



OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

ANNUAL EVALUATION SUMMARY REPORT

FOR THE

ABANDONED MINE LANDS PROGRAM

MONTANA

EVALUATION YEAR 2005

(July 1, 2004 to June 30, 2005)

October 13, 2005

MONTANA ABANDONED MINE LANDS PROGRAM ANNUAL REPORT

Part I. Introduction

The Montana Abandoned Mine Land Reclamation (AMLR) program continues to administer an excellent reclamation program under the guidelines of the Surface Mining Control and Reclamation Act (SMCRA), the Federal Assistance Manual and associated regulations. The Casper Field Office (CFO) of the Office of Surface Mining (OSM) conducts oversight activities in regard to the Montana program, and the topics of the oversight report were selected in concert with the Montana Department of Environmental Quality (DEQ), Mine Waste Cleanup Bureau (MWCB). The Montana AMLR program was initiated in 1980 and for the next ten years the State concentrated on abating the hazards left by past coal mining practices. In 1990 the State certified that all known coal problems had been addressed and they were then authorized by OSM to begin reclaiming the multitude of high priority non coal hazards in their inventory. However, any abandoned coal hazards that are discovered must still be given priority funding over non coal projects, and this requirement has been followed by the State. The evaluation methods used to produce this report are based on OSM Directive AML-22 and associated regulations. This report covers the period of July 1, 2004 thru June 30, 2005.

Both the design and construction portions of each AML project are completed by private contractors. The State has established a bid process to obtain the most qualified design and construction companies' at the most cost effective price. The design and specification work is accomplished during the winter months when most outside work is impractical, and the actual reclamation work starts as soon as weather and ground conditions will allow heavy equipment to be moved to the site. Many of the sites presently being reclaimed are in mountainous terrain and at high altitudes. This may drastically shorten the amount of time available for reclamation work because of snow, ice and mud. A part of the responsibility of each design contractor is to provide an inspector for the construction work. This inspector will be on site during working hours to ensure that the work is being completed according to the plans and specifications that have been approved by the MWCB.

Staff personnel of the MWCB are very knowledgeable and dedicated to the completion of the program goals. An excellent working relationship exists between the staff of the MWCB, the CFO staff, and the State and Federal agencies that must be contacted during the course of preparing projects for reclamation. The MWCB personnel spend most of the construction season in the field coordinating and supervising the reclamation work, and preparing future projects for reclamation. Some construction work may continue into the winter months but the staff primarily spends this time of the year working with the

design contractors to get projects ready for the upcoming construction season. One AMLR Consolidated Grant was awarded to the State during this evaluation period and it was approved well within the government performance period of 60 days.

Part II. Noteworthy Accomplishments

Although this was mentioned in last year's report, we felt it's worth mentioning a second time. The most noteworthy accomplishment of this evaluation period for the MWCB was the reclamation of the Montana Silver Smelter Site, which is described in Part III below. The Abandoned Mines Section Manager for the MWCB, who was also the project officer on the project, received the Governor's Award for the outstanding reclamation of this project. The extremely toxic site is heavily utilized by the general public, and a national Lewis & Clark celebration drew over 150 thousand people to the area during the summer of 2005. The 2.1 million dollar project was finished in one year from the initial investigation. This required extraordinary coordination and cooperation from several local, State and Federal agencies. It was the first time in the history of the Montana AML program that a project of such magnitude was completed in such a short time period.

Part III. On-Site Evaluation of Reclamation Projects

The Montana Silver Smelter Project is located inside Giant Springs State Park at Great Falls. The smelter structures have been long removed from the site and there is little evidence remaining as to the historic extent of the smelting complex. Investigations revealed that an area of 40 acres had high levels of lead, arsenic, cadmium and iron, with the highest levels where the slag was dumped near and into the Missouri River. Several fish hatchery employees and their families reside on the site near the river and their yards were found to be extremely toxic. The soil had to be completely excavated down to the base of the foundations of the residences and each yard sealed and completely reconstructed with clean fill. The site is also heavily utilized by the general public because of the large, adjacent State Park and fish hatchery.. A Lewis & Clark museum adjacent to the State Park attracted thousands of tourists to the area for the Lewis & Clark bicentennial celebration in 2005. The only visible remains of the site now are the base of a chimney stack, which is fenced for an interpretative station, and a rock wall that keeps the hill from sloughing down on to the road that traverses the area. As a result of massive coordination with State, Federal and local officials and the families residing on the site, the 2.1 million dollar project was completed in one year from the time the first investigations were started. The project officer received the Governor's Award for Excellence for the reclamation of the project.

The Big Ox Mine and Mill site was completed last year and the first year vegetation growth was excellent. The old buildings on the site were considered to be historic and were not disturbed by the reclamation, but they are rapidly deteriorating due to natural weather conditions. See photo #1.



Photo #1 Big Ox Mine & Mill Site the first year after seeding. Structures in the background have been determined to be Historic Sites.

The Shelby Sand and Gravel Pits were reclaimed during the evaluation period. This is a 73 acre site where pre-law and unauthorized removal of sand and gravel made a "moonscape" out of the property. See photo #2. The site was mined before reclamation requirements were put into place for sand and gravel mining in Montana. The site had several deep pits with associated highwalls as well as barren areas where coarse gravel material was left at the surface. The site is close to the town of Shelby and has been utilized as an unauthorized trail bike and 4-wheeler area. The site is on State School Trust land and the State wanted the site reclaimed before a serious accident occurred. Several tipi rings were found just off the planned project boundary but a cultural resource survey found nothing on the site.



Photo #2. Shelby Gravel Pits approximately 73 acres in size. Town of Shelby in the background.

The Boaz and Grubstake Mines were both gold and silver mines that were a few hundred yards apart in mountainous terrain. The Boaz Mine had a large tailings pond with a

contaminated drainage, and several spoil piles. Photo #3 shows the pond and drainage after reclamation. Both the Boaz and Grubstake mines are in the first year of vegetative growth.



Photo #3 Boaz Mine site after reclamation of old eroded mine tailings.

The Gregory and Bertha Reclamation projects have been completed, and some maintenance work had to be done on the Bertha site. The Gregory site looks good and vegetation is covering the site. The only thing that reminds you that it is a reclaimed mine site is the example of historic mine construction that was preserved during reclamation. See photo #4. The repository at the Bertha site was constructed to prevent water from leaching through the mine waste. An evaporation pit was constructed and fenced to aid in the removal of any water that might leach from the repository in the future. The gate had been torn down on the site and signs of unauthorized vehicle use were seen. The gate was repaired and the chain and lock were replaced to help keep vehicles off the new vegetation.



Photo 4. Gregory Mine site with the historic rock foundation surrounded by the first year's vegetative growth resulting from the previous year's reclamation efforts.

Part IV. Fiscal and Administrative Controls

CFO conducted financial oversight for the evaluation period. CFO visited DEQ offices in Helena, Montana and reviewed financial information. Specifically, drawdowns, property management, timeliness and accuracy of grant applications and reports, payroll charges, A-133 Audits, indirect costs and travel were reviewed.

A drawdown analysis was conducted for the open AML grants. The sample covered all of EY2005. Excess funds were not being held.

DEQ continues to report property and transfer of property in a timely matter. A new property inventory was taken during EY2005, meeting Common Rule requirements.

The State was timely and accurate regarding their grant application and they submitted cost reports on time. During the evaluation year DEQ submitted a Helicopter Financial Report Summary reflecting the correct breakdown of helicopter expenses to include costs of helicopter flight time by the Title IV program. Costs of non-Title IV helicopter flight time were properly reported as program income. This detailed accounting of helicopter expenses and use resolved deficiencies from the previous evaluation year. Since DEQ satisfied OSM's reporting requirements related to the helicopter, OSM released the \$50,750 that was originally withheld from the FY2004 Title IV grant and made the funds available in the FY05 grant for helicopter use.

CFO reviewed payroll to ensure that those being paid salaries from the AML grant were individuals actually assigned and working for the program. No problems were found.

An A-133 Audit has been completed including the Title IV program for two years ending June 30, 2003. There were two findings for the Title IV program; both have since been resolved. There were no questioned costs. A new A-133 Audit for the two year period ending June 30, 2005 is currently being prepared and has yet to be released.

DEQ is current with their indirect cost rate. The latest negotiation agreement was negotiated for one year ending June 30, 2005. Negotiation for a new indirect rate for the subsequent year has been submitted to the cognizant agency.

Part V. Public Participation

The Montana AML Plan requires that the public be afforded the opportunity to offer comments on abandoned mine reclamation projects. The MWCB considers the public an important component of the reclamation program, and conducts a public meeting in the community nearest each project. The meetings are well publicized and are held in the evenings or on weekends to allow maximum citizen participation. The overall plan for the project area, construction design, maps, overlays and aerial photographs are available and discussed at each public meeting. Individuals may submit comments in writing, or meet with the project managers at any time prior to completion of the comment period on a project. Project managers also meet with affected landowners to explain each project in detail, and keep them informed of the progress throughout the construction phase. Work plans are often altered to conform with comments received from landowners, contractors and the general public. Public meetings have been held in several communities in the Great Falls/Lewiston Coal Field to keep the citizens updated on the problems and

progress of research to abate the acid mine drainage concerns from the areas abandoned coal mines.

Part VI. Acid Mine Drainage

Acid Mine Drainage (AMD) is found throughout the State in both coal and non coal abandoned mines, but the heaviest concentrations of AMD are found in the Great Falls/Lewistown Coal Field area. With normal reclamation procedures, the MWCB is able to control or eliminate most of the AMD from the non coal mines. However, the 400+ abandoned coal mines in the 5000 square miles of the Great Falls/Lewistown Coal Field continue to pose an unmanageable AMD problem with the funding level the State receives and the technology that is presently available regarding the treatment of AMD. The only method currently available to treat the widespread AMD problem found in this extensive abandoned coal field is to construct a large water treatment plant, or several smaller plants, at strategic locations. The polluted water could then be piped from throughout the area into the treatment facility or facilities. The cost of the treatment facilities and the pipeline necessary to handle the AMD could easily run as high as twenty times the annual AML allocation received by the State, and this does not include the cost of any maintenance or the routine operation and maintenance of the system once it is in use. The MWCB has completed a considerable amount of abandoned mine reclamation in this area of the State, and they are still attempting to control the AMD situation through conventional methods of reclamation. Some of these methods work for a short period of time but are not acceptable for long term use. The MWCB continues to monitor scientific advancement in the prevention and treatment of AMD in anticipation that a cost effective treatment method will be found.

Part VII. AMLIS Inventory Maintenance

The MWCB considers inventory maintenance a high priority and accomplishes it in an excellent manner. The staff of the MWCB spends the entire summer construction season in the field supervising the reclamation of abandoned mine sites, so information regarding completed sites is not compiled and entered into the AMLIS until weather conditions prohibit the continuation of outside work. However, new sites are entered into the system as soon as they are discovered, and funding status is adjusted as it occurs. When the authorization to proceed with a reclamation project is sent to the State, it includes instructions to move funding from the unfunded column to the funded column in AMLIS and send verification of this change to the CFO.

CHART I

Montana 2005

Additional AML Projects That Are Construction Ready If Funding Were Available

PROJECT	COST	ECONOMIC IMPACT		ENVIRONMENTAL BENEFIT
		Income	Employment	
Toston Smelter	\$0.30 million	0.84 million	18	3 acres reclaimed
East Pacific Mine	\$1.20 million	3.5 million	92	12 acres reclaimed
Goldsil Millsite	\$1.5 million	4.4 million	204	20 acres reclaimed
Elkhorn Cr. Tailings	\$1.70 million	3.85 million	132	8 acres reclaimed
Emery Mine	\$0.50 million	1.25 million	39	18 acres reclaimed
Sunrise/January Mine	\$0.50 million	1.25 million	39	5 acres reclaimed
Frohner Mine	\$0.50 million	0.95 million	24	5 acres reclaimed
Snowshoe Mine	\$0.75 million	1.88 million	58	20 acres reclaimed
Garnet Gold Mine	\$0.25 million	0.63 million	19	5 acres reclaimed
Washington Mine	\$1.60 million	4 million	124	10 acres reclaimed
Champion Mine	\$0.46 million	1.15 million	35	5 acres reclaimed
Lily/Orphan Boy Mine	\$0.35 million	0.88 million	27	1 acre reclaimed
Forest Rose Mine	\$0.80 million	2 million	62	10 acres reclaimed
Bald Butte Mine	\$0.70 million	1.84 million	54	10 acres reclaimed
Great Republic Smelter	\$0.70 million	1.84 million	54	7 acres reclaimed
Montro Gold	\$.20 million	0.78 million	16	5 acres reclaimed
Gold Leaf/Priscilla	\$.70 million	1.84 million	54	5 acres reclaimed
Bluebird Mine	\$1.10 million	5.1 million	240	12 acres reclaimed
McLaren Tailings	\$4.68 million	8.0 million	280	17 acres reclaimed
Silver Creek	\$4.00 million	7.4 million	260	80 acres reclaimed
TOTALS	\$22.49 million	53.38 million	1831	258 acres reclaimed

Chart II
Montana 2005
Acres and Hazards

HAZARD STATUS	6/30/2004 STATUS	FY 04 AMLIS ADDITIONS	RECLAIMED IN FY 2004	6/30/2005 STATUS
BE Bench	0.8	0	0	0.8
CS Clogged	32.5	1.2	1.2	32.5
CSL Clogged Stream Lands	184.6	2.1	2.1	184.6
DH Dangerous Highwalls	22460.0	0	0	22460.0
01 Dangerous Impoundments	3.0	0	0	3.0
DP Ind/Res Waste	75.8	13.9	0	89.7
OPE Dangerous Pile	448.5	3	0	451.5
OS Dangerous Slide	0.9	0	0	0.9
EF Equip/Facil	58.0	0	0	58.0
GHE Hazard	1.0	0	0	1.0
GO Gobs	147.2	2	0	149.2
H Highwalls	1170.0	0	0	1170.0
HEF Hazard Equip	911.0	22	4	929.0
HR Haul Road	0.5	0	0	0.5
HWB	9.0	0	0	9.0
IRW Indust/Resid	980.0	104.3	57.7	1026.6
MO Mine Opening	230.0	0	0	230.0
P Portal	1247.0	50	2	1295.0
PI Pits	34.1	0	0	34.1
PW AI Polluted Water	17.0	0	0	17.0
PEHC Polluted Water	12.0	0	0	12.0
S Subsidence	494.1	0	0	494.1
SA Spoil Area	874.7	0	0	874.7
SB Surface Burning	301.9	3	0	304.9
SP Slump	18.5	0	0	18.5
UMF Underground	68.8	0	0	68.8
VO Vertical Opening	663.0	44	2	705.0
WA Water Problems	2740.5	0	0	2740.5

**Chart # III Montana
2005
Completed Projects**

Project Name	Project Cost	Environmental Benefit
Wickes Reclamation Project	\$2,379,248	CS, CSL, IRW
Keene #1 Coal Reclamation Project	\$104,371	HEF, P, VO, DPE
Shelby Sand and Gravel Reclamation	\$422,801	DHW
Nick Locken Coal Mine Maintenance	\$785	VO, S
Parkhurst Coal Mine Maintenance	\$5200	VO, S
Royan Coal Mine Maintenance	\$900	VO, S
Gregory Maintenance	\$2,282	other
Coal Creek Maintenance	\$18,885	VO, S
Bertha Maintenance	\$5,715	Other
Alta Maintenance	\$819	Other