



OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

ANNUAL EVALUATION SUMMARY REPORT

FOR THE

ABANDONED MINE LANDS PROGRAM



TABLE OF CONTENTS

I.	Introduction	3
II.	General Information on the Montana Program	3
III.	Noteworthy Accomplishments	5
IV.	Montana Utilization of OSMRE Technological Assistance.....	5
V.	Results of Evaluation Year 2007 Review.....	7
VI.	Acid Mine Drainage	9
VII.	Public and Interagency Participation	10
VIII.	Accomplishments and Inventory Reports.....	11
	Chart 1: Montana 2007 Construction Ready Projects.....	12
	Chart 2: Montana 2007 Acres and Hazards Remaining	13
	Chart 3: Montana 2007 Completed Projects.....	14
	Chart 4: Montana 2007 Projects Under Construction.....	15
IX.	Photos	16
	Appendix A: State Comments and CFO Responses to State Comments	

MONTANA ABANDONED MINE LANDS PROGRAM ANNUAL REPORT

Part I. Introduction

Evaluation of the state reclamation program is conducted by the Casper Field Office (CFO) of the Office of Surface Mining (OSM). The 2007 evaluation period started on July 1, 2006 and concluded June 30, 2007. Evaluation methods are based upon OSM Directive AML-22 and a Performance Agreement (PA) between the State and OSM. This agreement incorporates a shared commitment by the State and OSM in determining how annual evaluations will be conducted. The State takes an active role in the entire evaluation process. The process is designed to evaluate whether the State, through its Abandoned Mine Land Reclamation (AMLR) program, is achieving the overall objective of Section 102 of the Surface Mining Control and Reclamation Act (SMCRA) which states that AMLR programs are to:

"... promote the reclamation of mined areas left without adequate reclamation prior to the enactment of this Act and which continue, in their unreclaimed condition, to substantially degrade the quality of the environment, prevent or damage the beneficial use of land or water resources, or endanger the health or safety of the public ..."

As a result of the PA, specific topics were identified for review and review methodologies were developed for the evaluation period, in concert with the State. The review methodologies are described in detailed oversight work plans, developed for the review of each specific topic. The reviews were designed to result in an overall measure of the State's success in achieving planned reclamation goals. By focusing on end results, OSM is able to determine the root causes of problems (if any) and concentrate its resources on prevention by providing assistance to the State for any needed program improvement. The specified topics selected for review were those identified by OSM and the State from past experience which have the most potential for preventing the State from achieving their planned reclamation goals. At the end of the evaluation period, OSM prepared this annual report and gave the State the opportunity to comment on its contents.

Part II. General Information on the Montana Program

On November 24, 1980, the Secretary of the Department of the Interior approved the Montana AMLR Plan under the provisions of Title IV of SMCRA. With that approval, the State assumed primary authority for the reclamation of non-emergency abandoned mine land (AML) reclamation projects within the State. On August 18, 1983, the Secretary approved Montana's April 20, 1983, amendment to its AMLR Plan allowing Montana to assume responsibility for an emergency response reclamation program. The

Montana Department of Environmental Quality (DEQ), Mine Waste Cleanup Bureau (MWCB) currently administers these programs.

The Montana Abandoned Mine Land Reclamation (AMLR) program continues to operate under the guidelines of SMCRA, the approved State Reclamation Plan, the Federal Assistance Manual and associated rules, regulations and policy decisions. The State administers an excellent AMLR program in full compliance with their approved AMLR Plan.

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.

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. In recent years the construction season has also been shortened by wildfires which necessitate special operating conditions shortening the allowable work days. 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. No problems or issues exist in the Montana AMLR program.

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

AMD	Acid Mine Drainage
AML	Abandoned Mine Land
AMLIS	Abandoned Mine Land Inventory System

AMLR	Abandoned Mine Land Reclamation
CFO	Casper Field Office
DEQ	Department of Environmental Quality
EEE/CA	Expanded Engineer's Estimate and Cost Analysis
MWCB	Mine Waste Cleanup Bureau
OIG	Office of the Inspector General
OSM	Office of Surface Mining
PA	Performance Agreement
PAD	Problem Area Description
SMCRA	Surface Mining Control and Reclamation Act
USDA	United States Department of Agriculture

Part III. Noteworthy Accomplishments

The Montana DEQ-MWCB was recognized for environmental excellence by OSM at its annual Abandoned Mine Land Reclamation Awards held at the National Association of Abandoned Mine Land Programs annual conference September 26, 2006. The Overall National award for outstanding reclamation went to the MWCB's Comet Mine and Mill Abandoned Mine Land Project. The award is presented to an abandoned mine land reclamation project for exemplary reclamation and to give public recognition to those responsible for the nation's most outstanding achievement in land reclamation and to encourage exchange and transfer of successful reclamation technology.

One of the oldest mines in the Basin-Cataract Mining District, it was first mined about 1880, yielding copper, gold, zinc and silver while its mill served neighboring mines. Closed and dismantled in 1941, a sterile stream, abandoned mine pits and eroded toxic waste piles were ever-present reminders of the past activities at the 35 acre site. When reclamation began, heavy metals and metalloids including lead, zinc, copper, and arsenic had degraded water quality in High Ore Creek and significant amounts were being transported downstream to the Boulder River. In fact, fish could survive only 72 hours in High Ore Creek. The area was a danger to wildlife, livestock, and people.

A cooperative effort by the state of Montana, Bureau of Land Management, twenty private landowners, Montana Conservation Corps, the Western Resource Institute, and several contractors resulted in the restoration of four miles of stream channel on High Ore Creek, and the reclamation of the Comet Mine and Mill site as well as other mines in the watershed.

Part IV. Montana Utilization of OSMRE Technological Assistance

Mobile computing technologies continue to be employed by the Montana AML program in the aerial inspection program of existing and identification of previously undocumented, abandoned coal and hard rock mines throughout the state. The main goal of the aerial inspection program is to ground-truth the latitude and longitude locations of sites contained in the Montana Abandoned Mines Database which were calculated from location data originally collected in Township/Range/Section format. Secondary goals include inspecting the current site conditions, assessment of conditions at previously reclaimed sites, recording the conditions and photographing the sites.

The Montana AML Program's Bell Jet Ranger III helicopter is utilized for the aerial inspection program. The helicopter is equipped with a ball-turret attached under the nose of the aircraft that can be oriented in the vertical plane with cockpit controls. The ball-turret is rigged with a Nikon D100 5 Mega pixel digital camera and a Sony mini-cam, both of which are controlled from a laptop in the cockpit. The Sony mini-cam provides a live feed to a small monitor in the cockpit to provide a visual of the orientation of the cameras when the ball-turret is adjusted. This set-up allows aiming of the ball-turret, focus of the Sony mini-cam and activation of either camera. The digital camera can be pointed to provide both perpendicular and oblique photos of the mine sites. The digital images are stored directly to the laptop's hard drive eliminating the need to download later.

Montana AML currently utilizes a Garmin V Global Positioning System (GPS) receiver mounted in the helicopter and connected to the laptop running ArcMap Geographic Information System (GIS) software with a GPS connection. This set-up provides real-time positioning for tracking the aircraft position on the laptop screen and navigation to the mine point features loaded in the GIS map for position verification or recollection with GPS. Scripts are written to allow ArcMap to capture Lat/Long position of the aircraft from the GPS data and to capture updated position data for a mine feature (when hovering over the mine feature). The script then corrects the GIS position in ArcMap and inputs this updated Lat/Long information for the mine site point feature being inspected directly into a database loaded on the laptop. With this set-up the helicopter crew, consisting of the pilot and AML person, can collect accurate GPS location data, complete an inspection of site conditions and photograph a site normally less than 10 to 15 minutes. The set-up is invaluable for starting the flight search for the next site to be inventoried and for pre-mission flight planning. The route selection is important not only for efficiency in flight time between sites, but also for allowing the pilot to schedule refueling events to efficiently coincide with the planned inspection route. It also saves considerable time in not having to secure access from hundreds of landowners, many of who live out of state and have locked gates which necessitate getting a key from the landowner or a local resident.

Mobile computing technologies have enabled the Montana AML Program to perform an efficient aerial inspection program. The aerial inspection program of AML sites dispersed throughout all 56 counties of Montana's 147,000 square miles has saved hundreds of man-hours that would have been required for conventional land-based inspections involving thousands of miles of vehicle travel to the remote sites.

During the evaluation year TIPS supported the State of Montana by providing mobile computing hardware and software to support the program's electronic and mobile computing efforts. The hardware and software consisted of a Fujitsu Stylistic Tablet computer, Trimble Pathfinder XB GPS receiver, a Teletype Compact Flash Card GPS receiver and ArcPad 7.0 software. With assistance from OSM-CFO staff and TIPS, Montana AML anticipates incorporating the Montana Abandoned Mines Database into an ArcGIS geodatabase. GPS data collection using ArcPad with the capability to check-out and check-in data for GIS database update and the direct connection of a digital camera to ArcPad will streamline the aerial inspection process resulting in further reductions of flight time.

A service manager visit was conducted at the Montana AML program offices to better understand the program's needs and to identify opportunities where Technology Transfer can better partner with Montana personnel as we work to implement AML solutions.

During the evaluation year two staff members of the Montana AMLR program attended TIPS training courses.

Part V. Results of Evaluation Year 2007 Review

The Montana Abandoned Mine Land PA was signed on February 23, 2006. It will apply to each year's evaluation through the 2007 evaluation year. The PA describes the team's purpose and the topics selected for review to evaluate the performance of the AML program. On-the-ground, performance-based results were the principal focus of program evaluation and documentation.

Results of the 2007 evaluations are summarized below. The evaluations included field visits to AML projects, interviews with DEQ-MWCB staff, and reviews of the AMLR Program's project specifications, grant applications and reports, and internal State and AMLIS inventories. The evaluation results are described in greater detail in evaluation reports, written for each review topic. Those reports are on file in OSM's CFO. Each topic was reviewed according to the methodology described in detailed oversight work plans. This report and the supporting topic evaluation reports describe the 2007 evaluations of four topics selected for review during the 2007 evaluation year.

A. Summary Evaluation of Overall Reclamation Success

Our 2007 evaluation of overall reclamation success determined if DEQ-MWCB's reclamation met project goals. The 2007 review sample included one non-coal reclamation project completed during evaluation year 2007, and two non-coal reclamation projects completed during evaluation year 2004. The projects completed during evaluation year 2004 were evaluated to determine long-term reclamation success. The project completed during evaluation year 2007 addressed an open adit, hazardous facilities, and hardrock mill tailings and waste rock dumps containing elevated levels of heavy metals. The project site is located adjacent to a creek and residences. One of the projects completed during evaluation year 2004 also addressed an open adit and hardrock mill tailings and waste rock dumps located adjacent to a creek and public road. The other project completed during 2004 addressed mineral processing wastes resulting from ore smelting containing extremely high concentrations of lead and arsenic. The project site is located adjacent to a State Park and fish hatchery along the banks of the Missouri River.

We compared DEQ-MWCB's reclamation to project specifications, results of interagency consultation, and other information. Our evaluation focused on determining whether reclamation met project goals by implementing the scope of work to abate original hazards, complying with conditions (if any) resulting from interagency consultation, and improving overall site conditions compared to pre-reclamation conditions. Generally, we agreed projects met their goals if abatement and reclamation measures were intact and functional and if no problems compromising those measures were apparent. We considered site conditions improved overall if hazards to public health and safety were abated and associated reclamation reduced environmental problems such as erosion and sedimentation while promoting revegetation.

We concluded that the non-coal projects we visited met their respective goals. DEQ-

MWCB met the goals of abating hazards and improving site conditions at the three non-coal projects. Approximately 40,427 cubic yards of mill tailings and mine wastes associated with abandoned hardrock mill and mine sites were excavated from streams and associated lands and disposed in appropriate repositories located off-site and constructed on-site. Approximately 107,638 Tons of smelter wastes associated with an abandoned mineral processing smelter were excavated from lands, including residential yards within the Giant Springs Fish Hatchery, and disposed in appropriate repositories located off-site and constructed on-site. Mine adits associated with abandoned underground hardrock mines were stabilized and backfilled. Hazardous equipment and facilities were removed.

B. Summary Evaluation of AML Emergency Investigations and Abatement Efforts

Our 2007 evaluation of AML emergency investigations and abatement efforts determined if the emergency criteria of the State AMLR plan are satisfied and the project(s) are completed as described in the AML Emergency Investigation report. The 2007 review sample included all AML emergency complaints received during the evaluation year, and all emergency projects completed during the evaluation year. During evaluation year 2007 the DEQ-MWCB received no citizen complaints of AML emergencies. Since no complaints were received, this topic could not be evaluated during the 2007 evaluation year.

C. Summary Evaluation of Abandoned Mine Land Inventory System (AMLIS)

Our 2007 evaluation of AMLIS determined if the information the State entered into AMLIS agrees with information in its files. This topic was mandated for review due to a September, 2004 report issued by Interior's Office of the Inspector General (OIG). The report criticized the accuracy of AMLIS data, based on the OIG review of AMLIS data for four eastern States' AML programs. The OIG's review concluded that AMLIS data did not match data in those States' files and recommended establishing "a quality control system that ensures that States, Tribes, and OSM, as applicable, review and certify the accuracy of data entered into AMLIS." In response to the OIG's recommendation, OSM required its field offices to implement two requirements. The first requirement is to "assure that each State and Indian Tribe AML program has procedures in place to ensure and certify the accuracy of data entered into AMLIS" as part of the FY2004 oversight (subsequently changed to FY2005). OSM Headquarters subsequently advised field offices to drop the certification requirement. As a result, the focus is to make sure States and Tribes have requisite systems in place. The CFO and Montana DEQ-MWCB chose to include this assurance as part of the evaluation year 2006 oversight. The evaluation year 2006 oversight determined Montana has such a system in place that is adequate to ensure accurate data is entered into AMLIS.

The second requirement implemented by OSM in response to the OIG's recommendation stated, "[o]nce these State and Indian Tribe procedures are in place, OSM will annually review a random sample of [PADs] to see if the information entered into AMLIS agrees with the information in the PAD." As a result, the focus is to make sure the data States and Tribes entered into AMLIS PADs (an integral part of AMLIS) agrees with the information in their files. The CFO and DEQ-MWCB chose to include this assurance as part of the evaluation year 2007 oversight. The evaluation goal was to determine if the information Montana enters into AMLIS, for projects completed during the evaluation year, agrees with information in its files. Since only one reclamation project was completed during the evaluation year, we also looked at three projects completed during the previous evaluation year (EY2006).

The DEQ-MWCB compiles data from EXCEL spreadsheets for input into AMLIS. Upon award of a construction contract after completion of the bidding process, the engineer's estimate and contractor's bid are entered into an EXCEL spreadsheet to maintain cost accounting throughout the duration of the construction project and to prepare contractor invoice forms. The Fiscal Officer maintains control of the EXCEL spreadsheet. At the completion of the project, construction quantities and costs are reconciled by the contractor and engineer, approved by the project manager and transferred to the Fiscal Officer for final reconciliation. The engineer completes the Final Construction Completion Report using the same engineer's estimate and format as originally prepared in the EEE/CA. The Project Manager enters the costing data from the Final Construction Completion Report into the AMLIS PAD completed category.

Completion information entered into AMLIS for the single project completed during the evaluation year and the three projects completed during evaluation year 2006 was analyzed and compared to the information contained within the DEQ -MWCB files.

We concluded the information the DEQ-MWCB entered into AMLIS for completed projects agrees with the information in its files.

D. Summary Evaluation of Public Outreach

Our 2007 evaluation of public outreach determined if the DEQ-MWCB is performing public outreach efforts by holding public meetings before applying for grants for new potential project areas. The Montana AMLR 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 to comments received from landowners, contractors and the general public.

The 2007 review sample included file data of project areas selected for AML reclamation during the 2007 evaluation year. During the evaluation year DEQ-MWCB selected one non-coal project area for reclamation. The file data contained a Public Meeting Attendance Record for the non-coal project. Public meetings for the other six reclamation projects that were either completed or under construction during the current evaluation year were conducted during the previous evaluation year(s).

We concluded the DEQ-MWCB is adhering to the public participation and involvement policy of the State AMLR plan by holding public meetings regarding potential AML project sites.

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 the Great Falls/Lewistown Coal Field 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. The MWCB is beginning to evaluate alternative mitigation concepts that focus on AMD source control, rather than active or chemical treatment of AMD. Source control could include plantings of deep-rooted alfalfa, on the surface above underground mine voids, to soak up excess surface water entering the mines. Procurement of alternative funding sources for AMD abatement is also being investigated.

Part VII. Public and Interagency Participation

The MWCB goes to great lengths to develop and maintain a good working relationship with all the State and Federal agencies it works with. This carries over into the relationship with local agencies and groups, and to the landowners who have AML sites on their land. This excellent working relationship is evidenced by a letter received by a DEQ-MWCB project manager during the evaluation year from a tenant/mining claim owner of the ongoing Big Chief Mine reclamation project. In the letter, the owner states, "The work effort being accomplished by the State, its contractors and subcontractors, which I observed during my site visit, was of the highest quality and the responses to the concerns of the local stakeholders being shown was truly a cut above anything that I personally have experienced or observed in any of the environmental cleanup efforts that I have participated in."

Habitat enhancement for wildlife is incorporated into each project where it is feasible, and the retention of surface water for landowners is a high priority. They have also recorded a significant amount of the mining history of the State to be provided to educational facilities, and to mitigate the loss of important cultural resources during the reclamation process.

The DEQ-MWCB provides further opportunities for public participation and involvement through its internet website and press releases. The MWCB posts Engineering Evaluation/Cost Analysis Reports of proposed projects, Reclamation Investigation reports, notices of public hearings of proposed AML projects and "A Guide to Abandoned Mine Reclamation." 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 VIII. Accomplishments and Inventory Reports

Several projects are presently ready for immediate construction if additional funding were to become available. These are listed in **Chart 1**. Since implementation of their approved AMLR program, the MWCB has eliminated safety hazards and threats to the environment posed by abandoned mines. Reclamation has involved coal and non-coal mines as provided for in SMCRA. **Chart 2** shows hazard categories reclaimed during the 2007 evaluation year and the status of hazard categories remaining at the end of the 2007 evaluation year. The hazard categories reclaimed (completed) during the 2007 evaluation year were addressed by the individual project listed in **Chart 3**. The hazard categories under construction (not completed) during the 2007 evaluation year were addressed by the individual projects listed in **Chart 4**.

CHART 1

Montana 2007

Additional AML Projects That Are Construction Ready If Funding Were Available

PROJECT	COST	ECONOMIC IMPACT		ENVIRONMENTAL BENEFIT
		Income	Employment	
Toston Smelter	\$0.33 million	0.84 million	18	3 acres reclaimed
East Pacific Mine	\$1.32 million	3.5 million	92	12 acres reclaimed
Goldsil Millsite	\$1.6 million	4.4 million	204	20 acres reclaimed
Elkhorn Cr. Tailings	\$1.85 million	3.85 million	132	8 acres reclaimed
Emery Mine	\$0.55 million	1.25 million	39	18 acres reclaimed
Sunrise/January Mine	\$0.55 million	1.25 million	39	5 acres reclaimed
Frohner Mine	\$0.55 million	0.95 million	24	5 acres reclaimed
Garnet Gold Mine	\$0.28 million	0.63 million	19	5 acres reclaimed
Champion Mine	\$0.50 million	1.15 million	35	5 acres reclaimed
Lily/Orphan Boy Mine	\$0.38 million	0.88 million	27	1 acre reclaimed
Forest Rose Mine	\$0.90 million	2 million	62	10 acres reclaimed
Bald Butte Mine	\$0.77 million	1.84 million	54	10 acres reclaimed
Montro Gold	\$0.22 million	0.78 million	16	5 acres reclaimed
Gold Leaf/Priscilla	\$0.77 million	1.84 million	54	5 acres reclaimed
McLaren Tailings	\$4.68 million	8.0 million	280	17 acres reclaimed
Spring Meadow Lake	\$1.2 million	3.5 million	92	12 acres reclaimed
Silver Creek	\$5.7 million	7.4 million	260	80 acres reclaimed
TOTALS	\$22.15 million	44.06 million	1447	221 acres reclaimed

Chart 2
Montana 2007
Acres and Hazards Remaining

HAZARD STATUS	6/30/2006 STATUS	EY 07 AMLIS ADDITIONS	RECLAIMED IN EY 2007	6/30/2007 STATUS
BE Bench	0.0 acres	0	0	0.0 acres
CS Clogged	23.0 miles	0	0.4 miles	22.6 miles
CSL Clogged Stream Lands	96.2 acres	0	2.5 acres	93.7 acres
DH Dangerous Highwalls	0.0 feet	0	0	0.0 feet
DI Dangerous Impoundments	0	0	0	0
DP Ind/Res Waste	0.0 acres	16.1 acres	16.1 acres	0.0 acres
DPE Dangerous Pile	275.2 acres	(2)	0	273.2 acres
DS Dangerous Slide	0.0 acres	0	0	0.0 acres
EF Equip/Facil	0	0	0	0
GHE Hazard	0	0	0	0
GO Gobs	2.0 acres	(2.0 acres)	0	0.0 acres
H Highwalls	0.0 feet	0	0	0.0 feet
HEF Hazard Equip	668	1	5	664
HR Haul Road	0.0 acres	0	0	0.0 acres
HWB	8	0	0	8
IRW Indust/Resid	675.7 acres	1.2 acres	11.2 acres	665.7 acres
MO Mine Opening	0	0	0	0
P Portal	201	2	6	197
PI Pits	0.0 acres	0	0	0.0 acres
PW AI Polluted Water	0	0	0	0
PEHC Polluted Water	860	(860)	0	0
S Subsidence	60.1 acres	0.1 acres	60.1 acres	0.1 acres
SA Spoil Area	0.0 acres	0.1 acres	0.1 acres	0.0 acres
SB Surface Burning	3.0 acres	0	3.0 acres	0.0 acres
SP Slump	0.0 acres	0	0	0.0 acres
UMF Underground	2	(1)	0	1
VO Vertical Opening	82	(1)	0	81
WA Water Problems	0.0 gpm	0	0	0.0 gpm

**Chart 3 Montana
2007
Completed Projects**

Project Name	Project Cost	Environmental Benefit
Buckeye Mine and Mill	\$900,317	HEF, IRW, P

**Chart 4 Montana
2007**

Projects under Construction (not completed)

Project Name	Project Cost¹	Environmental Benefit
Argentine Mine	\$196,000 (a)	P, CS, IRW
Belle Lode Mine	\$28,230 (a)	P, HEF, IRW
Big Chief Mine	\$243,827 (a)	P, CSL, IRW
Bluebird Mine and Mill	\$1,230,000 (a)	CS, CSL, DPE, HEF, VO, P
Snowshoe	\$3,697,958 (b)	CS, CSL, IRW, P
Washington Mine and Mill	\$2,018,018 (a)	CS, CSL, HEF, IRW, P

¹ a = estimated completion
b= contract bid amount

Part IX. Photos

The following photographs have been attached to this report to further demonstrate the degree of hazardous conditions encountered in various areas of the State, and the excellent reclamation accomplished by the MWCBC to eliminate the hazards.



Bluebird Mine & Mill, photos above & below August 2005 (before reclamation) showing acid mine drainage, piles of mine wastes



Bluebird Mine & Mill photos above & below June 2007 (reclamation nearing completion) showing slight trace of acid mine drainage at head of channel, mine wastes piles removed





Big Chief Mine, photos above & below August 2005 (before reclamation) showing piles of mine wastes



Big Chief Mine, photos above & below June 2007 (reclamation nearing completion) showing mine wastes piles removed, areas regraded, drainage channel reestablished





Buckeye Mine & Mill, photos above and below June 2007 (reclamation completed) showing constructed repositories used for containment of mine wastes



Buckeye Mine & Mill, photos above and below June 2007 (reclamation completed) showing remnants of mining and milling retained for historic significance





Argentine Mine, photos above & below June 2007 (reclamation nearing completion) showing mine waste piles removed, areas regraded, drainage channel reestablished, utilization of filter fabric to retain sediments on-site





Washington Mine & Mill, photos above August 2005 (before reclamation) showing piles of mine & mill wastes and hazardous equipment and facilities

Washington Mine & Mill, photos left & below June 2007 (during reclamation) showing mill foundation, mine & mill wastes and hazardous equipment and facilities removal, stream channel reconstruction





Washington Repository, photos above June 2007 (nearing completion) showing final surface cap of constructed repository for permanent disposal of mine & mill wastes from Washington Mine & Mill project and other nearby projects



Belle Lode Mine, photo June 2007 (during reclamation) showing removal of mine wastes

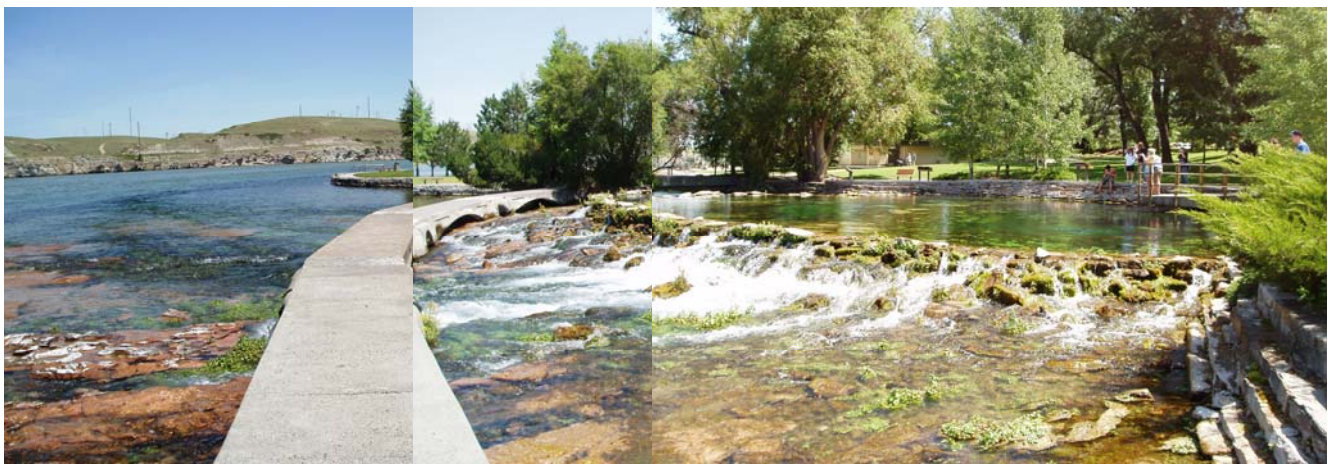


Big Ox Mine & Mill all photos June 2007 (reclamation completed 2005) showing excellent vegetation establishment, mill tailings & mine wastes removed, historic features avoided as stipulated in Memorandum of Agreement addressing historic properties





Montana Silver Smelter all photos June 2007 (reclamation completed 2005) after removal of mineral processing wastes; base of historic smelting stacks retained as interpretive site, cultural remnants uncovered during reclamation retained for preservation purposes, adjacent Giant Springs State Park along banks of Missouri River





Belt Creek below Anaconda Coal Mine, all photos June 2007 showing previous attempts to remediate acid mine drainage in the Great Falls/Lewiston Coal Field



Appendix A:

Montana's Comments and Casper Field Office Responses

The DEQ-MWCB e-mailed comments on the "Draft Annual Evaluation Summary Report" dated August 15, 2007 in a mark-up format of the draft report. One of MWCB's comments was a typographical error and another a minor editorial preference, which are not reflected on this section but were corrected within the document. The substantial comments are listed below with CFO's responses.

MWCB's Comment: Pg 4, Para. 3: Suggest the following sentence be added, "In recent years the construction season has also been shortened by wildfires which necessitate special operating conditions shortening the allowable work days."

CFO's Response: CFO incorporated the comment by adding the sentence to the paragraph.

MWCB's Comment: Pg 6, Para. 2: Suggest the following sentence be added, "It also saves considerable time in not having to secure access from hundreds of landowners, many of who live out of state and have locked gates which necessitate getting a key from the landowner or a local resident."

CFO's Response: CFO incorporated the comment by adding the sentence to the end of the paragraph.