OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

Annual Evaluation Summary Report
for the
Abandoned Mine Land Reclamation Program
Administered by the Department of Environmental Quality
of

MONTANA

for

Evaluation Year 2016
July 1, 2015 to June 30, 2016

Prepared by
Casper Area Office
October, 2016

Table of Contents

Cover Page Photo: New water tank, with associated replacement well and distribution system for the town of Sand Coulee, MT. The Project received the 2016 OSMRE National AML Reclamation Award (photo taken on June 23, 2016).

Executive Summary

Montana's Abandoned Mine Land Program

Evaluation Year 2016

Evaluation of the State of Montana's reclamation program is conducted by the Casper Area Office (CAO) of the Office of Surface Mining Reclamation and Enforcement (OSMRE). Evaluation Year (EY) 2016 consisted of a full twelve month period beginning on July 1, 2015 and ending on June 30, 2016. The OSMRE has completed its evaluation of topics specified in the Performance Agreement between the Montana Abandoned Mine Land Program (MTAMLP) and the OSMRE. This evaluation specifically examined the following seven topic areas to evaluate MTAML performance, as identified in the EY 2016 Performance Agreement between the two Agencies:

1) Overall Reclamation Success
2) AML Emergency Investigations and Abatement Efforts
3) AML Grant Financial Administration
4) Subsidence Prone Area Inventory
5) Acid Mine Drainage
6) Inspection and Maintenance of Past Projects
7) Public Outreach

The MTAMLP met the goals of abating hazards and improving site conditions at both coal and non-coal projects. Industrial wastes associated with abandoned hardrock mills were disposed of in the appropriate repositories and permitted solid waste disposal facilities. Hazardous equipment and wastes were removed and the areas sufficiently reclaimed for use by the general public. Slumps and subsidence features were mitigated, and sites were re-vegetated. All construction adhered to the standards of construction excellence maintained by the MTAMLP.

Financial Stature Reports were submitted within the required timeframes with no deficiencies noted. Review of the Montana AML Grant Accounting program confirmed that recent audits had no questioned or disallowed costs associated with OSMRE-Montana AML grant(s).

The MTAMLP has been regularly monitoring acid mine drainage (AMD) problems in the State, while pursuing possible ways to address the problem in a cost effective manner. They have employed various techniques to address and control AMD but with varied success. The MTAMLP continues to monitor the problem and pursue alternatives to procure funding at the level necessary to resolve the AMD problem, including possible construction/installation of a water treatment facility.

We have concluded that the MTAMLP is adhering to the public participation and involvement policy of the Montana Abandoned Mine Land Reclamation (AMLR) plan by holding public meetings regarding potential AML project sites. They have also gone far beyond what is in their plan by conducting tours, participating in public events, giving local presentations and otherwise making their presence and the benefits of the AML program known to the public.

I. General

A. Introduction

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) created the Office of Surface Mining Reclamation and Enforcement (OSMRE) 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 (Primacy) for reclamation of abandoned mine lands (AML) within its borders. Once a state has obtained such approval, the OSMRE has the responsibility to make investigations, evaluations, and inspections necessary to determine whether that State's AML program is being administered in accordance with approved program provisions. On November 24, 1980, the Secretary of the Department of Interior approved Montana's AML Reclamation Plan under Title IV of SMCRA.

Montana's approved Reclamation Plan sets forth authority, policies, and procedures under which Montana operates its program. With the 1980 approval, the State assumed exclusive responsibility and primary authority for non-emergency AML projects within Montana. On August 18, 1983, the Secretary approved Montana's April 20, 1983 amendment to its AML Reclamation Plan allowing Montana to assume responsibility for an emergency response reclamation program. On April 11, 1990, the OSMRE announced in Federal Register notice (55 FR 13552) that Montana had certified that all of the State's known coal problems had been addressed, and requested public comment. In Federal Register notice (55 FR 28022) of July 9, 1990, the OSMRE approved the certification and authorized Montana to reclaim non-coal hazards. The Montana Department of Environmental Quality (MDEQ), Remediation Division, Abandoned Mined Lands Bureau currently administers these programs.

Evaluation of the State reclamation program is conducted by the Casper Area Office (CAO) of the OSMRE. Evaluation Year (EY) 2016 consisted of a full twelve month period beginning on July 1, 2015 and ending on June 30, 2016. The OSMRE's evaluation methods are based upon OSMRE Directive AML-22 (Evaluation of State/Tribe Abandoned Mine Lands Programs) and a Performance Agreement (PA) dated July 9, 2015 between the Montana Abandoned Mine Land Program (MTAMLP) and the OSMRE. This agreement incorporates a shared commitment by the State and the OSMRE 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 AML reclamation (AMLR) program, is achieving the overall objective of Section 102 of SMCRA which states that the 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 ..."

The agreement establishes a commitment between the MTAMLP and the OSMRE 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 the MTAMLP performance includes reviews of selected topics such as 1) overall reclamation success, 2) emergency investigations and abatement efforts, 3) grant fiscal and administrative controls, 4) subsidence prone area inventory, 5) acid mine drainage, 6) Red Lodge land settlement issues, and 7) public interaction and outreach.
The following acronyms are used in this report:

AMD	Acid Mine Drainage
AML	Abandoned Mine Land
AMLIS	Abandoned Mine Land Inventory System
AMLR	Abandoned Mine Land Reclamation
ATP	Authorization to Proceed
CAO	Casper Area Office
CIL	Certified in Lieu funds
EY	Evaluation Year
GPRA	Government Performance Results Acts
MDEQ	Department of Environmental Quality
MTAMLP	Montana Abandoned Mine Land Program
NTTP	National Technical Training Program
OIG	Office of the Inspector General
OSMRE	Office of Surface Mining Reclamation and Enforcement
PA	Performance Agreement
PAD	Problem Area Definition
PBRF	Prior Balance Replacement Funds
SMCRA	Surface Mining Control and Reclamation Act
TIPS	Technical Innovation and Professional Services

B. Program Administration

Overall, the State of Montana administers the MTAMLP under SMCRA, the approved State Reclamation Plan, and the Federal Assistance Manual; and associated rules, regulations and policy decisions. The State administers an excellent AMLR program in a manner reflecting high quality professionalism and performance, in addition to excellent communication and cooperation between consulting agencies and other interested parties. The MTAMLP currently supports 8.0 full-time employees (FTEs) and is based in the capital city, Helena. The CAO and the MTAMLP regularly consult and interact with one another.

The Montana AMLR program was initiated in 1980. 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 of its known coal problems had been addressed, at which time they were authorized by the OSMRE to begin reclaiming the multitude of high priority, non-coal hazards in their inventory. However, any abandoned coal problems that are discovered must still be given priority funding over non-coal projects -a requirement that has been followed by Montana.

Initial investigation is usually conducted by the project officer who 1) conducts initial investigation; 2) obtains landowner consents; 3) negotiates inter-agency agreements if necessary; 4) writes environmental assessments; 5) conducts cultural resource and threatened and endangered species investigations and consultations; 6) conducts public meetings for information dissemination and comment; 7) prepares the submission to the OSMRE for an Authorization to Proceed (ATP); and 8) conducts public meetings for the local stakeholders and potential construction contractors.

Prior to initiating any construction work, the MTAMLP submits a documentation package to the OSMRE with a request for an 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 DEQ Attorney, 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, and 5) site maps and photographs. If acceptable and complete, the CAO issues an ATP pursuant to section 4-160-50D.3 of the 2011 Federal Assistance Manual to the MTAMLP prior to reclamation or construction of each coal project.

The State uses an established bid process to obtain services from qualified environmental, engineering, design and construction companies at the lowest effective price. Environmental hazard investigations, construction design and reclamation construction portions of each AML project are completed by private contractors. Design and specification work is contracted to engineering firms and is accomplished during the winter months when most outside work is impractical. Actual reclamation work starts as soon as weather and ground conditions allow heavy equipment to be moved to a site. This fact may drastically shorten the amount of time available for reclamation work because of snow, ice and mud. A part of the responsibility of each engineering design contractor is to provide an inspector for the construction work. This inspector is 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 MTAMLP.

The MTAMLP staff is very knowledgeable and dedicated to the accomplishment of program goals. An excellent working relationship exists between the staff of the MTAMLP, the CAO, and other State and Federal agencies contacted during the course of preparing projects for reclamation. MTAMLP personnel spend most of the construction season in the field coordinating and supervising reclamation work, while 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.

II. Noteworthy Accomplishments

A. Overall Performance

The Montana DEQ continues to administer an efficient and successful AML program, as set forth in Section 102 of SMCRA. Significant hazards on both coal and non-coal sites remain to be mitigated, so future funding will be required. A summary of specific projects worked on or completed during this EY is provided in Section V. below. This information and project summary was taken directly from the Montana DEQ Annual Grant Performance Report for SFY 2016.

III. Utilization of OSMRE Technological Assistance

The OSMRE provides technical assistance and technology support to State AML and Regulatory Programs at the individual State level on project-specific efforts, and at the national level in the form of meetings, forums, and initiatives. The Western Region works on the development of regional and national forums, meetings and initiatives to ensure that interests and needs of individual States are considered and included in these events. The WR initiated a regional Technology Transfer Team in 2003, for which each State, including Montana, has a representative.

During EY2015, the OSMRE provided Montana with the following assistance:

A. National Technical Training Program (NTTP)

One or more MTAMLP staff members attended six NTTP training classes offered during EY2016.

B. Technical Innovation and Professional Services (TIPS)

One or more MTAMLP staff members attended (or taught) four TIPS training classes offered during EY2016

C. Use of OSMRE Provided Equipment & Services

MTAMLP staff borrowed a down-hole bore camera from the OSMRE's TIPS program to inspect various subsidence features/wells.

Montana DEQ had a Title IV and Title V representative participate in monthly Western Region Technology Transfer calls.

The OSMRE's librarian did not fill any reference requests or provide any article reprints for the MTAMLP staff in EY2016.

D. Financial Assistance

For FY 2016, the OSMRE provided $4,429,969.00 in AML grant funding to the Montana AML program. The Consolidated Grant began on July 1, 2016 and is scheduled to end on June 30, 2022. This grant funds the continued administration of the Montana state AML program during the period of July 1, 2016 through June 30, 2017, and will provide project development and construction funding for a period of seven years.

Distribution of Montana's AML FY2016 Consolidated Grant:

$755,757.00	Personnel and Administrative Costs (H2.01)
$3,674,212.00	Project/Construction Costs (H2.03 and H2.11)
$4,429,969.00	Total

IV. Public Participation and Outreach

A. OSMRE

The OSMRE Casper Area Office (CAO) provides for transparency in the oversight process by conducting outreach to stakeholders and encouraging public participation throughout the OSMRE-CAO's annual oversight activities. The OSMRE's programmatic reviews of the Montana AML program indicate that the MT DEQ is adhering to the State's policies and procedures regarding opportunities for public participation in all phases of the reclamation program. The public can find oversight guidance documents and the OSMRE's Performance Agreement with the Montana AML Program on the following OSMRE website: http://www.wrcc.osmre.gov/programs/stateTribalOversight/Montana.shtm

Each evaluation year, the OSMRE-CAO solicits input from the public and interested parties regarding the oversight process, and allows them to provide suggestions for potential oversight evaluation topics, and improvements of future annual evaluation reports. During the 2015 evaluation year, the CAO received no comments or suggestions specific to the MTAMLP.

However, the CAO will continue to address issues and concerns as they develop and in subsequent evaluation years.

B. Montana

Our 2016 evaluation of public interaction investigated whether or not the MTAMLP is performing public outreach efforts by holding meetings subsequent to new grant applications. The Montana AMLR Plan requires that the public be afforded the opportunity to comment on abandoned mine reclamation projects. The MTAMLP considers the public an important component of the reclamation program, and conducts local outreach meetings in the community nearest each project. The meetings are well publicized and are held in the evenings or on weekends in order to allow maximum citizen participation. Overall plans for the project area, construction designs, maps, overlays, and aerial photographs are presented and discussed at each public meeting.

Individuals may submit comments in writing, or meet with the project officers at any time prior to completion of the comment period for a project. Project officers also meet with affected landowners to explain each project in detail, as well as keep them informed of progress throughout the construction phase. Work plans are often altered to conform to comments received from landowners, contractors and the general public.

The MTAMLP held several public meetings in EY16, including/regarding:
-Park Mine Stream Restoration, Broadwater County Commisioners-July16, 2015
-Park Mine Stream Restoration, Elkhorn Working Group- August 11, 2015
-McLaren Tailings Project Update, Cooke City-August 16, 2015
-Park-Pedro Mine, Lewis and Clark County Commissioners-August 20, 2015
-Dangerous mine subsidence issues, Sheridan County Commissioners- September 23, 2015
-Brown Mine Seismic Study, Fergus County Commissioners-February 16, 2016
-Plentywood Airport Seismic Study, Sheridan County Commissioners-April 29, 2016

The MTAMLP goes to great lengths to develop and maintain good working relationships with all State and Federal agencies, such as the U.S. Forest Service (USFS), the Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS), the U.S. National Park Service (NPS), the Montana Department of Natural Resources and the Montana Department of Fish Wildlife and Parks. In most cases, these agencies will accept National Environmental Policy Act efforts conducted by the MTAMLP for projects within Federal and State jurisdiction. This practice carries over into relationships with local agencies and groups, and to landowners who have AML sites on their land. The MTAMLP also ordinarily participates in an annual meeting with the BLM, USFS, the Environmental Protection Agency, the Montana Superfund Program, and the Federal Superfund Program to coordinate activities and enhance information sharing; however the meeting was not held this year.

The MTAMLP provides further opportunities for public participation and involvement through its internet website and press releases. The MTAMLP posts Expanded Engineering Evaluation/Cost Analysis Reports of proposed projects, Reclamation Investigation reports, environmental reports, construction bid notices, notices of public hearings of proposed AML projects, final construction reports and "A Guide to Abandoned Mine Reclamation" on its website at http://www.deq.mt.gov/AbandonedMines/default.mcpx.

They have also recorded a significant amount of Montana mining history on the website to help mitigate the loss of important cultural resources during the reclamation process and provide that information to educational facilities, and interested parties through the website. The DEQ also has public relations personnel who release news items to media outlets such as local television stations, statewide newspapers, public radio and on the DEQ website.

We have concluded that the MTAMLP is adhering to the public participation and involvement policy of the Montana AMLR plan by holding public meetings regarding potential AML project sites. They have also gone far beyond what is in their plan by conducting tours, participating in public events, giving local presentations and otherwise making their presence and the benefits of the AML program known to the public.

V. Results of Evaluation Year 2016 Reviews

A. Topic-Specific Reviews

The MTAML Performance Agreement (PA) was signed in July, 2015 and applies to EY 2016. The PA describes the topics selected for review to evaluate the performance of the MTAMLP. On-the-ground, performance-based results were the principal focus of program evaluation and documentation.

1) Overall Reclamation Success
2) AML Emergency Investigations and Abatement Efforts
3) AML Grant Administration
4) Subsidence Prone Area Inventory
5) Acid Mine Drainage
6) Inspection and Maintenance of Past Projects
7) Public Outreach (addressed above in Section IV)

Topic evaluation reports and individual project reports containing much more detail are on file in the 2016 Annual Evaluation files at the Casper Area Office. As identified in the 2015-2016 PA, the following topics were selected for evaluation; 1) Overall Reclamation Success; 2) AML Emergency Investigations and Abatement Efforts; 3) AML Grant Administration; 4) Subsidence Prone Area Inventory; 5) Acid Mine Drainage; 6) Inspection and Maintenance of Past Projects; and 7) Public Interaction and Outreach.

Results of the 2016 evaluations are provided below, largely with information and details provided by the MTAMLP. The evaluations also included field visits to AML projects, interviews with MTAMLP staff, reviews of project specifications, grant applications and reports, as well as e-AMLIS inventories.

1. Overall Reclamation Success

Our 2016 evaluation of overall reclamation success was conducted to determine if MTAML's reclamation program met project goals. We compared MTAML'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 re-vegetation.

The following project summaries and total expenditure information are taken directly from the Montana DEQ Annual Grant Performance Report for SFY 2016.

Acid Mine Drainage (AMD)

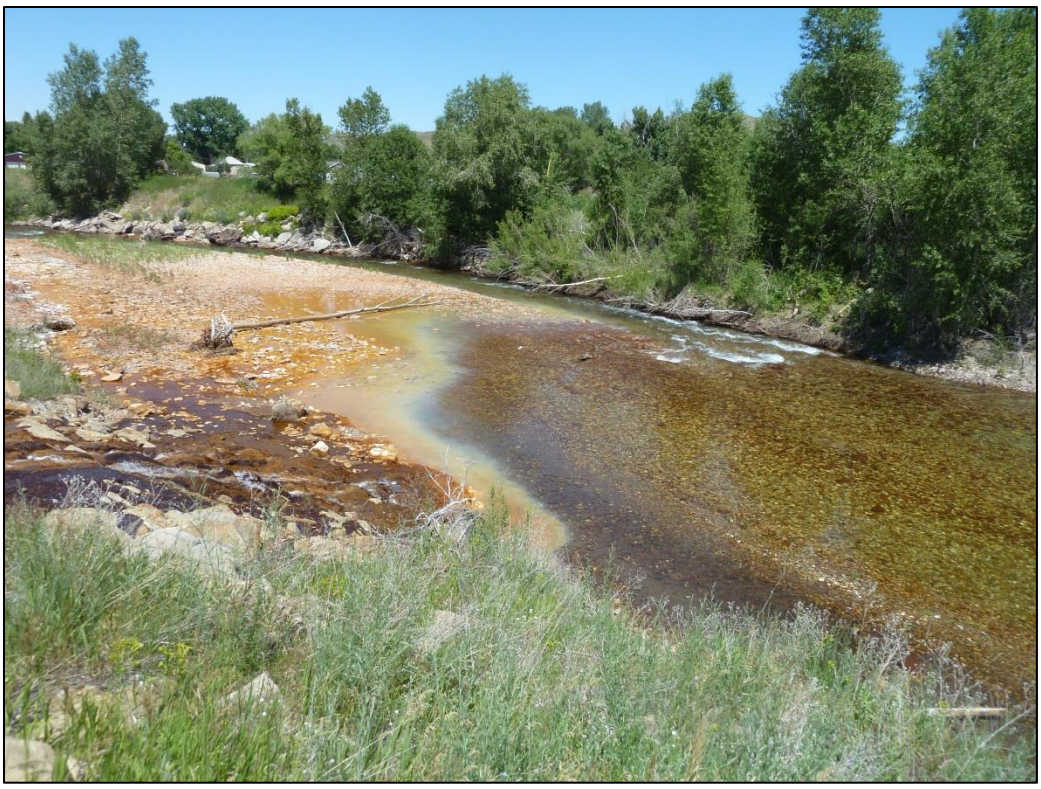
In 2012 DEQ-AML completed a Water Treatment Assessment which identified the AMD discharges in the vicinity of Belt as the highest priority for treatment and developed preliminary costs for active water treatment. DEQ-AML conducted a public meeting in Belt on September 30, 2013 to present DEQ's plans for the evaluation of water treatment alternatives. In February and March 2014, DEQ-AML ranked proposals and qualifications of engineering firms for conducting an Engineering Evaluation/Cost Analysis (EE/CA) for the water treatment. The purpose of the EE/CA is identify the preferred water treatment plant design, including all AMD water gathering, conveyance, pre-treatment, treatment plant processes and components, and operations and maintenance tasks for water treatment and estimate costs for plant construction and operations and maintenance. Work on the EE/CA began in April 2014. In order to pursue additional sources of funding, DEQ-AML completed a Montana Reclamation and Development Grant (RDG) application for $500,000.00. This grant application was submitted to the Montana Department of Natural Resources and Conservation on May 15, 2014.

DEQ-AML staff provided testimony in support of the RDG grant proposal to the Montana legislature in January 2015. In May 2015, DEQ-AML was notified that the Belt Water Treatment was identified as a high priority project for funding. EE/CA development continued through the summer of 2015 with support of Brent Means of the OSM Appalachian Program Support Branch.

DEQ-AML staff worked with the Montana Department of Transportation to survey and clear the title on the property selected for construction of the treatment plant. Survey contractors finalized a certificate of survey and filed that with Cascade County.

An interest earning special revenue account was created to provide funding for long-term water treatment obligations for Belt Acid Mine Drainage. A total of $8,100,000.00 was transferred to this account for State Fiscal Year 2015. An additional $2,500,000.00 was transferred to this account in State Fiscal Year 2016. The total in the long-term fund at the end of SFY 2016 was $17,747,795 with a target goal of $24 million by the 2023.

Total acid mine drainage expenditures for S14AF20024 in SFY 2016 were $2,500,633.44.



Iron and aluminum precipitating out where AMD enters Belt Creek (photo taken 6/23/16)

ACME Maintenance

The ACME mine site is an abandoned mine located in Sheridan County, Montana. DEQ-AML reclaimed several subsidence features for a total construction cost of $71,825.14 in 2013.

Total coal expenditures for S14AF20024 in SFY 2016 were $38.04 for personal services/benefits and indirect costs.

Brown Mine

The Brown Mine is an abandoned coal mine in Fergus County, Montana near the Divide North Project discussed below. Activities at Brown Mine during the reporting period include the reclamation of four hazardous mine openings and completion of a seismic survey. The four HMOs were reclaimed in June 2015. Reclamation included the over excavation and backfilling of each subsidence. Following completion of backfill, topsoil was placed at the surface of each location. The topsoil was then seeded, fertilized, and mulched. The seismic investigation of Brown Mine included two separate investigations to determine the extent of mine workings near and potentially under Divide Road. The field investigation was completed in June 2015 and reporting was completed in October 2015.

Total coal expenditures for S14AF20024 in SFY 2016 were $12,683.30.

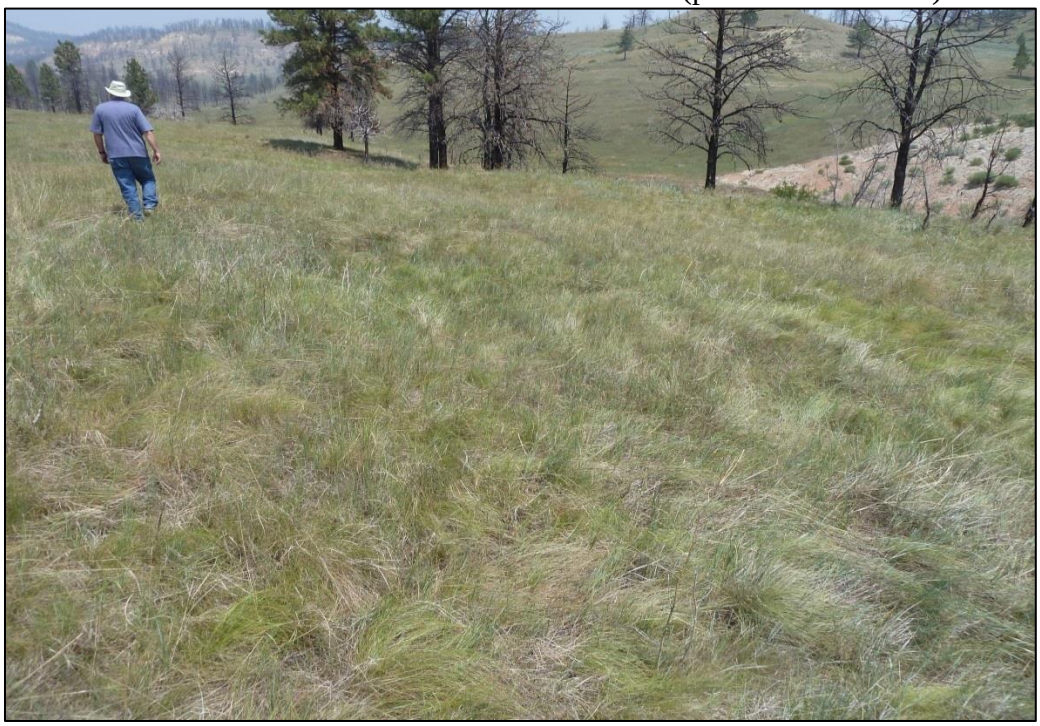
Coal Creek Mine

Sink holes overlying the former Coal Creek Mine in Powder River County were documented by DEQ-AML during site visits conducted in August 2013 and March 2014. DEQ-AML conducted a Categorical Exclusion Determination for the subsidence features, prepared e-AMLIS Priority and Cost Support

forms, and submitted the Eligibility Determination package to OSM on June 30, 2014. OSM issued an Authorization to Proceed on July 25, 2014. Reclamation construction work was completed May 2015. Seeding took place in the fall of 2015.

Total coal expenditures for S14AF20024 in SFY 2016 were $2,310.63.

New subsidence feature found at Coal Creek Mine (photo taken 7/1/16)



Repaired and reclaimed subsidence feature at Coal Creek Mine (photo taken 7/1/16)

Divide North

DEQ-AML reclaimed twenty-five (25) subsidence and slump features on an abandoned coal mine located under an archery range outside of Lewistown, Montana in Fergus County. Reclamation included the over excavation and backfilling of each subsidence. Following completion of backfill, topsoil was placed at the surface of each location. The topsoil was then seeded, fertilized, and mulched. Each feature was fenced to protect the reclamation work and the public who use the archery range. Reclamation work was completed in the fall of 2014 for a total of $113,413.00. Coal expenditures in SFY 2015 were $167,842.30 which included construction and engineering oversight.

Total coal expenditures in SFY 2016 were $57.03 for personal services, benefits and indirect costs.

French Coulee – Belt

French Coulee Wetlands are water treatment ponds constructed in 1990 to treat AMD from abandoned underground coal mines located at mouth of French Coulee, a tributary to Belt Creek. These water treatment ponds are obsolete and are being removed and the area restored to pasture uses. The work will take place on private lands adjacent to the BNSF Railway Company (BNSF) right of way and extend onto BNSF property. The work will include excavation of approximately 4,500 cubic yards of materials from the ponds, removal of the liners and flumes, grading to restore the surface contours and drainage, and revegetation of the disturbed areas. In January 2014, DEQ negotiated access with BNSF to perform the work. Bid documents for the work were updated and completed in June 2016. The reclamation project is on-hold pending final design of the Belt Water Treatment Facility. The area currently encompassed by the French Coulee Wetlands may be used for holding ponds.

Total coal expenditures for S14AF20024 in SFY 2016 were $18,459.98.

Great Falls Clogged Streams

In 2012, DEQ-AML cleaned approximately 5.7 miles of affected streams/waterways in the Great Falls Coal Field around Sand Coulee, Stockett and Tracy. These waterways were clogged with sediment and acid mine drainage precipitate. During SFY 2015, additional funds were used to continue work by relieving a plugged manhole of sediment generated as a result of AMD.

Total coal expenditures for S14AF20024 in SFY 2016 were $672.43.

Great Falls Coal AMD Treatment

DEQ-AML initiated a new phase of work on the Acid Mine Drainage problems resulting from past mining practices in the Great Falls Coal Field in Cascade County. Previous work included extensive investigations of surface water quality and a preliminary assessment of potential AMD treatment costs for Lower Belt Creek and Sand Coulee Creek. The work was performed to develop a prioritization system to rank the AMD discharges in the study area based on impacts, exposure, and treatability, and assess the potential for grouping multiple discharges for centralized treatment. The assessment included synoptic surface water sampling to quantify metals loadings from point and dispersed AMD discharges to the receiving streams. DEQ-AML continued developing the GIS database incorporating abandoned mine workings, sampling location coordinates, water quality data, measured flow rates, and other relevant project data.

In March 2012 Montana AML released the results of the Great Falls Coal Field Water Treatment Assessment. This document compiled historic data for multiple mine discharges and evaluated water treatment alternatives with a goal of achieving state water quality standards in surface waters in the Great Falls Coal Field. AMD discharges were grouped based on the potential for combined treatment. Treatment assessment included bench scale testing of two prospective treatment technologies. AMD discharges in the study area were assigned a prioritization ranking based on contaminant load, receiving water impacts, potential for human health exposure, resource potential for impacted water bodies, AMD treatability, and cost considerations. Cost for treatment was estimated based on 100 years of treatment including operations and maintenance of water treatment infrastructure. Net present value (NPV) calculations were produced for each water treatment plant proposed based on capital costs, annual O&M, periodic 5 year costs, and periodic 30 years costs. The NPV costs ranged from $20 million to $27 million for the five water treatment plants proposed.

The Great Falls Water Treatment Assessment identified the AMD discharges in Belt as the highest priority for potential treatment. Investigations of the Coke Oven Flats area in Belt were conducted April through June 2013 to assess point and non-point sources of metal loading to Belt Creek. The investigation included the installation of six monitoring wells, groundwater and surface water sampling and the calculation of metal loads to Belt Creek. Data compilation and report preparation were performed in July and August 2013. Data generated by this investigation have been incorporated in the Belt Acid Mine Drainage EE/CA described above.

In July 2015, Brent Means and Kristin Brown from OSM and Rich Beam from the Pennsylvania Bureau of Abandoned Mine Reclamation travelled to Helena to provide technical support for the project. Brent Means and Rich Beam provided training using the TIPs Geochemist Workbench software, and conducted water sampling to characterize water chemistry in the Belt Anaconda Mine discharge including iron speciation. The analysis of water treatment alternatives included tours of operating water treatment facilities in the summer and fall of 2015. The tours included the Zortman-Landusky mine cleanup and the Butte Area Superfund Site and focused on water treatment methods, costs and lessons learned. The final draft EE/CA was completed in June 2016 incorporating comments from Brent Means and DEQ staff.

Field investigations to support the development of the EE/CA included drilling and sampling in March 2016. This work was conducted to determine the geotechnical characteristics of the materials in Coke Oven Flats underlying the anticipated footprint of the proposed water treatment system.

Total coal expenditures for S14AF20024 in SFY 2016 were $159,671.31.

Helicopter Expenses-Coal Sites

Helicopter expenses include all costs for maintenance, storage (rental) and insurance, and flight pilot time for the helicopter. A separate report provided by the Department of Natural Resources will be filed with the OSM 49 that will provide the required details of these costs.

In SFY 2015 DEQ-AML staff used the helicopter to investigate numerous abandoned coal mine sites in Montana within Judith Basin Counties. The use of the helicopter allowed DEQ-AML to investigate hazardous features efficiently, evaluate the proximity to residences and other potential areas of concern, and ascertain if there are other hazardous features developing at previously reclaimed coal projects.

Total coal expenditures for S14AF20024 in SFY 2016 were $16,664.94.

Helicopter Expenses-Hardrock Sites

Helicopter expenses include all costs for maintenance, storage (rental) and insurance, and flight pilot time for the helicopter.

Total hardrock expenditures for S14AF20024 in SFY 2016 were $1,084.58.

Horse Thief Rd Maintenance

DEQ-AML sealed mine openings and injected grout into all underground voids under and alongside a 200 feet stretch of U.S. Highway 12 (Horsethief Road) near Roundup, Montana in Musselshell County. The job was completed in July of 2013 at a project cost of $230,400.

Total coal expenditures for S14AF20024 in SFY 2016 were $25.58 for miscellaneous operating costs.

Initial Project Investigations-Coal

The reporting center is used to collect project costs that are related to initial investigations of potential AML sites/projects. The preliminary investigations may include site visits by AML staff and consultants, sampling of water, wastes, tailings, etc., review of existing information (i.e. permit status, courthouse ownership records), boundary surveys, and other information that may be needed to enable the program attorney to make an eligibility determination and to allow project staff to determine what initial actions are necessary to stabilize a site. At this stage, realty information, owner operator determinations and cultural resource investigations are conducted. If a site is deemed eligible and receives a high enough priority, it will then be assigned a unique fiscal tracking number for future work through eventual construction activity.

Project work conducted during SFY 2014 included investigation of groundwater interception to mitigate ongoing discharges of AMD around the community of Sand Coulee, MT. The abandoned coal mines have been identified as groundwater drains which dewater the overlying Kootenai sandstone and discharge contaminated water to tributaries of Sand Coulee Creek. The proposed mitigation is source control implemented by intercepting the groundwater in the Kootenai sandstone before it enters the mine workings. This investigation was conducted to identify a location to pilot test a horizontal drainage well and assess the productivity of interception wells and potential reduction in the volume of AMD discharging from nearby mines resulting from the drainage wells. The investigation work was used to develop a Montana Reclamation and Development Grant application for $332,443.00. This grant application was submitted to the Montana Department of Natural Resources and Conservation on May 15, 2014.

DEQ-AML staff provided testimony in support of the RDG grant proposal to the Montana legislature in January 2015. In May 2015, DEQ-AML was notified that the Sand Coulee Acid Mine Drainage Source Control Project was identified as a priority project for funding.

Total coal expenditures for S14AF20024 in SFY 2016 were $165,672.25.

Initial Project Investigations-Hardrock

The reporting center is used to collect project costs that are related to initial investigations of citizen complaints and federal agency cooperation on AML Hardrock Site concerns. The preliminary investigations may include site visits by AML staff and consultants, sampling of water, wastes, tailings, etc., review of existing information (i.e. permit status, courthouse ownership records), boundary surveys, and other information to determine what initial actions are necessary to stabilize a site or options available for outside funding to reclaim sites.

Total hardrock expenditures for S14AF20024 in SFY 2016 were $58,090.25.

Lekvold Shaw Mine

The Lekvold-Shaw coal mine is located in Daniels County. Multiple projects were completed at this mine in 1984, 1987, 2011, 2013, and 2015. The most significant work was completed in 1984 when mine workings were backfilled and grouted and subsidence features were closed. The cost of the 1984 effort was $470,986.51. Subsequent efforts at this location include the closure of hazardous mine openings at a total cost of $6,530.40. The 2015 opening was approximately 2 ft. in diameter and 30 ft. deep. The opening was closed in February 2015 at a cost of $1,000.

Total coal expenditures for S14AF20024 in SFY 2016 were $540.41.

Lily Orphan Boy Mine

The Lily Orphan Boy Mine is an abandoned hardrock mine located outside of Helena in the Little Blackfoot Drainage. The AML Program at one time funded several investigation and designs at the site, but the project was shelved in 2012 after the AML Program focus shifted to abandoned coal mine reclamation.

In 2015 Montana Trout Unlimited approached the Montana AML Program with a proposal to reclaim the Lilly Orphan Boy Mine using the investigation and design work that the Montana AML Program had completed. Both the AML Program and Trout Unlimited were successful in obtaining outside funds to remove the waste rock and restore Telegraph Creek. The AML program utilized OSM Grant Monies, previously secured for reclamation of abandoned pre-law hardock mines, to design and prepare a Bid Package for mine reclamation. Funding for the actual work will come from a combination of earmarked AML hardrock funds and from One Time Only Legislative Appropriation of State Special Funding.

Total expenditures for S14AF20024 in SFY 2016 were $70,956.27.

Maintenance and Monitoring of Coal Sites

AML staff continued to monitor past reclamation projects to determine effectiveness of reclamation, to determine if additional work was necessary, and to determine if the original reclamation objectives are being met.

Total coal expenditures for S14AF20024 in SFY 2016 were $29,149.02.

Maintenance and Monitoring of Hardrock Sites

AML staff continued to monitor various past reclamation projects to determine effectiveness of reclamation and to determine if additional work was necessary, such as weed spraying, and to determine if the original reclamation objectives are being met. Past reclamation efforts were evaluated to assure that regulatory and risk-based cleanup goals are being met and, if necessary, to modify specifications or procedures for future AML reclamation efforts. Site monitoring included sampling and analyses of water, soil, and vegetation. The overall site condition, security structures, run-on/run-off controls, erosion impacts, noxious weed conditions, and other engineered structures were also inspected.

Total hardrock expenditures for S14AF20024 in SFY 2016 were $4,630.80.

McLaren Tailings

McLaren Tailings is an abandoned hardrock millsite and tailings impoundment located along Soda Butte Creek near Cooke City in Park County, Montana. Soda Butte Creek drains into Yellowstone National Park, located five miles downstream from the McLaren Tailings. By the late 1960s, Soda Butte Creek was considered the most polluted stream entering the Park. Investigations into the cause of the pollution showed that iron and heavy silt loads from the tailings were adversely affecting the fish producing capacity of Soda Butte Creek. The segment of Soda Butte Creek downstream of McLaren Tailings has been listed by the State of Montana as an impaired water body due to the presence of copper, iron, lead, and manganese discharging from the McLaren mine site. Following the Yellowstone fires of 1988, the Environmental Protection Agency directed work to protect the impoundment from flooding, divert shallow groundwater entering the impoundment, and improve the seismic stability of the dam. However, the discharges of contaminated water to Soda Butte Creek continued. Loading analysis conducted by the U.S. Geological Survey in 1999 indicated that approximately 13 tons of iron and 120 tons of sulfate were discharged each year to Soda Butte Creek from the tailings impoundment.

The Engineering Evaluation/Cost Analysis of site reclamation alternatives in 2002. From 2002 through 2008, DEQ negotiated an Agreement with the Environmental Protection Agency and Department of Justice to facilitate the purchase and reclamation of the property. Reclamation design work was conducted in 2008 and 2009, and reclamation work began in 2010. The tailings impoundment was saturated with groundwater which contained numerous metals, including arsenic, cadmium, copper, iron, lead, silver, and zinc at levels exceeding DEQ water quality standards. The tailings covered the shallow aquifer system in the Soda Butte Creek valley which contained groundwater under artesian conditions. To address these conditions, an extensive construction dewatering system was installed to intercept groundwater at the margins of the tailings impoundment, and a water treatment plant was constructed to treat contaminated water. Lime was mixed with tailings to reduce the acidity of the tailings and improve the physical strength of these materials to facilitate compaction in the repository.

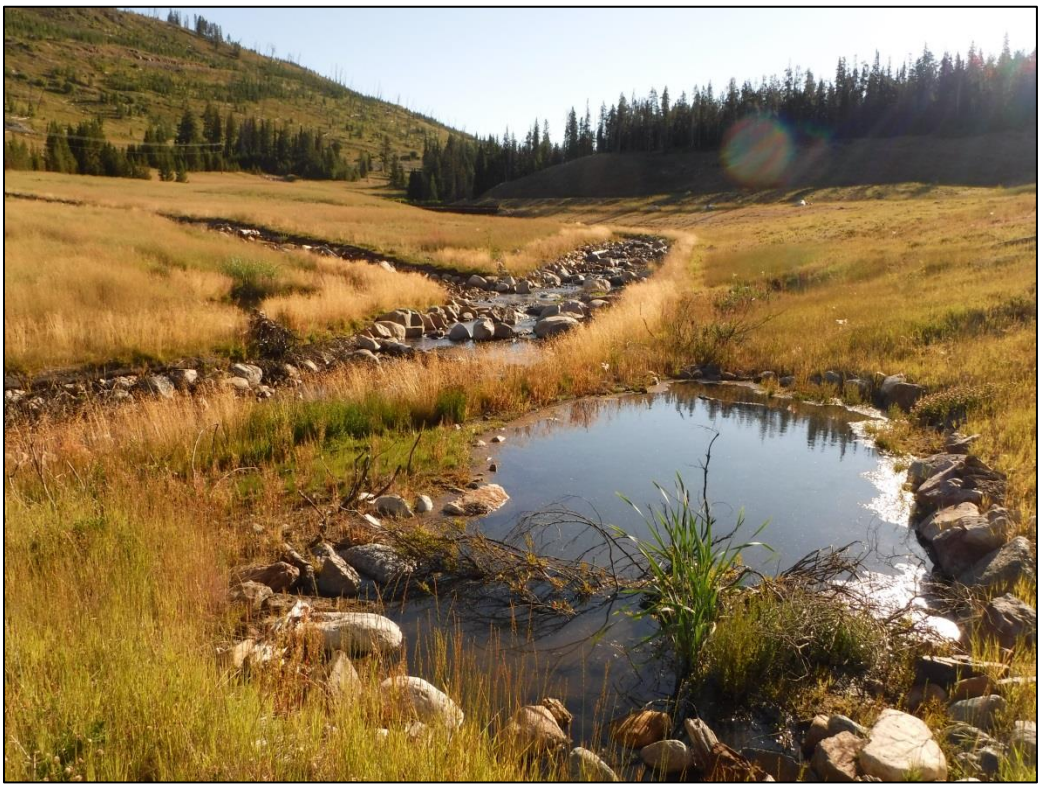
DEQ-AML worked cooperatively with National Park Service staff in all phases of this project including the evaluation of reclamation alternatives, reclamation design, and the implementation of the work. DEQ-AML conducted annual public meetings in Cooke City from 2010 through 2015 to present project updates and answer questions. The construction dewatering and water treatment systems were operated in 2012 and 2013 and facilitated the excavation of the tailings. Over 100 million gallons of contaminated groundwater were treated to meet DEQ water quality standards. Approximately 2,500 feet of Soda Butte Creek and Miller Creek formerly covered by the tailings impoundment were reconstructed and planted with willows. These creeks were returned to their historical channels in August 2013. The removal of approximately 240,000 cubic yards of tailings from the Soda Butte Creek

valley was completed in September 2013. The repository was completed and capped with a liner and soil cover in July 2014. On September 8, 2014, DEQ-AML conducted a tour of the reclamation project including representatives from OSM, the U.S. Forest Service, the National Park Service, the Cooke City Chamber of Commerce, and the Governor of Montana. The project area was revegetated with grasses, aspen, and fir species in September 2015 and achieved substantial completion one year ahead of schedule in October 2014.

On April 21, 2015, the project received a National Recognition Award from the American Council of Engineering Companies 2015 Engineering Excellence Awards competition. The competition recognizes projects that demonstrate an exceptional degree of innovation, complexity, achievement and value. The final inspection was conducted on June 25, 2015. Current water quality sampling in Soda Butte Creek in the project area indicates that water quality meets DEQ standards.

Work conducted between July 1, 2015 and June 30, 2016 included weed spraying of the site and completing an extensive water quality assessment of Soda Butte Creek to document post-reclamation conditions. Weed spraying was conducted October 2-3, 2015. Water quality sampling was conducted by National Park Service personnel with support and coordination from DEQ staff. This data was collected to evaluate the potential for delisting Soda Butte Creek as an impaired water body.

Total hardrock expenditures for S14AF20024 in SFY 2016 were $29,003.13.



McLaren Tailings Project showing reconstructed Soda Butte Creek and constructed pond (Photo taken 8/10/16 by MTAMLP's Project Supervisor Tom Henderson)

Miles City Coal Fires

The Montana AML program remained in contact with the Montana DNRC Miles City field office offering assistance with any fires inventoried by DNRC that show evidence of historic mine activity.

Total coal expenditures for S14AF20024 in SFY 2016 were $57.61 for operating expenses.

Nelson No. 1 Coal Mine

The costs expressed below represent engineering oversight provided by the contracted consultant. This project consisted of work at two (2) separate mine sites, the Nelson #1 mine and the Cottonwood No. 6 mine site, both in Cascade County.

Work at these sites consisted of the installation of numerous BMPs, the replacement of a subsurface manhole drain system, the removal and relocation of 883.51 tons of impacted materials to a Class II landfill, the re-placement of 2,105 linear feet of 4-wire fence, the amendment of denuded areas with lime in an attempt to neutralize the pH, the importation of topsoil, the revegetation of an estimated two (2) acres of disturbed land, and the repair of two (2) lined ditches that serve to channel impacted waters away from the mines. Expenses in SFY 2015 include maintenance and monitoring to ensure revegetation.

Total coal expenditures for S14AF20024 in SFY 2016 were $45.63. These were for personal services, benefits, and indirect costs.

Park Mine

Park Mine includes multiple hardrock mines located on private, U.S. Forest Service, and U.S. Bureau of Land Management property in the Elkhorn Mountains, west of Townsend, Montana. The original closure of this site was completed in 1997. Four uncontained tailings piles, several small piles of tailings, and four waste rock dumps adjacent to Indian Creek were placed in an unlined repository and covered with an impermeable modified Resource Conservation and Recovery Act cap. Stream restoration was completed in areas where waste was removed from the Indian Creek. In addition, 11 waste rock dumps were graded in place to match local topography, covered with top soil, seeded, and mulched. Four discharging adits were backfilled with coarse rock and covered with soil. A fifth discharging adit (the Mason Tunnel) was closed using a culvert and a locked gate.

Previous reclamation activities left in place a sediment pond and dam that was failing. Removal of the dam was critical to protect the downstream reclamation work completed in 1997. AML funds were used to design the removal and restoration of Indian Creek which was completed by Herrera. The project was designed to remove metals laden sediment from the pond, remove the failing dam and restore Indian Creek and its floodplain to improve capacity of the waters to protect the downstream reclamation work. The construction contract was awarded to Rabel Construction with oversight by Herrera. The dam and sediments are designed to be removed to an on-site waste management area and work began in late June 2016 with completion in the fall of 2016.

Total hardrock expenditures for S14AF20024 in SFY 2016 were $83,673.19.

Park Pedro Subsidence

The Park-Pedro Subsidence is located on the property of Tim and Alena Summers in Grizzly Gulch about 6 miles south of Helena. The Subsidence was caused by the collapse of a bulk headed shaft dug in the last quarter of the 19th century. The subsidence created an imminent threat to the safety of the Summers family. It was located in their back yard about 75 feet from their home.

The solution to the problem was excavation of topsoil from the subsidence and over excavation of the collapses are and backfilling with borrow material from the Summers property. The backfill material was placed in about two foot lifts and compacted with the excavator bucket. The site was covered with salvaged topsoil and seeded.

Total hardrock expenditures for S14AF20024 in SFY 2016 were $4,160.00.

Pioneer Lode

The Pioneer Lode is located within Bannack State Park in Beaverhead County, MT. The feature on the Pioneer Lode is an open vertical shaft that was dug in the early 20th century. The shaft had been secured with a 4 strand barb wire fence in the late 1980s. In the recent years the shaft opening had weathered and enlarged and two sides of the fence had collapsed into the opening. Tourists walking trails in the area were attracted to the opening and a substantial danger existed to human life existed.

The solution to the problem was securing the shaft by covering it with a bat gate. The Montana AML provided two 15x30 foot bat gates to the Montana Fish Wildlife and Parks who manage Bannack State Park. The gates were placed and secured by the FWP.

Total hardrock expenditures for S14AF20024 in SFY 2016 were $1,419.39.

Red Lodge Subsidence

In spring 2011, several complaints were received from homeowners about possible mine related subsidence in Red Lodge, Montana. Site inspections were conducted and no clear indications of subsidence including open subsidence features were identified. However, cracked foundations and lumpy ground which may indicate that subsidence is occurring were observed. However, based on the available information it could not be determined if these conditions were directly related to mining related activities.

In summer 2011, a Phase I Site Investigation was completed. This included researching the geology of the area, gathering available underground mine maps, and completing a spot elevation survey of the properties. The results of this investigation were inconclusive.

To gain a better understanding of mining in Red Lodge available underground mine maps were located, inventoried, and scanned during 2012. An engineer was contracted to review all available information on mining in Red Lodge, convert the mine maps into an ArcGIS database, and submit recommendations for further investigation. A Technical Memo summarizing recommendations was received in fall 2012. A drilling investigation work plan was developed in winter 2012 and implemented in 2013. A monitoring program was be implemented in 2014. The ArcGIS database was refined as more information became available and was used for investigation planning activities and for subsidence risk analysis modeling.

Pioneer Technical Services of Butte, MT was retained to provide engineering services for the subsidence investigation.

In January 2014 Pioneer established a surveying grid in the area where homeowners have reported subsidence. The grid covers seven city blocks and is tied into two National Geodetic Survey

Benchmarks. Four homes whose owners have reported subsidence problems are being monitored using pins installed in the foundations. Homes with cracks in the foundations have had crack gauges. Additionally, aluminum capped rebar survey monuments have been established in each yard to provide tighter survey coverage. The survey area will be monitored though at least the end of 2016. Monitoring for the first two quarters show no significant changes or indications of active subsidence.

A two phase drilling program in the City of Red Lodge was conducted beginning in August of 2014. The program consisted of 8 core holes drilled through the number 4 and number 5 seams and 1 hole targeting the number 1, 1 ½ and 2 seams of the historic Northwest Improvement Company workings. The deepest of these holes was nearly 800 feet.

The Rock Creek Valley is filled with alluvial gravels to a depth of over 100 feet in some areas with boulders over 10 feet in diameter having been found during replacement of city waterlines in 2012. Phase 1 drilling used an air rotary water well drilling rig to drill and case 6" holes into bedrock. After the pilot holes were drilled and cased Phase 2 of the project was to drill core holes through the targeted workings. Core sizes ranged from PQ-3 (3.35' diameter), HQ-3 (2.50' diameter), and NQ-3 (1.87' diameter). Core diameter was reduced after drilling through mine workings or voids to maintain fluid circulation. The down-hole camera on loan from the OSM Casper Field Office was used to video holes whenever possible.

A meeting was held with the Red Lodge City Council on June 24, 2014 to discuss the planned drilling program. The mayor, city council, city planner, members of the city police force and 20 residence of Red Lodge were in attendance. The City of Red Lodge has provided assistance in every possible way to help the project move forward.

The final report for the Red Lodge Subsidence project was presented at a public meeting at the Carbon County Historical Society on May 28. The meeting was attended by 13 members of the public. The report shows no issues exist in the study area that can be attributed to mine related subsidence.

Due to the potential of the formation of trough type subsidence forming in the southern half of Red Lodge the decision was made to continue survey monitoring for at least two years. Surveying and data analysis will continue through 2017.

Total coal expenditures for S14AF20024 in SFY 2016 were $108,168.74.

Sand Coulee Water Supply

The community of Sand Coulee is surrounded by extensive abandoned underground coal mines developed in the hillsides surrounding the town during the late 1800s and early 1900s. The coal was mined up-dip, and the mines have discharged AMD for the past century. The AMD has contaminated streams and groundwater, resulting in the abandonment of private water wells in Sand Coulee, and has limited options for the supply of potable water required by the residents. The community has historically used groundwater from the sandstone aquifer overlying the coal formation. However, the open mine workings have drained groundwater and depressurized the sandstone aquifer, limiting the amount of water available to the municipal system. The community has been beset with recurring water shortages, resulting water rationing and hauling water from an offsite source.

The water distribution system was constructed using thin walled plastic water main lines installed in the 1950s and backfilled with coal waste remaining from the mining operations. Coal wastes entered the

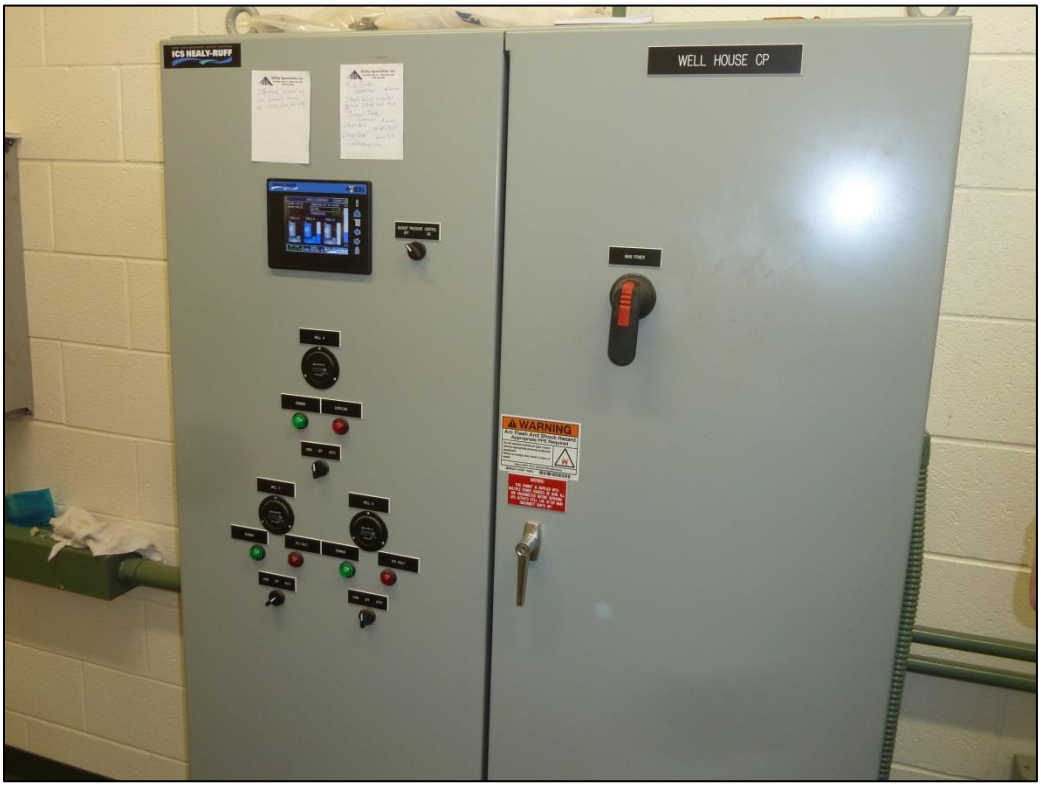
distribution system during water lines breaks. In addition to containing polycyclic aromatic hydrocarbons (PAHs), the coal wastes can provide a substrate supporting bacteria in the distribution system. Routine water quality monitoring identified total coliform bacteria in approximately 20 sampling events since 1995.

In June 2010, DEQ-AML initiated an investigation to identify and evaluate alternatives for a new source of potable groundwater for the community which identified the underlying Madison aquifer as the preferred source. DEQ-AML conducted a public meeting on June 9, 2011 to present investigation results and solicit comments from the public. In June 2012, DEQ-AML drilled an eight inch diameter well to a depth of 785 feet below ground surface in the Madison Formation. On July 3, 2012, the Sand Coulee Water District informed the DEQ that the water storage tank supplying the community was nearly empty. DEQ-AML got the new well connected to the water system which alleviated the water shortage. A temporary pump was installed in the well which was used as a permit-exempt well while the water rights permitting process was conducted. This process was successfully completed in May 2014 with the issuance of a water right for 58 acre-feet of water in the Madison aquifer for the Sand Coulee Water District. DEQ-AML continued work on the replacement of the water distribution system. A public meeting was held February 20, 2013 in Sand Coulee to present the proposed layout of the water distribution system and anticipated project schedule and solicit public comment. The engineering design for the water distribution system was finalized in May 2014. The Bid documents were released June 3, 2014 and the project was awarded to Boland Construction in July 2014. Work began in August 2014 and continued through November 2014 when the project was given a winter shutdown. Project work continued in April 2015 and achieved substantial completion on June 26, 2015. Project work included installation of approximately 10,000 feet of 8 and 6-inch water main line, 22 fire hydrants, 83 private service connections, a 150,000-gallon water storage tank, and a masonry well house equipped with a supervisory control and data acquisition (SCADA) system.

Hydrostatic testing of the water storage tank indicated an outflow rate requiring repair by the Contractor. Based on these results, the tank was emptied and dried, and sealant was placed in cracks identifies in the tank floor on August 4, 2014. A continuous coating (CIM 1061) was placed on the tank floor on September 22 and 23, 2015. Following this work an outflow rate of approximately four gallons per hour was measured. Additional investigatory work performed in June 2016 included excavation of test pits adjacent to the tank floor and the installation of the three groundwater piezometers. No evidence of water leaking from the tank was detected during these investigations. Although the evidence indicates the outflow is attributable to a leak within the system past one of the tank isolation valves instead of a leak into the surrounding soils, DEQ and the Sand Coulee Water District will continue to monitor conditions around the water storage tank.

Total expenditures for S14AF20024 in SFY 2016 were $289,369.56.

Town of Sand Coulee's new water tank (photo taken 6/23/16)



Control panel inside the new Sand Coulee well house (photo taken 6/23/16)

Settlers Stripping Coal Fire

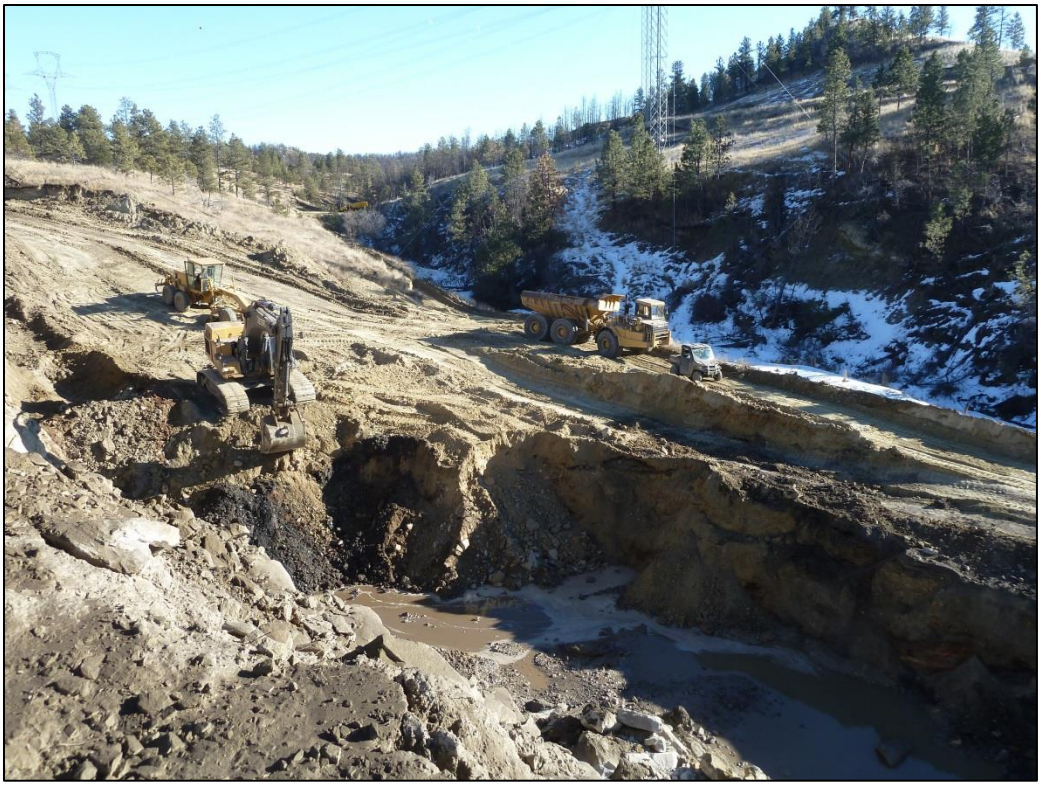
Settlers Stripping Coal Fire was a burning coal seam located in the NWNE Section 5 Township 2 North, Range 38 East, Treasure County. This coal fire was burning in the Rosebud Seam and is thought to have originated in a cut bank that a 1913 General Land Office coal land classification survey identified as a location were settlers had been mining coal in trespass for many years. This abandoned mine coal fire is thought to be the source of ignition for the Ash Creek wild fire that burned extensive sections of southeastern Montana during the 2012 fire season. According to the landowner, the Ash Creek fire was the second occasion where a wild fire has been ignited by the coal fire burning at this location. Expenditures were for initial investigation, cultural resource survey, and for the development of a drilling work plan to determine the best approach to take to extinguish this fire and fire abatement.

The 7.3 acre Settler's Stripping Coal Fire required removal of 58,869 yards of material which included an estimated 2,376 yards of burning coal. The total yards excavated was 154% of the projected yardage because the size of the fire was much larger than estimated from pre-construction drilling. Soil and overburden was stockpiled for reclamation. Burning coal was quenched with water until the temperature was 80˚F or less, compacted in 8 inch lifts, and capped with a minimum of 2 feet of soil. The quenching operation required 304.2 thousand gallons of water.

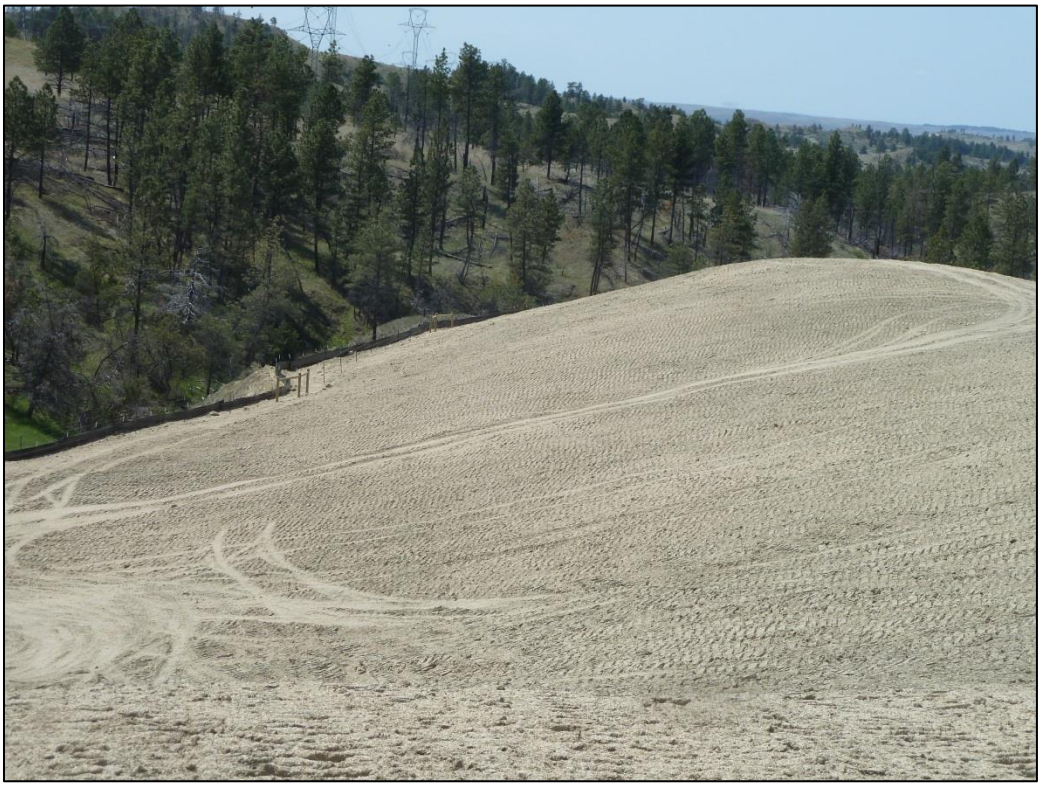
Construction work was performed during the winter of 2014-2015 to minimize the risk of starting a wildfire should the embers from the excavated coal escape the work area. Construction was scheduled to begin on December 1, 2014 but was delayed until December 5 due to weather conditions. An additional 26 days were due to weather at the end of December and in early January 2015. Work was completed on March 18, 2015.

In June 2016 the Settler's Stripping Fire site was inspected by Bill Snoddy, Scott Graham with the Montana AML program and John Ahlbrandt from the OSMRE Casper Field Office. Vegetation was well established on the majority of the site. There are small erosional features forming on the steep slopes. Non-native plants species were observed but were not a significant problem. A second site visit is planned for October of 2016 to reseed some areas and establish erosional controls around existing features.

Total coal expenditures for S14AF20024 in SFY 2016 were $9,825.33.



Settlers Stripping Fire Project-work underway on 1/29/15



Regrade work (photo taken 5/4/15)

Nicely revegetated site (photo taken 6/20/16)

Sherwood Airport Mine

A seismic investigation was completed at the Sherwood Airport in March 2016. The investigation was initiated following a conversation with the Sheridan County Commissioners who stated that there were plans to expand the runway in the direction of known coal mine workings in areas that continue to have subsidence issues. As a precautionary measure, the seismic study was implemented to identify potential mine openings in the proposed expansion area. The investigation identified mine voids adjacent to the county road (which is within the expansion area) and between the county road and the current runway. There are no apparent concerns adjacent to the current runway.

Total coal expenditures for S14AF20024 in SFY 2016 were $5,329.01. Additional costs of $25,258.37 were funded by a Planning Grant.

Spring Meadow Site

Spring Meadow is a mineral processing site located at Spring Meadow Lake State Park on the west edge of Helena and the Montana Wildlife Center on land owned by Montana Department of Fish Wildlife and Parks (FWP). During the interval 1909 through 1920, various hard rock milling operations operated at the site, which resulted in the deposition of mining wastes into impoundments in the area now included in the FWP lands and residential yards. Three residential yards were identified as requiring yard soil removal to meet risk based standards lead and arsenic in residential yards.
The Spring Meadow Residential Yards Project (Project) was undertaken by the Montana Department of Environmental Quality (DEQ) to address metals contamination (arsenic, lead, and manganese) in residential yards located east of Spring Meadow Lake. The metals contamination is believed to be associated with historic ore processing performed in the Spring Meadow Lake area.

The Project included assessment, reclamation design, and reclamation construction to address metals contaminated soils at three residential properties along Country Club Avenue in Helena, Montana. Reclamation construction activities for the Project commenced on April 21, 2014. Reclamation activities were completed on June 2, 2014, and closeout documentation was executed by June 4, 2014. During the course of reclamation, approximately 2,032 tons of metals-impacted soils were removed from three residential properties and properly disposed of at the Lewis and Clark County Landfill. Impacted soils were replaced with clean cover soil and surface features, including driveways, sidewalks, patios, fences, plants, and trees were restored.

Additional sampling was conducted on private property adjacent to Spring Meadow Lake at the owner's request. The sampling revealed elevated levels of arsenic in surface soils, due to the proximity of the property to the historic smelter, the investigation into the source of arsenic is ongoing, however is likely not linked to historic smelter outfall or tailings, therefore no further investigation or design is warranted at this time.

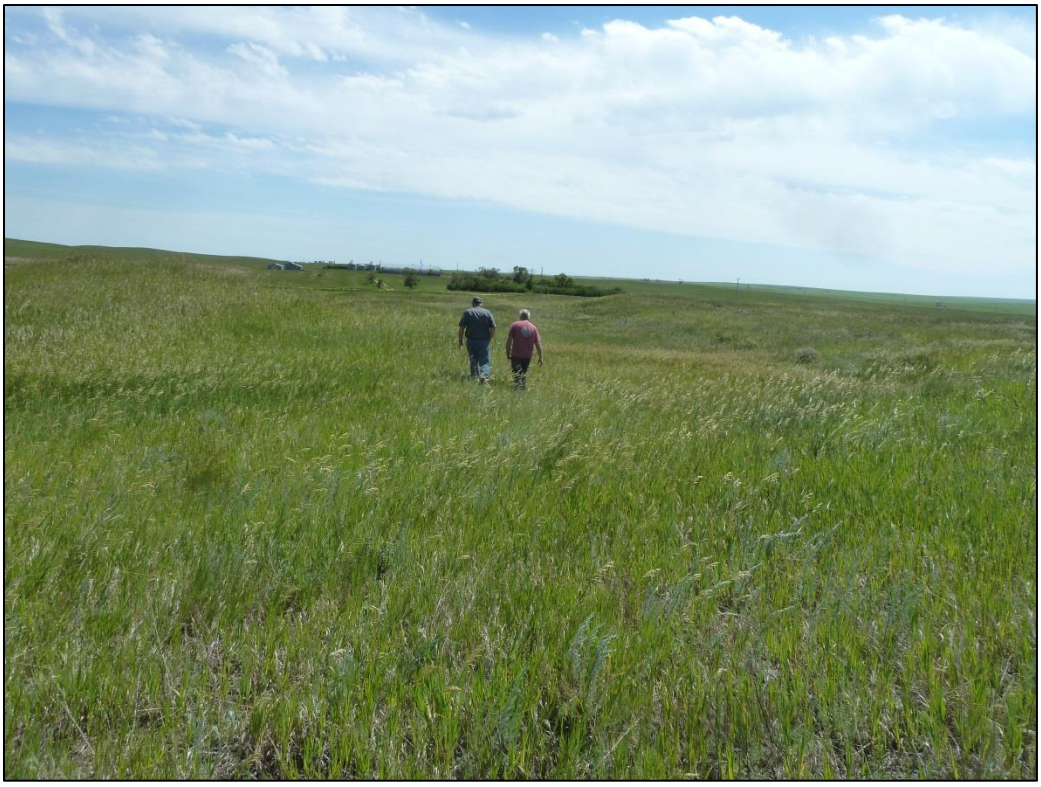
Total hardrock expenditures for S13AF20052 and S14AF20024 in SFY2016 were $44,425.11.

Wheeler-Lagerquist Mine

The Wheeler-Lagerquist project site is comprised of thirty-eight (38) separate subsidence features, various abandoned mining implements, and approximately 3,000 abandoned vehicle tires. This project has been awarded $300,000 Reclamation and Development Grant from the Montana Department of Natural Resources and Conservation for the purposes of off-setting some construction costs. Reclamation began in June 2014 and continued into the 2015 reporting period.

The neighboring Anderson-Lagerquist-Elm Mine reclamation project consisted of ameliorating the eleven (11) extant subsidence features. Phase I of this project began in June 2014 and continued into 2015. Phase II of this project was also completed in 2015.

Total expenditures for S14AF20024 in SFY2016 were $678.36. These costs were for personal services, benefits, and indirect costs.



Nice reclamation of site (photo taken 6/21/16)

Kill deer eggs on the site (photo taken 6/21/16)

Wibaux County Mines

Construction work was planned for three mines in Wibaux County: Black Diamond, Peplinski, and the North Wibaux Mine. Each of these sites has seen extensive reclamation work dating back to the late 1980s with maintenance work completed at various times since. At this time, each has multiple new sink holes that are in need of remediation. The planned work at each site is:

Black Diamond: 5 Sink holes
Peplinski: 3 Sink Holes
North Wibaux 10 Sink holes

In May of 2013 two test digs were performed at the North Wibaux Mine to determine the feasibility of excavation of the sink hole to the historic workings. Pits were dug to 27 and 22 feet respectively and filled. The poorly lithified nature of the sandstone above the workings created an unstable conditions and collapsing banks. The subsidence features at North Wibaux will be excavated to the deepest possible safe depth and refilled with compacted material.

An unusually wet summer in eastern Montana has exacerbated subsidence conditions at all three sites. Almost all features have grown in size and at the Peplinski Mine site two new features opened after rains in late June.

Reclamation work begun in the fall of 2014 and was completed in the spring of 2015.

The Wibaux County Mine sites were inspected by Bill Snoddy and John Ahlbrandt in the fall of 2015. Grass had begun to grow on all sites within the Black Diamond Mine requiring weed control work, which was completed in the fall of 2015.

Total expenditures for S14AF20024 in SFY2016 were $5,777.89.

2. AML Emergency Investigations and Abatement Efforts

There is no longer OSMRE Emergency Funding designated for emergencies, but situations where human health, safety, or property damage are threatened are dealt with by the MTAMLP as "Rapid Response" projects.

Our 2016 evaluation of AML emergency investigations and abatement efforts examined whether emergency criteria of the State AMLR plan were satisfied and the subsequent project(s) were completed as described in the AML Emergency Investigation report. Several instances of coal subsidence were reported throughout eastern Montana during the EY. None of these threatened property damage so none were considered to be emergencies.

3. AML Grant Administration

In 2006, Congress approved the Surface Mining Control and Reclamation Act (SMCRA)Amendments of 2006 as part of the Tax Relief and Health Care Act of 2006 (P.L. 109-432). Part of the amendments changed the funding amounts and funding calculations to both certified and uncertified States and Tribes. The Amendments created two new funding mechanisms for certified States and Tribes: Prior Balance Replacement Funds (PBRF) under Section 411(h) (1) and Certified in Lieu funds (CIL) under Section 411(h) (2). PBRF are State Share moneys that were not distributed over past years and now will

be distributed in their entirety over a seven year period starting in Federal FY 2008. PBRF may be used for those purposes the State legislature or Tribal council establishes, giving priority to addressing the impacts of mineral development (30 CFR § 872.31). CIL funds are State Share moneys that would otherwise be distributed from the Abandoned Mine Lands Fund, only these moneys for certified States and Tribes are now distributed from the general funds of the United States Treasury that are otherwise unappropriated. CIL funds are distributed to certified States and Tribes at 25% the first year, 50% the second year, 75% the third year and 100% the fourth year and thereafter starting in Federal FY 2009 (30 CFR § 872.33). There are no limitations or restrictions on the use of CIL funds in the SMCRA Amendments of 2006 (30 CFR § 872.34).

Montana certified completion of all known Priority 1 and 2 (P1 and P2) coal problems on April 11, 1990, with the Secretary of the Interior concurring on July 9, 1990. Montana's funding is now exclusively derived from funds under Sections 411(h) (1) and 411(h) (2). As a condition of certification, Montana is required to treat all Priority 1, 2 and 3 coal problems as they arise.
The Montana legislature allocates all PBRF and CIL moneys to the MTAML to fund abandoned mine reclamation activities. Rather than using PBRF moneys for projects of their choosing as is allowed under the law (30 CFR 872.31), the Montana Legislature has designated all funds to the Abandoned Mine Reclamation program for the satisfaction of its mission (Montana Code Annotated, 82-4-1006 Abandoned Mine Reclamation Account). Montana's PBRF moneys remained constant at $8,069,086 until it expired in Federal Fiscal Year 2014. Montana's CIL moneys reached 100% in Federal FY 2012 and will remain at that level until FYs 2018 and 2019 when the percentages of 75%, 50% and 25% not paid out respectively in FYs 2008, 2009 and 2010 are recaptured and paid out in two equal payments in 2018 and 2019 in addition to the annual CIL payment. The MTAMLP will continue reclamation of all Priority 1, 2 and 3 coal problems as they are identified, and direct the remaining moneys to hard rock and other non-coal mining problems.

4. Subsidence Prone Area Inventory

The project summaries above titled, "1. Overall Reclamation Success", include and individually address specific subsidence projects and total expenditure information.

5. Acid Mine Drainage

The project summaries above titled, "1. Overall Reclamation Success", include and individually address specific acid mine drainage project and total expenditure information.

6. Inspection and Maintenance of Past Projects

A large part of the MTAMLP involves inspection and maintenance of past projects. This may include monitoring for, and the subsequent correction of, problems observed at the sites related to weed control, vegetation establishment, and erosion control. The project summaries above titled, "1. Overall Reclamation Success", address and specify these efforts on the various projects.

7. Public Outreach

Public Outreach is addressed in detail above, Section IV, "Public Participation and Outreach".

VI. Tables

Table 1 – Montana Status of AML Inventory all Coal Priority 1, 2, and 3 Hazards on June 30, 2016					
	High Priority		Elevated Priority 3	Stand-Alone Priority 3 (Not adjacent or in conjunction w/ P1&2)	Total
	Priority 1	Priority 2			
UNFUNDED					
GPRA Acres	56.00	66.00	N/A	111.00	233.00
Dollars	114,200.00	122,970,613.00	N/A	8,532,000.00	131,616,813.00
FUNDED					
GPRA Acres	6.11	415.00	-	-	421.11
Dollars	86,500.00	500,000.00	-	-	586,500.00
COMPLETED					
GPRA Acres	1,639.58	1,743.75	-	3,681.01	7,064.34
Dollars	5,953,258.78	17,463,612.79	-	10,171,935.00	33,588,806.57

Table 1A – Montana Status of AML Inventory all Non-Coal Priority 1, 2, and 3 Hazards on June 30, 2016					
	High Priority		Elevated Priority 3	Stand-Alone Priority 3 (Not adjacent or in conjunction w/ P1&2)	Total
	Priority 1	Priority 2			
UNFUNDED					
GPRA Acres	0.10	1,229.30	N/A	1.01	1,230.41
Dollars	5,000.00	87,965,250.00	N/A	150,000.00	88,120,250.00
FUNDED					
GPRA Acres	-	4.00	-	-	4.00
Dollars	-	85,000.00	-	-	85,000.00
COMPLETED					
GPRA Acres	118.34	1,135.86	-	54.70	1,308.90
Dollars	28,028,995.81	37,442,163.14	-	978,300.00	66,449,458.95

Table 2 - Montana Accomplishments in Eliminating Health and Safety Hazards Related to Past Mining of Coal Priority 1 and 2 Hazards (As of June 30, 2016)

	PROBLEM TYPE (keyword)																	
	Clogged Stream (CS) (miles)	Clogged Stream Lands (CSL) (acres)	Dangerous Pile or Embankment (DPE)(acres)	Dangerous Highwall (DH) (feet)	Dangerous Impoundment (DI) (count)	Dangerous Slide (DS) (acres)	Gases: Hazardous / Explosive (GHE) (count)	Hazardous Equip. / Facilities (HEF) (count)	Hazardous Water Body (HWB) (count)	Industrial/Residential Waste (IRW) (acres)	Portal (P) (count)	Polluted Water:Agri/Industrial (PWAI)(count)	Polluted Water: Human Consumption (PWHC)(count)	Subsidence (S) (acres)	Surface Burning (SB) (acres)	Underground Mine Fire (UMF) (acres)	Vertical Opening (VO) (count)	TOTAL
UNRECLAIMED/REMAINING HAZARDS (Unfunded)																		
Units	-	-	-	-	-	-	-	-	-	-	1.00	-	12.00	61.50	-	-	4.00	N/A
GPRA Acres	-	-	-	-	-	-	-	-	-	-	0.10	-	60.00	61.50	-	-	0.40	122.00
Dollars	-	-	-	-	-	-	-	-	-	-	4,500.00	-	122,946,613.00	126,200.00	-	-	7,500.00	123,084,813.00
ANNUAL RECLAMATION - EY2016 only (Completed)																		
Units	-	-	-	-	-	-	-	-	-	-	-	-	-	2.30	-	-	0.01	N/A
GPRA Acres	-	-	-	-	-	-	-	-	-	-	-	-	-	2.30	-	-	0.00	2.30
Dollars	-	-	-	-	-	-	-	-	-	-	-	-	-	9,455.00	-	-	4,000.00	13,455.00
HISTORICAL RECLAMATION - EY1978 - 2016 (Completed)																		
Units	10.19	11.90	82.80	7,910.00	3.00	0.90	-	197.00	-	204.60	725.50	22.00	290.00	811.62	307.40	81.98	433.30	N/A
GPRA Acres	50.97	19.90	82.80	113.00	15.00	0.90	-	19.70	-	204.60	72.55	110.00	1,450.00	811.62	307.40	81.58	43.31	3,383.33
Dollars	1,255,627.00	205,628.00	972,126.00	438,454.00	14,000.00	1,000.00	-	839,766.00	-	124,041.00	2,322,010.00	1,169,673.63	3,724,017.61	6,776,235.15	2,154,350.00	2,348,289.50	1,071,653.68	23,416,871.57

Table 2A - Montana Accomplishments in Eliminating Health and Safety Hazards Related to Past Mining of Non-Coal Priority 1 and 2 Hazards (As of June 30, 2016)

	PROBLEM TYPE (keyword)																	
	Clogged Stream (CS) (miles)	Clogged Stream Lands (CSL) (acres)	Dangerous Pile or Embankment (DPE)(acres)	Dangerous Highwall (DH) (feet)	Dangerous Impoundment (DI) (count)	Dangerous Slide (DS) (acres)	Gases: Hazardous / Explosive (GHE) (count)	Hazardous Equip. / Facilities (HEF) (count)	Hazardous Water Body (HWB) (count)	Industrial/Residential Waste (IRW) (acres)	Portal (P) (count)	Polluted Water:Agri/Industrial (PWAI)(count)	Polluted Water: Human Consumption (PWHC)(count)	Subsidence (S) (acres)	Surface Burning (SB) (acres)	Underground Mine Fire (UMF) (acres)	Vertical Opening (VO) (count)	TOTAL
UNRECLAIMED/REMAINING HAZARDS (Unfunded)																		
Units	20.90	86.50	260.20	-	-	-	-	628.00	8.00	582.10	191.00	-	-	38.10	-	-	80.00	N/A
GPRA Acres	103.50	86.50	260.20	-	-	-	-	62.80	40.00	609.40	19.10	-	-	38.10	-	-	9.80	1,229.40
Dollars	8,570,000.00	7,350,000.00	20,293,000.00	-	-	-	-	3,520,000.00	800,000.00	4,560,000.00	940,000.00	-	-	482,250.00	-	-	415,000.00	46,930,250.00
ANNUAL RECLAMATION - EY2016 only (Completed)																		
Units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A
GPRA Acres	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dollars	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HISTORICAL RECLAMATION - EY1978 - 2016 (Completed)																		
Units	20.75	144.84	98.00	17,650.00	-	-	1.00	70.00	-	335.87	396.00	-	-	10.12	3.00	-	272.11	N/A
GPRA Acres	94.30	358.70	98.00	285.86	-	-	1.00	7.00	-	332.81	39.60	-	-	10.12	3.00	-	29.01	1,259.40
Dollars	4,466,927.40	12,249,157.12	3,601,328.75	2,926,653.00	-	-	84,250.00	255,082.00	-	40,481,992.20	416,980.00	-	-	338,539.48	106,477.00	-	748,860.00	65,676,246.95

Table 3 - Montana Accomplishments in Eliminating Environmental Problems Related to Past Coal Mining Priority 3 and SMCRA section 403(b) Hazards (As of June 30, 2016)

	PROBLEM TYPE (keyword)														
	Bench , Solid Bench, Fill Bench (BE) (acres)	Industrial/Residential Waste Dump (DP) (acres)	Equipment and Facilities (EF) (count)	Gob (GO) (acres)	Highwall (H) (feet)	Haul Road (HR) (acres)	Mine Opening (MO) (count)	Pit, Open Pit, Strip Pit (PI) (acres)	Spoil, Spoil Bank (SA) (acres)	Slurry (SL) (acres)	Slump (SP) (acres)	Water (WA) (gallons)	Other (specify)	Water Supplies (WS) – Section 403(b) (count)	TOTAL
UNRECLAIMED/REMAINING HAZARDS (Unfunded)															
Units	-	-	-	11.00	-	-	-	-	-	-	-	100.00	-	-	N/A
GPRA Acres	-	-	-	11.00	-	-	-	-	-	-	-	100.00	-	-	111.00
Dollars	-	-	-	6,750,000.00	-	-	-	-	-	-	-	1,782,000.00	-	-	8,532,000.00
ANNUAL RECLAMATION - EY2016 only (Completed)															
Units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A
GPRA Acres	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dollars	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HISTORICAL RECLAMATION - EY1978 - 2016 (Completed)															
Units	0.80	104.80	58.00	164.70	1,170.00	0.50	42.00	17.80	854.20	-	18.50	2,740.50	14.00	-	N/A
GPRA Acres	0.80	104.80	5.80	164.70	16.71	0.50	4.20	17.80	854.20	-	18.50	2,500.00	-	-	3,688.01
Dollars	2,000.00	468,539.00	134,859.00	1,690,625.00	58,008.00	10,000.00	26,395.00	49,954.00	6,753,127.00	-	36,163.00	800,970.00	141,295.00	-	10,171,935.00

Table 3A - Montana Accomplishments in Eliminating Environmental Problems Related to Past Non-Coal Mining Priority 3 and SMCRA section 403(b) Hazards (As of June 30, 2016)

	PROBLEM TYPE (keyword)														
	Bench , Solid Bench, Fill Bench (BE) (acres)	Industrial/Residential Waste Dump (DP) (acres)	Equipment and Facilities (EF) (count)	Gob (GO) (acres)	Highwall (H) (feet)	Haul Road (HR) (acres)	Mine Opening (MO) (count)	Pit, Open Pit, Strip Pit (PI) (acres)	Spoil, Spoil Bank (SA) (acres)	Slurry (SL) (acres)	Slump (SP) (acres)	Water (WA) (gallons)	Other (specify)	Water Supplies (WS) – Section 403(b) (count)	TOTAL
UNRECLAIMED/REMAINING HAZARDS (Unfunded)															
Units	-	-	-	-	1.00	-	-	1.00	-	-	-	-	-	-	N/A
GPRA Acres	-	-	-	-	0.01	-	-	1.00	-	-	-	-	-	-	1.01
Dollars	-	-	-	-	50,000.00	-	-	100,000.00	-	-	-	-	-	-	150,000.00
ANNUAL RECLAMATION - EY2016 only (Completed)															
Units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A
GPRA Acres	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dollars	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HISTORICAL RECLAMATION - EY1978 - 2016 (Completed)															
Units	-	-	-	-	-	-	188.00	16.30	12.60	-	-	-	-	-	N/A
GPRA Acres	-	-	-	-	-	-	18.80	16.30	12.60	-	-	-	-	-	47.70
Dollars	-	-	-	-	-	-	258,991.00	24,885.00	694,424.00	-	-	-	-	-	978,300.00

Table 4 – Montana Public Well-Being Enhancement All Priority 1, 2, and 3 AML Projects Completed During EY 2016 (not including CH1 and CH2 programs)						
#	PAD Number	Project Name	Problem Type(s) Reclaimed	GPRA Acres	Cost	Number of People with Reduced Exposure Potential (State Estimated /or/ Census Data)
1	No Data					
TOTAL				0	0	0

Table 4A – Montana Public Well-Being Enhancement (All Priority 1, 2, and 3 AML Projects from All Program Areas Completed During EY 2016)						
#	PAD Number	Project Name	Problem Type(s) Reclaimed	GPRA Acres	Cost	Number of People with Reduced Exposure Potential (State Estimated /or/ Census Data)
1	MT003811	Powder River Locales-Coal Creek	S	2	$ 4,955.00	2
2	MT000905	Storm King Mine	S	0.3	$ 4,500.00	6
3	MT049073	Park Pedro	S	0.0001	$ 4,000.00	1,753
TOTAL				2.3001	$ 13,455.00	1,761.00

Table 5 – Montana - Partnership Financial Resources Dedicated to Protecting the Public from Adverse Effects of Past Mining (AML projects completed during EY 2016)									
#	PAD Number	Project Name	SMCRA Program Funding Source	Total SMCRA funding	Alternate Non-SMCRA Funding Source	Total non-SMCRA Funding	In-Kind Services	Total Project Funding	Comments
1	No Data								
TOTAL				0		0	0	0	

Table 6 – Montana – Reclamation Projects Started and/or Completed (AML projects started and/or Completed during EY 2016)		
Project Type	Projects Started	Projects Completed
State/Tribe (EY 2016):	5	5
Federal (EY 2016):	0	0
Total (EY 2016):	5	5

Table 7 – Montana AML Program Grant Awards and Staffing (During EY 2016)	
AML Program Costs	
Administration	**$755,757.00**
Construction	**$3,674,212.00**
Water Supply Construction	**$0.00**
AMD Set-Aside	**$0.00**
Other(s) (Specify)	**$0.00**
Total AML Funding	**$4,429,969.00**
AML Program Staffing (full-time equivalents on June 30, 2016):	**8.0**

Note: This data is taken from the approved Montana FFY16 AMLR Consolidated Grant. It does not account for Project work conducted or completed with FFY15 Grant funds.

VII. Comments

Appendix A: State Comments and CAO's Responses to the Draft Evaluation Summary Report:

MTAMLP's comments consisted of only minor edits, which have been incorporated into the document.