction of MMD. The data was used by OSM for its use in fulfilling its GPRA reporting requirements.

Dates of Review: OSM evaluated the actions taken by MMD from July 1, 2008 through June 30, 2009, by reviewing documents pertaining to those actions as well as the results of joint MMD/OSM inspections.

Findings: MMD reported all categories of information agreed upon in the 2009 Annual Workplan, including the cumulative history of bond release activity.

Facts Supporting the Findings: OSM reviewed the following data elements for each active mining operation under the jurisdiction of MMD, as reported by MMD: acreage of areas disturbed during EY-2009 and cumulatively for all years, long-term mining and reclamation facilities, active mining areas, areas backfilled and graded, areas where phase I bond release has been granted (during EY-2009 and cumulatively for all years), areas re-soiled and planted (during EY-2009 and cumulatively for all years), areas where phase II bond release has been granted (during EY-2009 and cumulatively for all years), areas planted for 10 years after the last year of augmented seeding (during EY-2009 and

cumulatively for all years), and areas where phase III bond release has been granted (during EY-2009 and cumulatively for all years).

Additionally, MMD reported the following history of bond release activity to OSM:

Mine Name	Phase	Amt. Released	Acres Released	Date Approved
Ancho	I	$8,057,103.00	2,391.00	7/7/2004
Ancho*	Multi	$3,131,860.00	2,419.00	1/5/2006
Black Diamond	I	$134,597.00	23.00	1-3-1994
Black Diamond	II&III	$89,732.00	245.00	1/8/2007
Cimarron	I	$661,616.00	54.00	3/5/2004
Cimarron**	II&III	$441,078.00	54.00	6/14/2005
Carbon No. 2	I	$2,976,687.00	468.40	10-19-1992
Carbon No. 2	II	$1,676,458.00	308.00	2-5-1999
Carbon No. 2	Final	$308,000.00	308.00	3-8-2002
De-Na-Zin	I	$2,815,176.00	170.00	12-19-1991
De-Na-Zin	II	$1,373,980.00	149.30	8-2-1999
De-Na-Zin	Final	$150,000.00	149.30	7/1/2003
Fence Lake No. 1	I	$665,829.00	92.60	2-11-1987
Fence Lake No. 1	II & Final	$998,743.00	500.00	1/21/2004
Fence lake Mine***	Final	$7,739,773.00	0.00	5/6/2004
Gateway	I	$703,113.00	144.10	5-11-1992
Gateway	II	$260,811.00	144.10	4-3-2000
Gateway	Final	$207,931.00	144.10	1/12/2004
La Plata Mine	I	$0.00	672.00	7/19/2006
Mentmore Section 33	I	$0.00	203.00	5-16-1990
Mentmore 9, 15,16 &21	I	$0.00	418.90	10-19-1992
Mentmore 3 & 4	I & II	$0.00	867.70	10/10/2003
Mentmore 9,15, 16, 21&33	II	$0.00	1,131.70	10/10/2003
Mentmore Industrial	Final	$0.00	455.70	2/9/1995
Mentmore All	Final	$1,587,000.00	1,587.40	6/24/2004
McKinley Pre/Interim	Liability	$0.00	1,745.60	12-14-1994
San Juan	I	$0.00	1,832.00	2-14-1994
San Juan NW Pinion	Final	$0.00	236.74	5-24-2001
San Juan Gravel Hill	II & Final	$0.00	627.10	7/19/2006
San Juan Phase I 2005	I	$0.00	771.00	6/27/2005
York Canyon Surface****	Multi	$887,530.00	265.00	12/8/2005
York Canyon Surface	I&II	$5,525,319.00	1,053.00	9-24-2001
York Canyon	I&II	$2,210,019.00	190.00	9-24-2001

Underground York Canyon Underground*****	Mulit	$8,963,796.00	476.00	3/22/2006
Total Releases		$51,566,151.00	2,0074.74	

*	6 acres Industrial PMLU
**	Industrial PMLU
***	Permit withdrawn, no disturbance
****	Final on 189 acres Industrial PMLU
*****	Final on 124 acres Industrial PMLU

List of Specific Permits, Mine Sites, or State Actions Reviewed: MMD did not approve any bond releases during the EY.

The Actual or Potential Impact of Significance of Any Deficiencies Identified: No deficiencies identified.

Description of Any Corrective Action Required or Recommended: None

Technical or Administrative Assistance Offered: None

Required Program Area of Review: **Customer Service**

Review Scope: OSM and MMD evaluated the State's responses to complaints and requests for assistance and services.

Review Methodology: During EY-2008, the team evaluated the State's timeliness, accuracy, completeness and appropriateness of the actions.

Dates of Review: July 1, 2008 through June 30, 2009.

Findings: MMD received one (1) citizen complaint during the evaluation period. MMD responded in a timely manner, conducted a thorough, timely investigation and responded to the complainant in a timely and appropriate manner.

Facts Supporting the Findings: MMD received one Citizen Complaint on June 11, 2009. The complaint alleges damage to a water supply line. MMD found no evidence that the waterline was damaged. According to MMD, the Complainant has not reported a disruption of service or a reduction in water pressure and there was no physical evidence of a water leak on site. However, MMD believes that there is a possibility that recent haul road construction damaged the water line.

MMD conducted and inspection on June 15, 2009. No violation was issued. MMD sent a letter notifying the citizen of the status of the investigations on June 23, 2009. OSM received a copy of the letter. MMD will continue to investigate this complaint as long as it is active.

List of Specific Permits, Mine Sites or State Actions Reviewed: The MMD report of inspection and the letter MMD sent to the citizen.

The actual or Potential Impact or Significance of Any Deficiencies Identified: None

Description of Any Corrective Action Required or Recommended: None

Technical or Administrative Assistance Offered: None.

Selected Program Area of Review: **Reclamation Success**

Review Scope: A multi-year study to determine compliance with regulatory requirements to dispose of Coal Combustion Byproducts (CCB), commonly known as ash, from the San Juan Generating Station on lands affected by surface coal mining at the San Juan Mine.

Review Methodology: During this evaluation period, OSM and MMD identified the requirements for CCB disposal and monitoring of CCB disposal sites found in the permit, and conducted a joint inspection of two ash disposal sites. For evaluation year 2009, the review focused on evaluation of the existing groundwater monitoring program at the mine and the inspection of the existing monitoring sites.

Figure 1: The San Juan Generating Station and San Juan Mine

Findings: OSM and MMD met on January 21, 2009 to plan the review. During that meeting, MMD briefed OSM on the history of the San Juan Mine Permit, the locations of past CCB disposal and the water quality data collected by MMD which is available for study.

OSM and MMD, conducted an oversight inspection of the San Juan Mine on February 24, 2009. The purpose of the inspection was to review the locations of past and present CCB disposal operations at the mine and, specifically, to look at the Tumbleweed Pit ash disposal area that was the subject of MMD NOV 701 (failure to adhere to the re-grading schedule).

No Backfilling over the CCB in Tumbleweed Pit had begun. A modification required to abate NOV 701 by updating the re-grade schedule of the Tumbleweed and Pinon Pits, was approved on February 23, 2009. The updated re-grade schedule extended the deadline for backfilling the Tumbleweed CCB disposal area to December 31, 2009.

There was a concern that the excavation for Pond 62, at the head of Shumway Arroyo, may have uncovered buried CCB. MMD has digitized all known CCB disposal areas over the life of the mine. With that data loaded in a Pocket PC/ArcPad/GPS unit OSM and MMD verified that the north edge of the pond was approximately one-hundred-fifty (150) feet from the south edge of the closest ash disposal area. Drilling to confirm this finding may occur as the review of this oversight topic develops.

OSM and MMD also viewed the area of confluence of the Westwater and Shumway Arroyos and visually located alluvial monitoring wells GL and GE. These wells are routinely sampled by the MMD Hydrologist.

Dates of Review: January 21, 2009 and February 24, 2009.

List of Specific Permits, Mine Sites, or State Actions Reviewed: The San Juan Mine Permit and the OSM and MMD inspection reports of February 24, 2009.

The Actual or Potential Impact or Significance of Any Deficiencies Identified: No deficiencies noted. This topic will remain under review for EY-2010.

Description of Any Corrective Action Required or Recommended: None at this time.

Technical or Administrative Assistance Offered: OSM is providing technical assistance to MMD as this topic moves forward.

Selected Program Area of Review: **Reclamation Success**

Review Scope: Final Backfilling and Grading at LaPlata Mine.

Review Methodology: Conduct joint (OSM/MMD) reviews of the requirements found in the permit as well as conducting joint inspections to determine on-the-ground compliance with those requirements.

Findings: San Juan Coal Company's La Plata Mine was one of the first mining operations in New Mexico to use the principles of geomorphic land form design and construction to achieve AOC. This innovative approach to backfilling and grading was initiated by San Juan Coal Company, a subsidiary of BHP Billiton, in 2001. Final grading, using geomorphic techniques, was completed in December, 2008.

Traditional reclamation approaches frequently disturb the stability of the existing natural landforms. Hills and valleys are flattened out into uniform slopes or terraced to create stable land forms. Streams are often replaced by rock lined ditches or removed entirely. These approaches often require long-term maintenance.

The terrain at the La Plata Mine is steeply sloping and highly erodible. The landscape is dominated by steep-walled mesas topped by flat sandstone caps. Many of these caps, which control erosion, were removed during mining, and without them, the terrain would erode upstream. Traditional level terraces would not have provided the desired topographic diversity at the site, and minimal precipitation and high evaporation rates at the site would limit the amount of available water.

In order to address the problems inherent with traditional level terraces, San Juan Coal developed a geomorphic reclamation design for the La Plata Mine. Geomorphic principles involve contouring reclaimed surfaces and simulating natural drainage configurations. Application of the principles takes into account the existing landforms together with the processes by which those landforms would be created naturally over time. Soil, slope and weather are all considered. The objective of geomorphic reclamation is to create functional landforms and natural systems that are virtually indistinguishable from the surrounding natural terrain and are stable, ensuring long-term, maintenance-free reclamation. These landforms, including stream meanders and curvilinear, concave slope profiles, persist in nature because they are the most stable landforms.

Landform shaping and grading plans were based on computer-generated topographical designs. To shape the land according to the computer-generated designs, global positioning system (GPS) technologies were installed on the earthmoving equipment. GPS units provide real-time data, allowing equipment operators to monitor their work in the field and to accomplish the required surface topography.

The application of geomorphic principles in reclamation at La Plata has many long-term benefits. Varying cover material depth and using multiple seed mixes has promoted plant community diversity. The resulting landscape blends in with the surrounding terrain.

After a 200-year rainfall event, all of the constructed drainage channels were stable with no major erosion events. No repair work has been necessary. MMD will monitor the reclaimed areas to ensure it remains stable over the ten-year liability period for bond release.

The following three photographs illustrate the essential elements of the geomorphic post-mining landforms at the La Plata Mine:

Figure 2: The final landform blends in with the surrounding natural terrain. Source: MMD

Figure 3: Man-made rock ledges provide windbreaks and secure areas for wildlife. Source: MMD

Figure 4: Geomorphic reclamation principles stress the custom design of drainages to watershed size, slope and velocity to convey water without excessive erosion or sediment loading, creating slopes with a natural appearance. Source: MMD

OSM and MMD conducted an oversight inspection of the LaPlata Mine on February 24, 2009. The purpose of the inspection was to evaluate the "as built", post mining topography against the approved final surface configuration (FSC) map, Exhibit 906.B(3)of the permit. OSM and MMD found that the "as-built" topography is a reasonable match with the "permitted" topography. There were some deviations from the FSC, however, these discrepancies were in the form of additional drainage density and shorter slope lengths. The consensus conclusion was that the "as built" landform is more stable than the "permitted" land form and meets the requirements for AOC.

Dates of Review: February 24, 2009.

List of Specific Permits, Mine Sites, or State Actions Reviewed: Exhibit 906.B(3)of the La Plata Mine permit and the OSM and MMD reports of inspection of February 24, 2009.

The Actual or Potential Impact or Significance of Any Deficiencies Identified: There were no deficiencies identified.

Description of Any Corrective Action Required or Recommended: No corrective action required.

Technical or Administrative Assistance Offered: None

Selected Program Area of Review: **Customer Service**

Review Scope: Compliance with regulatory requirements to notify land owners, coordination with landowners, and landowner participation on bond release inspections.

Review Methodology: OSM and MMD would conduct inspections and reviews of bond release application areas. OSM and MMD would escort Navajo Allottees to the parcels of land that would be returned to them, for viewing, prior to MMD approving release of bond. OSM would evaluate MMD's handling of comments received from participants in the bond releases.

Findings: MMD received no bond release applications during the evaluation period. Therefore, no bond release inspections were conducted during the evaluation period and no bond releases were granted.

Dates of Review: July 1, 2008 to June 30, 2009.

List of Specific Permits, Mine Sites, or State Actions Reviewed: MMD received no bond release applications. Therefore, no documents were reviewed.

The Actual or Potential Impact or Significance of Any Deficiencies Identified: None

Description of Any Corrective Action Required or Recommended: None

Technical or Administrative Assistance Offered: None