



**DEPARTMENT OF INTERIOR
OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT**

Annual Evaluation Summary Report

**Abandoned Mine Land Reclamation
Program**

Administered by the State

of

WYOMING

FOR EVALUATION YEAR 2006

September 11, 2006

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Part I. General

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) created the Office of Surface Mining Reclamation and Enforcement (OSM) in the Department of the Interior to oversee the regulation of coal exploration and surface coal mining and reclamation operations and the reclamation of lands adversely affected by past mining practices. SMCRA provides that, if certain conditions are met, a State may assume primary authority for the reclamation of abandoned mine lands within its borders. Once the State has obtained such approval, OSM has the responsibility to make investigations, evaluations, and inspections necessary to determine whether the Wyoming Abandoned Mine Land Program (WYAML) is being administered in accordance with the approved program provisions.

OSM's evaluation methods are based upon OSM Directive AML-22 and a Programmatic Agreement between WYAML and OSM. The agreement establishes a commitment between the State and OSM as to how oversight will be conducted. This approach allows the State to take a more active role in the entire oversight process. The State and OSM staff developed topics for review, specified methodologies for evaluation, and assisted one another in the preparation of the final report.

This EY 2006 evaluation year consisted of a full twelve month period beginning on July 1, 2005 and ending on June 30, 2006.

The assessment of the WYAML included enhancement and performance reviews of selected topics. Specific topics are WYAML site inventory, entries into the OSM AMLIS database, overall reclamation success, the Abandoned Coal Mine Lands Research Program and program maintenance. Reclamation site visits were conducted jointly with WYAML project managers.

Wyoming does not have an AML Emergency program and therefore emergency projects are administrated by OSM. However, Wyoming AML Division assists OSM with AML hazards, since most hazards are initially reported to Wyoming AML. When a hazard occurs, Wyoming contacts the OSM Casper Field Office and, if needed, the Western Regional Coordinating Center and assists in the abatement of such emergencies. In many instances, Wyoming has AML construction activities in the area of the hazard and offers assistance through their existing contractors. WYAML has 21 contractors selected by the State bidding process that are under contract and can be mobilized on short notice to respond to emergency situations. Wyoming has several design and construction management firms under state-wide contract that can be directed to perform inspection and design on hazards needing urgent attention. Wyoming also contracts directly with firms qualified for cultural resource and threatened/endangered species assessments so mitigation/clearances may be obtained without delay.

Overall, Wyoming administers its AML program in a professional manner resulting in high quality performance of the program. Excellent communication and cooperation between the OSM Field Office and the Wyoming AML program staff continues.

The following is a list of acronyms used in this report:

SMCRA	Surface Mining Control and Reclamation Act
AMLR	Abandoned Mine Land Reclamation
AMLIS	Abandoned Mine Land Inventory System
AML	Abandoned Mine Land
WYAML	Wyoming Abandoned Mine Land Program
OSM	Office of Surface Mining
CFO	Casper Field Office
DEQ	Department of Environmental Quality
BLM	Bureau of Land Management
SHPO	State Historic Preservation Office
EPA	Environmental Protection Agency
TIPS	Technical Innovation and Professional Services
GIS	Geographical Information System

WYAML continues to administer the AML program with a staff of 13.3 full time employees (FTE's) from three offices. Field Offices are located in Lander and Casper while additional Project Managers and the Administrators office are located in Cheyenne. The WYAML Project Officers provide most of the project management. WYAML continues to hire consulting engineering and design management firms to assist the WYAML with evaluation, design and construction on the following major types of projects:

1. Shaft, adit and topographic depression closures.
2. Large open pit closures.
3. Subsidence abatement.
4. High-wall reduction/elimination
5. Hazardous bentonite pits
6. Underground coal fires
7. Public facilities projects.

WYAML also contracts for the following services:

1. Monitoring and certification of completed sites.
2. Cultural resource reviews and reports.
3. Consents and clearances
4. Resource reviews and reports (threatened and endangered plants and animals, wetlands delineation, paleontological artifacts, migratory birds)
5. Statewide inventory of all mine sites, coal and non-coal.

Procurement of services from consultants and contractors begins with a review of the AML inventory. Sites are prioritized according to the criteria established in SMCRA. When the sites are selected, consulting firms are asked to submit a Statement of Interest (SOI). Site selection occurs around October 1 of each year. An AML selection committee selects the best qualified firms for each project from reviews of submittals and then interviews each selected contractor. The contractor is selected after the DEQ Director, the AML Administrator and the individual project manager concur. The project manager negotiates a contract based on the firms written proposal.

Due to State procurement laws and AML selection policies, the lag time between selecting a site for reclamation and execution of a contract with the design firm can be up to 12 months. Completion of the Report of Investigation (ROI), landowner consent, and clearances can take several months. The bidding and contractor mobilization process can add another 12 to 18 months. The State is now in the process of securing clearances for some projects through the Bureau of Land Management. Difficulties in obtaining these clearances have added to the delay in project completion.

Design work consists of obtaining land and mineral owner consents, eligibility determination, surveying and mapping, and the preparation of a ROI. This report identifies the reclamation alternatives. Following opportunity for public comment, AML selects an alternative and the consultant prepares the final reclamation design. A site visit/bid tour is provided. Prospective contractors bid on the project using the designs provided by WYAML P.

Prior to beginning any construction work, the WYAML P submits to OSM a Detailed Documentation Package. This set of documents includes an Environmental Assessment, NEPA clearances, a project eligibility determination from the AML Administrator, a threatened and endangered plant and animal species survey, a cultural resource evaluation, maps, and site photographs. The WYAML P obtains an Authorization to Proceed (ATP) from the Casper Field Office prior to reclamation or construction of each project.

There have been no reported fatalities or injuries at any abandoned mine site, however there remain many sites where conditions pose public safety hazards. Wyoming has 955 sites recorded on AMLIS.

Wyoming 2006 grant is \$29,469,486 of which \$1,335,780 is used for administration of the program. Wyoming's administrative costs is less than 5 percent of the grant amount. This reflects efficiency of the Wyoming AML program and its administrator and project managers.

Part II. Noteworthy Accomplishments

In the last twenty years, the WYAML P has reclaimed over 913 abandoned mine sites encompassing over 31,865 GPRA acre-equivalents. Approximately \$124 million has been spent on coal reclamation. Approximately 31 acres of coal mine related reclamation was completed this evaluation year. The majority of this money was spent on grouting underground subsidence, coal fires, and surface mine reclamation. Approximately \$84 million has been spent reclaiming abandoned industrial mineral sites. Approximately \$18 million has been spent in the reclamation of metals mine sites throughout the State. Reclamation of soft-rock and aggregate sites, including uranium mine sites has accounted for about \$90.2 million. Significant hazards remain to be mitigated and future funding will be required. WYAML P's inventory of potential reclamation sites presently includes over 350 coal sites and over 600 noncoal sites. WYAML P has invested approximately \$82 million in public facility projects around the state. This evaluation year WYAML P has provided funding for \$4.5 million for public facilities projects.

The remaining funding has been split among a mine subsidence insurance program, administrative costs, engineering services, environmental survey and compliance services, and establishing a trust fund to address future mine subsidence and reclamation needs.

The University of Wyoming and the DEQ signed an agreement in 1990 to use \$270,000 of AML funds annually to support mine reclamation research efforts. The Governor certified this research agreement through 2005. The intent of funding this research has to provide technical assistance and support to identify and quantify environmental impacts from past and present coal mining and to find appropriate and practical mitigation for the past 15 years. The Wyoming coal mining industry, OSM and WYAML P supported the reclamation research because of the need to develop scientifically sound solutions to identified problems. The Land Quality Division of DEQ, which must enforce the State reclamation laws, also supported the program because the information provided allows more precise assessment of the mitigation practices of the impacts of mining. The ultimate goal of the research is to provide positive benefits to the economy and environment of Wyoming. That goal was accomplished and this research is no longer needed. [See **Part III. Results of Enhancement and Performance Reviews**, “Abandoned Coal Mine Lands Research Program (ACMLRP)”] The AML funds will be used elsewhere in Wyoming’s AML Program.

Public Outreach

Wyoming DEQ continues to solicit public comment and invite input on the WYAML P program. AML publishes notices of intent to perform work and invites public participation. When the project involves public facilities, the State Loan and Investment board provides for additional opportunity for public input prior to rendering a final decision on each project.

The specific evaluation involved reviewing documentation in WYAML P files for projects OSM authorized to proceed to reclamation during the 2006 evaluation year. The purpose was to determine if it responded to requests for public hearings or meetings and considered comments it received before requesting authorizations to proceed with reclamation from OSM. Five projects were sampled. There were no Public responses for this evaluation period or several previous years.

The evaluation showed that DEQ published legal notices of its intent to enter and perform reclamation to give the public opportunities to comment on proposed reclamation projects and to request meetings or hearings to discuss the program or projects in all of the projects reviewed.

Wyoming DEQ maintains an excellent Web site that includes links to information on AML dangers, calendar of upcoming AML projects, current construction bidding, project selection, department contacts, rules and regulations, and professional procurement information. Also included are instructions describing how to report a mine hazards.

Part III. Results of Enhancement and Performance Reviews

“Topic Evaluations Reports” containing much more detail have been prepared and are on file in the 2006 Annual Evaluation file at the Casper Field Office. The following are only summaries

of those reports.

Overall Reclamation Success

The overriding goal of the Abandoned Mine Reclamation Program is reclamation success. Most recently, OSM and WYAML P completed a similar evaluation of reclaimed projects in the Gas Hills uranium mining district for the 2005 evaluation year. That evaluation concluded WYAML P's reclamation of abandoned uranium mines abated hazards and used innovative practices to stabilize regraded soil, establish diverse vegetation, and support wildlife habitat and grazing land to complement surrounding areas.

The 2006 evaluation focused on long term reclamation success and recent reclamation efforts that occurred during the evaluation period. The sample for the evaluation of long-term reclamation success included the Pay Dirt / Seismic Pits area of project 16H, phase 1A located about eight miles south of Jeffery City, Wyoming in the Crooks Gap uranium mining district. The sample for the evaluation of recent reclamation included the Outpost Mine, Big Atlantic, and Sno-Bird sites of the phase 1 - South Pass shafts and adits of project 17I near South Pass City and Atlantic City, Wyoming.

Pay Dirt / Seismic Pits area of project 16H

WYAML P met the goals of abating hazards and improving conditions at the Pay Dirt and Seismic Pits reclamation area we observed of project 16H, phase 1A. It completed this project in three phases beginning in 2003 and ending in spring 2005. No threatened or endangered species or historic resources were identified in the project area. The environmental assessment identified Physaria eburniflora as a plant of special concern and Brewer's sparrow as a migratory bird of high Federal interest living in the project area. However, it also concluded that reclamation was unlikely to adversely affect them or their habitat. Fledgling owls were given time to leave the project area through they were not officially accorded special status. Land use in the project and surrounding areas is wildlife habitat and livestock grazing. WYAML P's reclamation is compatible with that land use.

WYAML P abated the original hazards posed by the Pay Dirt and Seismic Pits, spoils, and mine openings and was successful over the long-term. The State closed twelve portals with concrete bulkheads and backfill. Those portal closures were located around the inner walls and bottoms of the pits and were buried during subsequent backfilling. After dewatering the Pay Dirt Pit, WYAML P backfilled it and the Seismic Pit by selectively handling spoil to ensure that unsuitable material was placed above the groundwater table but below typical rooting depth. It topdressed the project area and used a "pitter" to roughen the surface parallel to the contour. The resulting small pockets enhanced seed and moisture retention and revegetation establishment while reducing sheet flow. We saw establishing vegetation throughout the reclaimed area, including the haulroad, especially in the small pockets created with the pitter. Vegetation included seeded and volunteer species. The fence around the reclaimed project area was intact.



Photo 1. Pay Dirt / Seismic Pits. Note pitting and contour ditches to control erosion.

The Pay Dirt / Seismic Pits project area received significant precipitation in March 2006, resulting in heavy runoff. Though minor rills developed in a few areas as a result, the combination of the pitting and contour ditches/berms controlled runoff well and kept it from compromising slope or soil stability and revegetation. With the exception of the backfilled Pay Dirt Pit, the project area drains positively into a central reconstructed channel and eventually into Crooks Creek. The Pay Dirt Pit was dry and showed no evidence of having impounded water. Drop structures from contour ditches/berms were ripped up in places and the central channel had several rock check dams. Despite the heavy runoff in March, the central channel and check dams held up well with only minor gully formation noted in the channel bottom. No water was impounded or flowing onsite during our visit.

The State also met project goals by implementing the scope of work for the Outpost Mine, Big Atlantic, and Sno-Bird sites in phase 1 of the South Pass shafts and adits part of project 17I. This project did not affect threatened and endangered species but addressed concerns for bats and bat habitat. The closures we viewed were intact and functional, as were measures to protect historic resources, bat habitat, and reduce surface runoff and sedimentation. All mine closures, including bat gates, were intact and functional. Bat gates allow for bats' continued use of mine workings while preventing access by people.

Outpost Mine

One portal closure at the Outpost Mine involved polyurethane foam in combination with backfilling. The second portal closure at the Outpost Mine involved backfilling and

polyurethane foam installed around a corrugated metal pipe with a bat gate. WYAMLP also preserved the historic Rock Creek Ditch in this area as required by its interagency consultation. The State reclaimed several dozer exploration pits, two prospect pits, a dozer trench and small spoil piles as called for in the scope of work.



Photo 2. Outpost Mine portal, backfilled with a culvert leading to the bat gate and habitat.

Big Atlantic

Work at the Big Atlantic site involved closing a portal with a corrugated metal pipe and a bat gate. Erosion blanket on the reclaimed portal face-up area and silt fence along the toe of the mine dump were in place.



Photo 3. Big Atlantic portal, backfilled and covered with an erosion blanket and silt fence. Also there's a culvert leading to the bat gate and habitat inside the mine.

Sno-Bird

Reclamation at the Sno-Bird site included backfilling a portal, covering the reclaimed dump with erosion blanket and installing filter fence at the toe of the reclaimed mine dump along a creek. WYAMLPA avoided disturbing historic concrete foundations at this site as well. A second reclaimed feature at the Sno-Bird site was a backfilled vertical opening/slope.



Photo 4. Snow Bird Portal backfilled and erosion blanket and silt fence in place to control potential erosion.

The Pay Dirt / Seismic Pits area of project 16H and the Outpost Mine, Big Atlantic, and Sno-Bird sites of the phase 1 - South Pass shafts and adits of project 17I met their respective goals. CFO concluded that both projects implemented measures called for in their respective scopes of work and interagency consultation, including protection of historic resources, wildlife and/or wildlife habitat. Further, CFO concluded the reclamation of the Pay Dirt and Seismic Pits was successful on a long-term basis as defined in the work plan.

Abandoned Coal Mine Lands Research Program (ACMLRP)

The Abandoned Coal Mine Lands Research Program with money from WYAMLPLP funded about 41 research projects through the University of Wyoming's Office of Research since late 1989. The most recent extension of the ACMLRP through mid-2005 directed that the funds be used for coal mine reclamation research. Concerns for increased funding of projects not strictly focused on coal mine research combined with diminishing numbers of research proposals, expiration of the ACMLRP agreement on June 30, 2005, and a general sense that the ACMLRP may have reached the end of its useful life, lead to recommending that DEQ not renew the agreement to fund the ACMLRP. The Agreement will not be renewed.

AML Site Inventory Integration with the Abandoned Mine Land Inventory System (AMLIS)

This topic was reviewed to fulfill the first new requirement OSM developed in response to OIG report number 2003-I-0074. That requirement is to determine whether the WYAMLPLP has procedures in place to ensure the accuracy of data it enters into AMLIS.

WYAMLPLP uses two different forms to update AMLIS for funded and completed projects. One is the AMLIS Entry Form for Cost Data on Authorized Projects (AMLIS Entry Form). WYAMLPLP uses this form to update AMLIS at the time OSM issues an authorization to proceed for project reclamation. For the purposes of this evaluation, we consider the AMLIS entry form to be the "system." WYAMLPLP uses this form to ensure the accuracy of data it enters into AMLIS. DEQ use of this form should ensure that the data it enters into AMLIS match data in its files.

The second form, called the AMLIS Completion Report Form, contains the information DEQ uses to update AMLIS for completed projects. Though both forms help DEQ keep data in its files consistent with data it enters into AMLIS, for the purposes of this evaluation CFO considers the AMLIS Completion Report Form to be DEQ's "system" for ensuring that completion data in AMLIS matches data in its files.

CFO did not identify problems requiring corrective actions. The accuracy of AMLIS data will test the system's effectiveness. For our 2007 evaluation and annually thereafter, CFO will check the accuracy of Wyoming's AMLIS data by comparing a sample of PADs to their respective AMLIS Completion Report Forms. Those reviews will enable CFO to determine if DEQ's system ensures the accuracy of data it enters into AMLIS, or if changes in the system are required.

Integration with the Abandoned Mine Land Inventory System (AMLIS) - Coal Problem Area Description (PAD)

Wyoming uses criteria very similar to those in AMLIS to prioritize its coal problems but also considers typical Wyoming activities, land uses, and settings. DEQ entered PADs into AMLIS for the sample coal projects using AMLIS criteria to prioritize them. Only part of one PAD assigned a priority to keywords did not appear to be completely documented in the priority documentation forms. DEQ entered PADs into AMLIS for the sample projects before requesting authorizations to proceed.

At this time, we are unable to determine with certainty how many coal problems remain to be addressed in Wyoming. However, DEQ has estimated this figure to be 352 coal AML sites. The State continues to address coal and noncoal problems as it refines its inventory data.

We recommend DEQ provide additional narrative details in AMLIS priority documentation forms. We also recommend DEQ continue to refine its inventory data and enter coal PADs in AMLIS to accurately show the number and priority of unreclaimed coal problems remaining in the State.

Program Maintenance

During the evaluation year, Wyoming submitted the only required AML program amendment to OSM for review. On March 23, 2006, OSM published a Federal Register Notice announcing approval of the 2005 Wyoming Legislative changes to the AML plan. There are no outstanding AML program deficiencies at this time.

Part IV. Financial Administration (Grants)

During the evaluation year, the grant and all other financial functions located in the Casper Field Office were transferred to the Western Regional (WR) office in Denver. During this transition, it was decided to skip any financial evaluation of the Wyoming AML program during EY 2006. Wyoming has demonstrated exemplary results in their accounting and property management. CFO and WR are considering selecting only a few topics in future years to spot check financial portion of the Wyoming AML program.

Appendix A

State Comments and CFO's responses On draft Annual Evaluation Summary Report

Comments from the Wyoming AML Division were annotates in a strike-out format on the original draft Annual Evaluation report. The follow is a summary of Wyoming's comments:

WYAML Comment: Replace "project officer" with "project manager"

CFO Response: The correction was made.

WYAML Comment: Page 1, second to the last paragraph, there are now 21 contractors instead of 19

CFO Response: The correction was made.

WYAML Comment: Page 2, last paragraph, "best qualified" contractors are selected.

CFO Response: "Best qualified" has been added to the paragraph.

WYAML Comment: Page 3, first paragraph, "selected" contractor clarifies the statement.

CFO Response: "Selected" has been added to the statement.

WYAML Comment: Page 3, paragraph 4, "eligibility determination" of cultural resource sites?

CFO Response: "Project" has been added to clarify that the eligibility is referring to project eligibility determination is the intent of the statement and not cultural resources as listed later in the sentence.

WYAML Comment: Page 3, paragraph 6, "The ratio of administrative costs to construction costs of the WYAML is 19.1 percent, which is considerably low. WHAT IS MEANT BY THIS SENTENCE IS NOT CLEAR"

CFO Response: The sentence has been changed to make it clear, stating that Wyoming's administrative costs are less than 5 percent of the grant amount.

WYAML Comment: Page 3, Last paragraph, uses “hard-rock” mines, but WYAML prefers the term “metal” mines

CFO Response: The correction has been made.

WYAML Comment: Page 4, paragraph 3, the following change is suggested: “AML publishes notices of intent to perform work and invites public participation.” Rather than “Notices of public hearings are published in the local newspapers.”

CFO Response: CFO has made this change.

WYAML Comment: Page 6, first paragraph, uses “emergent,” but suggest using “establishing” vegetation.

CFO Response: CFO has made this change.

WYAML Comment: Page 9, paragraph 4, prefer using “entry form,” rather than “ completion report form” and the word “form “ instead of “report” elsewhere in the paragraph.

CFO Response: CFO has made this change.