



**OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT**

**Annual Evaluation Summary Report
For the
WYOMING
Abandoned Mine Land Reclamation Program
Evaluation Year 2010**

September 10, 2010



TABLE OF CONTENTS

I.	General.....	1
	A. Introduction.....	1
	B. Program Administration.....	2
II.	Noteworthy Accomplishments.....	3
	A. Overall Performance	3
	B. Recognitions and Dedication of the Kleenburn Recreation Area.....	5
	C. Change in Administration.....	5
	D. Program Interactions.....	5
III.	Utilization of OSMRE Technological Assistance	6
	A. National Technical Training Program (NTTP).....	6
	B. Technical Innovation and Professional Services (TIPS)	6
	C. Use of OSM Provided Equipment	6
IV.	Results of Performance Reviews	6
	A. Performance Topics	6
	B. Grant and Fiscal Administrative Goals.....	6
	C. Progress of Reclamation of Outstanding Coal Problems.....	8
	D. Overall Reclamation Success.....	9
	E. Emergency Investigations and Abatement Efforts	14
	F. Public Outreach.....	15
	G. Maintenance of Records	16
V.	Conclusions.....	17
	APPENDIX A: State Comments and CFO’s Responses to the Draft Annual Evaluation Summary Report.....	A-1

Cover Photo- Pedestrian Bridge at Kleenburn Recreation Area, Sheridan County, Wyoming

I. General

A. Introduction

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 regulation of coal exploration, surface coal mining and reclamation operations, and reclamation of lands adversely affected by past mining practices. SMCRA provides that, if certain conditions are met, a State may assume primary authority for reclamation of abandoned mine lands (AML) within its borders. Once a State has obtained such approval, OSM has the responsibility to make investigations, evaluations, and inspections necessary to determine whether that State's abandoned mine land program is being administered in accordance with approved program provisions. In December 1981, the Secretary of the Department of Interior approved Wyoming's Abandoned Mine Land Reclamation Plan under Title IV of SMCRA. As a result of this approval, the State of Wyoming through the Department of Environmental Quality (DEQ) has exclusive responsibility and authority to operate the Abandoned Mine Reclamation Program. Wyoming's approved State Reclamation Plan (as amended in 1993) set forth authority, policies, and procedures under which Wyoming operates its program. Within the DEQ, the Abandoned Mine Lands Division is responsible for implementing this plan. On March 5, 1984, OSM announced State certification in *Federal Register* notice 49 FR 8091 noting that Wyoming has completed reclamation of all high priority coal hazards, and requested public comment. In *Federal Register* notice 49 FR 22139 of May 25, 1984, OSM approved certification.

Evaluation of the State reclamation program is conducted by the Casper Field Office (CFO) of OSM. The Evaluation Year (EY) 2010 consisted of a twelve month period beginning on July 1, 2009 and ending on June 30, 2010. OSM's evaluation methods are based upon OSM Directive AML-22 (Evaluation of State and Tribal Abandoned Mine Lands Programs) and a Performance Agreement (dated December, 2009) between Wyoming Abandoned Mine Lands Program (WYAML) and OSM. This agreement established a commitment between WYAML and OSM to identify topics for review, identify methodologies for enhancement and evaluation of performance reviews, and assist in the preparation of the final report. Assessment of WYAML performance includes reviews of selected topics such as fiscal and administrative controls, progress in coal mine reclamation, overall reclamation success, public interaction and outreach, and integration with the Abandoned Mine Land Inventory System (AMLIS) database. Reclamation site visits were conducted jointly by WYAML and OSM staff.

The following list of acronyms is used in this report:

AML	Abandoned Mine Land
AMLIS	Abandoned Mine Land Inventory System
ATP	Authorization to Proceed
CFO	Casper Field Office
DEQ	Department of Environmental Quality
EY	Evaluation Year
GPRA	Government Performance Results Act
OSM	Office of Surface Mining Reclamation and Enforcement
PAD	Problem Area Definition
SMCRA	Surface Mining Control and Reclamation Act
WYAML	Wyoming Abandoned Mine Land Program

B. Program Administration

Overall, the State of Wyoming administers WYAML in a manner reflecting high quality professionalism and performance, and excellent communication and cooperation between consulting agencies and other interested parties. The CFO and WYAML regularly consult and interact with one another. WYAML maintains a program staff of 11.36 full time employees distributed between five State offices. The primary administrative office is located in the Capitol complex in Cheyenne with additional project managers and administrators located in Casper, Lander, Rock Springs and Sheridan. WYAML staff conducts initial site investigations, pre-construction environmental analysis, agency consultations and compliances, and reclamation project administration. In addition, WYAML contracts the following services to enhance in-house expertise and capabilities:

1. Reclamation engineering, design and construction inspection;
2. Monitoring and certification of reclaimed properties;
3. Cultural resource identification, evaluations and reporting;
4. Land surface and mineral owner access and reclamation consent;
5. Resource reviews and reports (threatened and endangered plants and animals, wetlands delineation, paleontological resources, and migratory birds);
6. Regulatory reviews, compliances and permits; and,
7. Statewide inventory of all mine sites, coal and non-coal.

WYAML project officers provide project conception, development, and management. Contracted engineering and design management firms assist with evaluation, design and construction. The following major types of problems are commonly addressed in reclamation projects:

1. Closure of shaft, adit and topographic depressions;
2. Closure of large open pits;
3. Abatement of subsidences;
4. Reduction and elimination of high-walls; and,
5. Extinguishment of underground coal mine fires.

The process of abandoned mine investigation and reclamation is a lengthy and arduous task, integrating WYAML staff and contracted consultants at key mileposts. WYAML staff investigate and inventory abandoned mine sites, enter properties into AMLIS and prioritize sites according to criteria established in SMCRA. Abandoned mine sites are then selected for reclamation design around October 1 of each year. At that time, consulting firms are asked to submit a Statement of Interest for further investigation of selected AML sites. A WYAML selection committee selects the best qualified firms for each project based on reviews of submittals and interviews with potential contractors. Contractors are selected by concurrence between the DEQ director, the WYAML administrator and the individual project manager. WYAML negotiates the contract based on the firm's written proposal.

Preparing a mine site for reclamation can be a lengthy process. Completion of site investigations, landowner consent, and regulatory compliances can take several months to a year. Then, due to State procurement laws and WYAML selection policies, lag time between selecting a site for reclamation and execution of a contract with a design firm can be up to 12 months. Construction bidding, mobilization and construction can add

another 12 to 18 months. If it is necessary for WYAML to secure co-operative agreements for mine reclamation with other federal agencies such as the Bureau of Land Management or United States Forest Service, development of agreements and/or satisfaction of agency requirements for reclamation on their administrative lands may require additional time of up to several years resulting in substantial project delay.

Design and pre-construction work consists of obtaining land and mineral owner consents, eligibility determinations, site surveying and mapping, and preparation of a Report of Investigation. This report identifies site conditions, hazards and reclamation alternatives. Following solicitation of public comment through publication of the proposed reclamation action and public meeting if requested, WYAML selects a reclamation alternative and the consulting engineer prepares the final reclamation design. The reclamation project is advertised for bid and a site visit/bid tour is provided for all prospective contractors. Interested contractors then submit bids on the project based on designs provided by WYAML.

Prior to initiating any construction work, WYAML submits a documentation package to OSM with a request for an Authorization to Proceed (ATP). This package includes 1) a complete Environmental Assessment or Categorical Exclusion, 2) a project eligibility determination pursuant to 30 CFR 874.12 prepared by the Wyoming Attorney General, 3) a threatened and endangered plant and animal species survey, and consultation results with the U.S. Fish and Wildlife Service, 4) consultation results with the State Historic Preservation Office, 5) site maps, photographs, and 6) AMLIS Problem Area Description (PAD) reports. If acceptable and complete, CFO issues an ATP pursuant to section 5-11-20D.3 of the Federal Assistance Manual to WYAML prior to reclamation or construction of each project.

Currently there is not an AML emergency program in Wyoming. When an emergency occurs, both WYAML and OSM work co-operatively to abate the problem. WYAML has 25 design, engineering and construction contractors under state-wide contract that can be mobilized on short notice to perform inspection, design, and construction remediation on hazards needing urgent attention. In most instances, WYAML has construction activities in the area of the hazard and can mobilize their existing contractors on a moment's notice. WYAML also contracts directly with firms qualified for cultural resource and threatened/endangered species assessments so National Environmental Policy Act, National Historic Preservation Act, and National Threatened and Endangered Species Act compliances may be secured without delay.

II. Noteworthy Accomplishments

A. Overall Performance

Since the Program's inception, the WYAML has reclaimed over 991 abandoned mine sites encompassing over 37,735 Government Performance Result Act (GPRA) acre-equivalents. Approximately \$148.1 million has been spent reclaiming coal mine hazards on 4,320 GPRA acres. The majority of this money was spent on grouting underground subsidence, extinguishing coal fires, and surface and underground mine reclamation. WYAML has also spent \$345.4 million reclaiming abandoned industrial mineral mine hazards on 33,415 GPRA acres. Details of past achievements are found in Table 1.

TABLE 1. WYOMING ABANDONED MINE LAND RECLAMATION NEEDS AND ACCOMPLISHMENTS SINCE PROGRAM APPROVAL

Problem nature	Unit	Coal-related problems				Noncoal-related problems	
		Abatement status			Total	Abatement status	
		Unfunded	Funded	Completed		Unfunded & Funded	Completed
Priorities 1, 2 and 3 (Protection of public health, safety, and general welfare)							
Clogged streams	Miles	7.4	1.0	14.5	22.9	8.0	108.2
Clogged stream lands	Acres	60.6	130.0	140.3	330.9	12.2	1,620
Dangerous highwalls	Lin. Feet	27,798	4,182	23,898	55,878	41,130	561,727
Dangerous impoundments	Count	0	0	8	8	1	134
Dangerous piles & embankments	Acres	82.8	13	460.4	556.2	5.3	2,393.8
Gases: hazardous/explosive	Count	1	0	0	1	0	0
Gobs	Acres	36.2	0	18.4	54.6	0	19.5
Highwall	Feet	1,576	0	0	1,576	0	220
Hazardous Equip. & Facilities	Count	169	4	147	320	29	92
Haul Road	Acres	7.0	0	18.7	25.7	2.5	400.6
Hazardous Water Body	Count	4	3	0	7	61	416
Industrial/Residential Waste	Count	0	0	12.0	12.0	10.2	17.0
Mine Opening	Count	193	69	248	510	0	0
Portals	Count	131	46	341	518	102	327
Pits	Acres	17.6	0.3	733.2	751.1	583	6,539.6
Polluted Water: Agric. & Indust.	Acres	0.0	0.0	2.0	2.0	0	0
Subsidence	Acres	313.4	97.3	1,112.9	1,523.6	5.8	101.2
Spoil Area	Acres	1,073.1	5.9	1,048.1	2,127.1	416.3	8,393.2
Surface Burning	Acres	0.1	0.9	16.8	17.8	0	0
Slump	Acres	364.3	55.4	138.9	558.6	0	4
Underground Mine Fire	Acres	181.5	1.0	68.3	250.8	0	0
Vertical Opening	Count	26	34	225	285	160	492
Note: All data in this table are taken from the Abandoned Mine Land Inventory System (AMLIS) 7/29/10.							

Significant hazards on both coal and non-coal sites remain to be mitigated and future funding will be required.

B. Recognitions and Dedication of the Kleenburn Recreation Area

The clean-up of the Kleenburn Recreation Area took three years to complete and was a joint effort of DEQ-AML Division, Wyoming Game and Fish Department, and Sheridan County. The official dedication was hosted by the Sheridan County Commissioners in conjunction with the Wyoming Game & Fish Department “Free Fishing Day” on Saturday, June 6, 2010. The 80-acre site now features a boat ramp, freshly stocked fishing ponds, walking paths and picnic tables. The site includes 1.5 miles of graveled trail plus a pedestrian foot bridge which provides access to the two ponds. The Kleenburn coal mine operated on the site in the 1950’s, stripping coal from a couple of open pits that are now used as fishing ponds. After the mine was abandoned, the Scott family donated the land to Sheridan County in 1973 for \$1, in an agreement that the land would be used for a park and recreational purposes.

C. Change in Administration

In the spring of 2010, the Administrator of the DEQ-AML Division, Richard Chancellor, retired from State service. Alan Edwards has been selected to fill the position of AML Administrator.

D. Program Interactions

One WYAML staff member serves on the Monuments and Markers Advisory Committee and the Mine Trails and Byways Commission for the Wyoming State Historic Preservation Office. The Monuments and Markers Advisory Committee reviews and approves all sign markers erected along the State’s highways and interpretive areas. The Mine Trails and Byways Commission, a sub-unit of the Monuments and Markers Advisory Committee, identifies historic mining areas in the State and designates a system of access roads and trails along historical routes of access.

The WYAML has also been working with the Montana AML program providing demonstrations of Wyoming’s computerized AML inventory data system for a potential technology transfer to the Montana AML program.

III. Utilization of OSMRE Technological Assistance

A. National Technical Training Program (NTTP)

There was no participation from WYAML staff in the NTTP training program in EY 2010.

B. Technical Innovation and Professional Services (TIPS)

There was no participation from WYAML staff in the TIPS training program in EY 2010.

C. Use of OSM Provided Equipment

No OSM provided equipment was requested by WYAML in EY 2010.

IV. Results of Performance Reviews

A. Performance Topics

Topic evaluations reports and individual project reports containing much more detail are on file in the 2010 Annual Evaluation files at the Casper Field Office. As identified in the 2010/2011 PA, the following topics were selected for evaluation: 1) AML Grant Fiscal and Administrative Controls, 2) WYAML's Progress in Reclamation of Outstanding Coal Problems, 3) Overall Reclamation Success, and 4) Public Outreach.

B. Grant and Fiscal Administrative Goals

The WYAML grants administration was monitored throughout EY 2010. A site visit to the WYAML program and accounting offices by the OSM Western Region Grants Specialist to discuss their AML program implementation for the current EY was conducted May 18, 2010. Discussions on the status of OSM grant agreement accounting and reporting were held with DEQ Accounting Manager and Principle Accountant. In particular, discussions were centered on new sources of funding and how it affects subaccounts and project expense tracking under Federal Budget Management Service.

The on-site review found that DEQ performs grant fund drawdown in a timely manner and keeps an adequate paper trail of current and previous drawdown actions. DEQ utilizes a Drawdown Calculation Form to track drawdown for the AML program consolidated grant. This form keeps track of the grant number, grant period, drawdown number and report date. It shows the total amount of previous drawdown and the current amount recommended for drawdown. In addition the Drawdown Calculation Form keeps track of all drawdown from Federal and State share costs.

All grant costs are tracked by the Wyoming Accounting System for individual projects and services. Expenditures are subtracted and updated balances are provided to the AML Program Administrator on a monthly basis. Drawdown reports sampled for this report were from September 2009 through April of 2010. All drawdown reports examined during this period were properly documented with individual draws appearing in the State's Revenue Inquiry Report.

Grant funds are drawn at the end of each month to reimburse DEQ for expenses previously paid by the State since Wyoming is on a cash reimbursement basis. Wyoming DEQ maintains a financial drawdown system which complies with Federal and State requirements. The Wyoming DEQ complies with drawdown requirements of Chapter 5-55 of OSM's Federal Assistance Manual (FAM) and with the Cash Management Act of 1990.

Wyoming's total available 2010 consolidated grant is \$117,352,070 consisting of \$82,700,759 in Prior Balance Replacement Funds and \$34,651,311 in Certified in Lieu Funds. Of this, \$82,689,101 in Prior Balance Replacement moneys was committed by the Wyoming State Legislature. These moneys are granted from unallocated funds in the United States Treasury to the Wyoming State Legislature to fund research and mineral related projects of their choosing (Table 2). The WYAML requested \$33,280,000 to continue coal mine reclamation. A condition of the 2010 consolidated grant was that the State Legislature must dedicate minimally \$30,000,000 to the WYAML program for coal mine reclamation. This allocation was budgeted by WYAML as \$31,698,101 in non-water project costs and \$1,581,829 for program administration. Wyoming's administrative cost of \$1,581,829 is 4.8% of the WYAML program budget and includes staffing costs and support systems. Pre-construction contracted investigations, engineering design and construction costs are included under non-water project costs. A grant amendment to the 2010 grant requested that \$120,000 be transferred to the 2009 Administrative account. A total of \$1,262,969 remains available in the 2010 Wyoming Consolidated Grant that has not been requested by the Wyoming Legislature.

Table 2. Distribution of Wyoming's AML Consolidated Grant Moneys

\$117,352,070	Total available 2010 Wyoming Consolidated Grant
\$115,969,101	Total Grant Moneys requested by Wyoming Legislature in 2010
\$120,000	Grant Amendment transferring \$120,000 to 2009 Administrative account
\$1,262,969	Total 2010 balance remaining available to Wyoming Legislature
\$33,280,000	Amount Dedicated to Coal Mine Reclamation
< 1,581,829>	Non Emergency Administrative Costs
<31,698,171 >	Project Costs, Non Water
\$82,689,101	Prior Balance Replacement Moneys committed by Wyoming Legislature
< 2,201,117>	Solid waste orphaned fund
< 398,883>	DEQ statewide energy impacts
< 1,400,000>	DEQ operations and maintenance of ambient air monitors
< 638,101>	Geological Survey CO2 storage and EPA sequestration
<17,400,000>	Univ. WY. School of Energy Resources
<45,000,000>	Univ. WY. CO2 sequestration demonstration project
< 666,000>	Univ. WY. Reclamation and Restoration center
< 985,000>	Univ. WY. NMR Spectrometer
<14,000,000>	Univ. WY. Clean Coal Technology Research

C. Progress of Reclamation of Outstanding Coal Problems

In 1984, Wyoming certified to the Secretary of Interior that it had completed reclamation on all coal problems in the State. Since then, Wyoming has spent much of its AML funds on non-coal mining related hazards. In 2004, Wyoming conducted a comprehensive statewide inventory of abandoned mine sites that identified a large number of high-priority (Priority 1 and 2) AML coal hazards. These sites were estimated to have an overall reclamation value of \$118 million.

In response to OSM concerns over the number of coal sites now in WYAML's inventory and requiring reclamation, Wyoming and OSM reached an agreement in 2008 in which Wyoming shifted its focus to reclamation of AML coal projects. Wyoming believes that committing \$30 million per year on coal reclamation was the maximum capability of its AML program and contracting infrastructure. Wyoming has all of its newly identified Priority 1 and 2 coal sites under contract for design; and has projected it can complete AML coal reclamation by Fiscal Year 2012. OSM determined that this approach was reasonable and agreed to condition the Fiscal Year 2008, 2009, 2010 and 2011 AML grants with the requirement that \$30 million be used solely for coal reclamation. Wyoming has recently identified an additional \$60 million in Priority 3 coal problems. If AML funding for certified States continues, Wyoming's grants would likely be conditioned through 2013 to complete all remaining coal problems.

Hence, project ATPs issued in Fiscal year 2008 largely reflected the completion of existing projects from 2006-07 investigations rather than the current commitment to coal issues. A comparison of ATPs issued during EY 2008 and 2009 shows that only 4 of 10 projects (40%) in 2008 were coal related versus 12 of 16 projects (75%) in 2009 were coal related (Table 3). In EY 2010, 15 of 16 projects (94%) were coal related, demonstrating Wyoming's commitment to reclamation of their remaining coal problems (Table 4). Non-Coal ATPs issued in EY 2009 and 2010 were either pre-effective date of the new regulations (January 13, 2009) or funded with pre-2009 moneys.

Table 3. ATPs issued in EY 2009.

AML 12D	Frederick Site	(Non-Coal)	10/08/08
AML 17I	Bowman and Gussie A Sites	(Non-Coal)	10/08/08
AML 17F	Converse-Natrona Counties Coal Phase I	(Coal)	12/01/08
AML 17F	Storm King Mine Subsidence Rapid Response	(Coal)	01/07/09
AML 17H	Sweetwater County Superior Group	(Coal)	01/15/09
AML 17F	Carney Mine Road Subsidence Rapid Response	(Coal)	01/20/09
AML 17F	Casper Coal Mine	(Coal)	02/02/09
AML 17F	Kleenburn Mine	(Coal)	02/20/09
AML 17F	Stein Mine Subsidence Rapid Response	(Coal)	03/09/09
AML 17H	Uinta County Evanston Area Group	(Coal)	03/16/09
AML 7-28-III	Standpipe Draw Reconstruction	(Coal)	04/17/09
AML 17.6A	Blairtown Park/Home Mine Grouting	(Coal)	05/01/09
AML 17J	Carney Mine	(Coal)	05/15/09
AML 17I	Gold Dollar Mine	(Non-Coal)	06/05/09
AML 17F	Copper Mountain Phase 3	(Non-Coal)	06/08/09
AML 17G	Reliance Mine Fire Abatement	(Coal)	06/19/09

Table 4. ATPs issued in EY 2010.

AML 7F-6	Big Ditch Rehabilitation Project	(Coal)	07/15/09
AML 17J	Campbell County Mines	(Coal)	07/30/09
AML 17L	Muddy Gap and Old Spencer Mines	(Coal)	07/31/09
AML 7F6P2	Big Ditch Rehabilitation Project, Phase 2	(Coal)	08/25/09
AML 17H	Sweetwater Contract D	(Coal)	10/21/09
AML 17I	South Pass Shafts, Rutio Mine	(Non-Coal)	10/21/09
AML 17L	Albany and Carbon Co., BLM Group 1	(Coal)	12/15/09
AML 17L	Albany and Carbon Co., Private Sites	(Coal)	12/15/09
AML 17F	Converse and Natrona Co., Phase 2 Private	(Coal)	02/04/10
AML 17F	Converse and Natrona Co., Phase 2 Public	(Coal)	02/16/10
AML 17H	Sweetwater Co., South Rock Springs, Private	(Coal)	03/04/10
AML 17H	Uinta County Jakes Mine	(Coal)	04/07/10
AML RR	Elmo-Hanna No. 4 Subsidence Rapid Response	(Coal)	04/12/10
AML 17J	Sheridan County Custer Mine	(Coal)	05/04/10
AML 17L	Dana and Hanna Mine Group	(Coal)	06/16/10

E. Overall Reclamation Success

The overriding goal of the Abandoned Mine Reclamation Program is reclamation success of all priority coal problems. If a problem consistently reoccurs, then OSM can identify the problem and suggest ways to correct the procedures if administrative, or to correct reclamation construction if design related. The 2010 evaluation focused on reclamation success at earlier reclaimed sites and recent reclamation efforts during the evaluation period. The sample for the evaluation of reclamation success consisted of several Sheridan area coal mines.

1. Kleenburn Mine

The Kleenburn Mine (PAD No. WY033363SGA) was an open pit mine located northwest of the town of Sheridan, in Sheridan County, Wyoming on County owned lands in Sections 21 and 22, Township 51 North, Range 84 West.

The mine site contained flooded pits with steep banks that would hinder escape from cold water if fallen into. The site also contained steep and unstable spoil piles in an area where off road vehicle use was common, and exposed slack that was recently set afire by fireworks exploded at the site. The pits are stocked as a fishery by the Wyoming Game and Fish Department, and fishing is encouraged. This activity increases the danger, especially to children, of entrapment along the steep banks of the flooded pits. Since the property is publicly owned and actively used for a variety of recreational pursuits, County officials have expressed safety and liability concerns over mining related hazards on this site.

The reclamation plan included 1) reduction of highwalls along the flooded pits, 2) removal and recontouring of dangerous spoil piles, and 3) removal and burial of surface coal slack. In cooperation with the County government, the site would be developed for final use as a public recreational area.

An ATP was issued by the CFO for the project on February 20, 2009, and the project was

initiated by the WYAML. The construction met all goals, eliminating highwalls, regrading slack piles, disposing of surface coal slack and reclaiming 17.9 acres. In addition, the construction was conducted in cooperation with the Sheridan County Government and Wyoming Game and Fish Department, building parking areas with appropriate signage and fencing, installing a foot bridge across a narrows between two water filled pits, developing hiking trails and placing picnic tables along the trails. The Wyoming Game and Fish Department developed an adjacent area for parking of horse trailers and horse corrals for those desiring equestrian use of the area. Construction was completed in November of 2009, costing approximately \$410,000 with an additional \$40,000 being contributed by the County for tables, signage, special fencing materials and the foot bridge.

Overall, reclamation efforts were successful. The coal spoils area remained intact as constructed. Grading was still smooth with minimal rilling or erosion visible. Steep banks along the water filled pits were graded to a three to one slope, saving many trees and as much streambank vegetation as possible. Grassy vegetation on the recontoured areas was thick, exceeding the natural plant population count for the area. With the addition of public facilities provided by the County, the town of Sheridan now has a fully developed and actively used outdoor park for fishing, hiking and picnicking.



Figure 1. Reclaimed coal pit and hazardous water body at Kleenburn Mine with preserved vegetation along banks and coal waste buried in grassy area.



Figure 2. Reclaimed waste pile at Kleenburn Mine showing two-month old vegetation. Gravel covered walking trail to right.

2. Carney Mine Reclamation

The Carney Mine (PAD No. WY072859SGA) was a severely subsided area located northwest of Sheridan, in Sheridan County, Wyoming in Sections 17 and 20, Township 57 North, Range 84 West.

The Carney Mine contained multiple subsidence pits with abrupt drops that made driving vehicles or ATVs in the area hazardous. Off-road vehicle use was common which increased the risk of serious accident. In some cases, subsidence was deep enough to trap livestock. The mine area is located adjacent to a public recreation area, Kleenburn Park, and has been open to the public as a walk in hunting area.

An ATP was issued by the CFO on May 15, 2009 for AML Project 17J – Carney Mine Reclamation. The construction project addressed widespread subsidence features over approximately 45 acres where unstable ground had subsided into dangerous pits, some of which opened into hazardous underground mine workings. Where subsidence opened to the workings, more substantial bulkheads were installed at the bottoms of the open subsidence features before being backfilled and graded. A total of 58 subsidence features were backfilled. Final contouring was performed to establish positive drainage away from subsidence and known workings, and the area was reseeded to native vegetation species. The filling and reduction of dangerous subsidence pits improved public safety, as well as creating safer working conditions for ranching personnel at the site. Once positive drainage was restored, less water would be captured by the subsidence features and there will be less water infiltration to perpetuate subsidence activity. At the time of the site visit, erosion by rilling was not visible on the site and revegetation was beginning to sprout. The reclamation project cost approximately \$302,000 and was completed on May 29, 2010.



Figure 3. Carney Mine at 1 month following completion. The Kleenburn Recreational Area is just to the right of the Interstate road sign.

3. Hidden Waters Reclamation Project: Ash Creek, Big Horn and Randall Strip Pits

The Hidden Waters Reclamation Project included the Ash Creek (PAD No. WY000006SGA), Big Horn (PAD No. WY032044SGA) and Randall Strip Pits (PAD No. WY000001SGA). The Ash Creek Pit is located in Township 57 North, Range 85 West, Sections 1; the Randall Strip Pit is located in Township 58 North, Range 85 West, Section 36; and the Big Horn Strip Pits are located in Township 58 North, Range 85 West, Sections 35 and 36, and Township 57 North, Range 85 West, Sections 1 and 2. The project area is located northwest of Sheridan in Sheridan County, Wyoming. These mines cover a relatively large area that is accessible and visible from a heavily traveled, improved gravel road that runs through them.

Reclamation of Priority 1 and 2 problems at these mines was accomplished in 1998 under past AML projects; however, not all hazards could be addressed at the time. The current landowner has given consent for work on the remaining hazards. The Hidden Waters Reclamation Project addressed remnant highwalls, dangerous impoundments, and dangerous spoil piles left over since the initial reclamation. The entire area was crisscrossed with two track four-wheel drive roads and ATV trails which led to the impoundments, crests of highwalls, and up and down dangerous spoil piles. The goal of work at these sites was to reduce dangerous highwalls, dangerous piles and embankments and a hazardous impoundment. Site stabilization was accomplished through a combination of spoil pile reduction, highwall backfill, slope layback, and drainage improvement. When stabilization was completed, the area was contoured to blend with the natural terrain and revegetated.

An ATP was issued for the Hidden Waters Reclamation Project by the CFO on March 2, 2007. Phase 1 of the project involved the Big Horn Strip Pit – South Half area. Construction was initiated in July of 2008 and was completed on May 26, 2009. The project eliminated dangerous highwalls above large water bodies and corrected plugged

drainages. Water quality was improved substantially by eliminating excessive erosion. In total, 66.5 acres were reclaimed with the removal and burial of 1,218,762 cubic yards of unclassified spoil materials, and the placement of 72,765 cubic yards of cover soil and topsoil. Special effort was made to preserve existing trees and small ponds. Superior vegetation growth was evident on all newly reclaimed areas and was credited to the use of *micorrhizal* fungi inoculation with native grasses and clover. An abundantly wet spring also contributed to successful revegetation. Total cost for Phase one was \$1,663,847.

Phase II of the Hidden Waters Project-North Half area is scheduled to commence in August of 2010. The goals are to remove dangerous unstable highwalls above water bodies, correct plugged drainages and improve water quality due to excessive erosion. It is anticipated that 1,750,000 cubic yards of unclassified spoils will be moved and 186,000 cubic yards of cover soil and topsoil will be placed over 178 acres.



Figure 4. Hidden Waters mine site. Coal waste removal and burial in center foreground, seeded in May of 2009. High walls in background will be addressed in Phase II, August, 2010.



Figure 5. Revegetation at the Hidden Waters Site one year after seeding. Note bright green area in center and right of the roadway showing inoculation with *micorrhizal* fungii.

F. Emergency Investigations and Abatement Efforts

Wyoming does not have an Emergency Program *per se*, nor does it rely on Federal assistance in the treatment of emergencies. Instead, the WYAML has an internal Rapid Response system where the WYAML has established a reserve fund designated for the treatment of emergency situations. WYAML treats the emergency as any other coal problem, preparing data sheets, PAD forms, National Environmental Protection Act documents – usually as a “Categorical Exclusion,” and conducts expedited consultation with U.S. Fish and Wildlife Service and the State Historic Preservation Office. WYAML has an engineering firm and a construction contractor available under a rapid response state wide contract to deal with emergencies. WYAML usually notifies CFO of the need for a rapid response action and once all critical data is received, the CFO proceeds to issue an ATP on the project as quickly as possible.

WYAML had one rapid response action in Evaluation Year 2010. The project involved a subsidence in a residential back yard in Elmo, Wyoming (Figure 6) which was subsequently recorded as Elmo Hanna No. 4 Subsidence (PAD No. WY001786SGA). WYAML investigators and engineer were on site evaluating the problem within three days of report. CFO issued an ATP on April 12, 2010 and the construction contractor was on site filling the subsidence within a week of the report. The entire process of notification, investigation, consultations, approvals and construction took less than three weeks to complete.



Figure 6. Mine subsidence hole in backyard of an Elmo, Wyoming residence. The subsidence hole measured 3 x 4 feet and was nine feet deep.

G. Public Outreach

WYAML continues to solicit public comment and input on individual projects and the program at large. WYAML publishes “Notices of Intent to Perform Reclamation” for each proposed reclamation project in local and state newspapers and on its website, and solicits public comment and requests for public meeting participation. No public meetings on reclamation projects were requested by the public in evaluation year 2010. Prior to awarding a reclamation contract, WYAML conducts a mandatory pre-bid meeting for all potential bidders. The purpose of the meeting is to explain the nature of the reclamation project, provide a site visit for the contractors and clarify any uncertainties a potential bidder may have. At the end of each reclamation project, a statement “Intent to Make Final Payment” is published in the Casper Star Tribune newspaper before the contract is closed. This allows an opportunity for the public to comment on the acceptability of the reclamation project as completed before final payment is made. If the project involves public facilities, the State Loan and Investment Board provides additional opportunities for public input prior to rendering a final decision on each project.

One informational meeting was conducted in Hanna, Wyoming to discuss the overall plan for coal mine reclamation and waterway reconstruction in the area. Individual meetings will be held for each construction project planned for the immediate vicinity of Hanna.

In response to changes in SMCRA as amended in the 2006 Tax Relief and Health Care Act, P.L. 109-432, WYAML proposed several amendments to their AML reclamation plan. WYAML conducted three public meetings, held in Sheridan, Glenrock, and Rock Springs, to inform the public of proposed regulatory changes in the AML program prior to submittal to OSM. Proposed changes to the State AML Reclamation Plan are still in process.

WYAML maintains an excellent web site at <http://deq.state.wy.us/aml/> that includes links to information on AML dangers, a calendar of upcoming projects, current construction bidding, project selection, department contacts, rules and regulations, and professional procurement information. Also included are instructions describing how to report mine hazards.

H. Maintenance of Records

1. Data Management System

WYAML maintains an inventory of all abandoned mines identified within the State of Wyoming. The database is listed on a site by site basis recording all relevant data that may later be entered into AMLIS. The database includes site location, type, description and status such as priority, reclaimed, or certified reclamation complete. All reports of investigation are entered into the database as a PDF file attached to the individual site entry. Hard copies of all electronic files are maintained as both open files and shelf entries. Entries into AMLIS are derived from data in the State inventory.

2. Integration with AMLIS

WYAML generally follows AMLIS guidelines to develop PADs and enter them into the AMLIS data bank. WYAML uses criteria very similar to AMLIS guidelines to prioritize its coal problems but considers additional factors specific to Wyoming such as recreational activities, land uses, and settings. Once entered in AMLIS, the specific PAD is then appended to the ATP request package submitted to the CFO.

OSM has given data entry privilege to WYAML for modifying existing PADs in AMLIS. This action allows WYAML to correct and eliminate double entries, to modify, delete and add specific entries on individual PADs, and enter new PADs as necessary without OSM intervention on each action. However, all PAD modifications and new entries are subject to approval by the CFO Director. During the 2010 review period, WYAML has made the following modifications to AMLIS:

New entries	2
Coal sites updated	3
Completions added to records	36
Moved to funded	38
Non-coal completed	9
Public facility completed	1

WYAML has made a commendable effort in finding and correcting errors, and updating information in the database. Progress has been made and it is anticipated that the AMLIS database will be completed in the near future.

During 2010, the AMLIS system was being redesigned and rebuilt resulting in months of down time where entries could not be made, nor data retrieved. This has resulted in difficulties for the WYAML in entering data onto individual PADs as well as difficulties for the OSM reviewer in retrieving and reviewing data entered into AMLIS. As the new E-AMLIS was not in operation when this report was prepared, data as shown in Table 1 was obtained from the Public Access portion of "Legacy AMLIS."

V. Conclusions

OSM has completed its evaluation of topics specified in the Performance Agreement between WYAML and OSM. This evaluation specifically examined five topic areas to evaluate WYAML performance:

- 1) AML Grant Fiscal and Administrative Controls;
- 2) WYAML's Progress in Reclamation of Outstanding Coal Problems;
- 3) Overall reclamation Success;
- 4) Public Outreach; and,
- 5) Integration with AMLIS.

WYAML receives the largest grant of moneys from OSM for any program in the country. The Wyoming Legislature directly controls the allocation of those funds with a minimum of \$30,000,000 being directed to the WYAML, and the balance being allocated to research and mineral related projects of Legislative choice. In 2010, the Wyoming legislature directed \$33,280,000 to the WYAML. WYAML manages its allocation in a fiscally responsible manner with 95.2% of its allocation going to reclamation construction costs and only 4.8% to administrative cost.

WYAML currently lists 498 coal sites of which 264 have been completed, 49 have been funded and 185 remain to be addressed. Although WYAML continues to address non-coal sites in order to complete in-progress projects, WYAML has re-directed its emphasis to coal problems. It is anticipated that more coal reclamation projects will be conducted in the future.

WYAML has conducted excellent reclamation at the Sheridan area sites reviewed in this evaluation. All projects completed conform to the treatment plans as developed, and the quality of construction is clearly evident. Reclamation at the Sheridan area sites clearly exceeds expectations as demonstrated in successful natural contour design, high altitude re-vegetation and the quality of project design, management and construction.

WYAML continues to publish project notices and solicit feedback from Wyoming residents. There were no project specific public meetings other than pre-bid meetings for contractors conducted in evaluation year 2010. One informational meeting was conducted in town of Hanna for the benefit of its residents.

There have been great strides to improve the quality and accuracy of data entries in the AMLIS system, with many old entries being corrected and updated, and new coal PADs being entered. Wyoming also maintains a very detailed State inventory of mining properties in both electronic and hard copy open file and shelf formats. We recommend WYAML continue to refine its inventory data and enter coal PADs in AMLIS to accurately show the number, nature and priority of unreclaimed coal problems remaining in the State.

Overall, WYAML has performed its duties admirably and has adhered to its AML Reclamation Plan. WYAML is recognized by OSM for the performance and quality of its work.

APPENDIX A: State Comments and CFO's Responses to the Draft Annual Evaluation Summary Report

On August 25, 2010, the WYAML Program Manager provided oral comments on the report. There were eight grammatical changes in word choice or sentence clarification, all of which were accepted by OSM. There was also the request to include involvement with the State Historic Preservation Office and the Montana AML program as Program Interactions. This request was also accepted by OSM.