

2009 Pennsylvania Annual Evaluation Report



Pittsburgh Field Division – Harrisburg Office



**Office of Surface Mining Reclamation & Enforcement
U.S. Department of the Interior**



OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

Annual Evaluation Report

for the

Regulatory and Abandoned Mine Land Reclamation Programs

Administered by the Commonwealth

of

Pennsylvania

for

Evaluation Year 2009

(July 1, 2008 to June 30, 2009)

TABLE OF CONTENTS

| | | |
|------|---|----|
| I. | Introduction..... | 1 |
| II | Summary..... | 1 |
| III. | Overview of the Pennsylvania Coal Mining Industry..... | 2 |
| IV. | Overview of Public Participation in the Program..... | 3 |
| | A. Public Involvement in PADEP’s Regulatory Process..... | 3 |
| | B. Outreach by OSM..... | 8 |
| V. | Major Accomplishments/Issues/Innovations..... | 8 |
| | A. ABS Forfeiture Permits with Post Mining Discharges..... | 8 |
| | B. Coal Combustion By-Products on Mine Permits..... | 9 |
| | C. Amendments to the Pennsylvania Approved Regulatory Program | 11 |
| | D. Mine Drainage Treatment Technologies..... | 13 |
| | E. Growing Greener | 13 |
| | F. Appalachian Regional Reforestation Initiative (ARRI)..... | 14 |
| | G. Other Initiatives and Accomplishments | 15 |
| | H. Title IV of SMCRA AML Reclamation..... | 18 |
| VI. | Success in Achieving the Purposes of SMCRA..... | 26 |
| | A. Off-Site Impacts..... | 26 |
| | B. Reclamation Success..... | 30 |
| | C. Customer Service..... | 31 |
| | D. Refuse Disposal Mine Permit Study..... | 31 |
| VII | OSM Assistance..... | 33 |

| | | |
|------|---|----|
| A. | AML/AMD Treatment Systems GIS and Information Data Base | 33 |
| B. | AMD Inventory Maintenance (Primacy Permits) | 34 |
| C. | Watershed Cooperative Agreement Program..... | 35 |
| VIII | General Oversight Topic Reviews..... | 36 |
| A. | Oversight Inspections..... | 36 |
| B. | Abandoned Mine Lands Project Reviews..... | 41 |
| C. | Conventional Bonds and Treatment Trust Funds..... | 42 |
| D. | Internal Control Study..... | 43 |
| E. | Status of LC&N Permit..... | 44 |

On the cover is the Whitney GFCC project, which is discussed in detail in the report.

APPENDIX A: Acronyms used in the Report47

APPENDIX B: Tabular Summaries of Data Pertaining to Mining, Reclamation and Program Administration.....48

Table 1 - Coal Production

Table 2 - Inspectable Units

Table 3 - State Permitting Activity

Table 4 - Off-Site Impacts

Table 5 - Annual State Mining and Reclamation Results

Table 6 - State Bond Forfeiture Activity

Table 7 - Pennsylvania Staffing

Table 8 - Funds Granted to Pennsylvania by OSM

Table 9 - State of Pennsylvania Inspection Activity

Table 10- State of Pennsylvania Enforcement Activity

Table 11- Lands Unsuitable Activity

I. Introduction

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) created the Office of Surface Mining Reclamation and Enforcement (OSM) in the Department of the Interior. SMCRA provides authority to OSM to oversee the implementation of and provide Federal funding for State regulatory programs that have been approved by OSM as meeting the minimum standards specified by SMCRA. This report contains summary information regarding the Pennsylvania Program and the effectiveness of the Pennsylvania Program in meeting the applicable purposes of SMCRA as specified in Section 102. This report covers the 2009 evaluation year, from July 1, 2008, to June 30, 2009. Detailed background information and comprehensive reports for the program elements evaluated during the period are available for review and copying at OSM's Harrisburg Office of the Pittsburgh Field Division (PFD).

The OSM Harrisburg Office develops an annual work plan in conjunction with the Pennsylvania Department of Environmental Protection (PADEP), to review and assess Pennsylvania's administration of its approved Abandoned Mine Reclamation, and Coal Mining Regulatory programs. The work plan also focuses on technical and program assistance activities jointly undertaken by OSM and PADEP staff to improve the effectiveness of Abandoned Mine Lands (AML) and Acid Mine Drainage (AMD) reclamation, and coal mining regulatory programs. A copy of the 2009 work plan is available from the OSM Harrisburg Office.

A list of acronyms used in this report is located in Appendix A.

II. Summary

This Evaluation Year 2009 (July 2008 through June 2009) the Pennsylvania coal regulatory and abandoned mine land programs continued to provide for increased environmental improvement for coal field citizens. The OSM oversight data of the Pennsylvania coal program indicate PADEP is administering a program where active mining sites are, with few exceptions, in compliance with planning, mining, and reclamation standards. Reclamation of active mining sites is thorough and proceeds in a contemporaneous fashion. PADEP abandoned mine land program restoration is effective in abating safety and environmental problems on previously mined sites. These Pennsylvania programs continue to effectively achieve or exceed the regulatory and reclamation goals of SMCRA.

During this review period, OSM conducted 319 permit inspections including 113 oversight complete inspections, and 68 state enforcement follow ups. OSM conducted 24 abandoned mine reclamation project inspections. Data show PADEP is administering a regulatory program where active mining sites are, with very few exceptions, in compliance with the approved program requirements. Very few off-site impacts were identified and when identified were reported as having mostly minor adverse impacts. Bond releases data show active mine sites are being fully restored to pre-mining conditions in timely manner. Project file field verification data show abandoned mine reclamation projects result in successful hazard elimination and environmental stabilization and enhancement.

III. Overview of the Pennsylvania Coal Mining Industry

The coal geology of Pennsylvania is dominated by the Appalachian Mountains running northeast to southwest and dividing the State into two distinct coal regions. Mountains and gently rolling hills characterize the western bituminous region of the State, where the majority of mines are located. Areas within this region containing acidic overburden often require special reclamation efforts. The bituminous coal seams underlay about 12,000 square miles in 28 counties of the State. The coal is found in four fields; the Main Bituminous Field in the southwest counties; the Georges Creek Field in the southern counties; the Broad Top Field in the south-middle counties; and the North-Central Field in the north-central counties of the State.

The anthracite coal region is located in the northeast quarter of Pennsylvania and covers approximately 3,300 square miles. The coal is found in four fields; the Northern Field; the Eastern-Middle Field; the Western-Middle Field; and the Southern Field. The Southern Field has the greatest amount of reserves that can be mined. The coal lies almost entirely in synclinal basins oriented in a general direction of N 70 degrees E. The more than 20 different coal seams vary in thickness from a few inches to 50 or 60 feet. The anthracite region is characterized by steeply pitching seams, some with dips in excess of 60 degrees. Such seams require highly specialized mining techniques, and present unique challenges for solving problems such as mine subsidence associated with abandoned anthracite mines.

For more than a century, coal has played a major role in the economic and industrial development of Pennsylvania, particularly the steel making industry, and has historically employed thousands of workers. Although Pennsylvania has experienced a decline in coal production over the past decade, it continues to be a leading coal producing State, due to its estimated bituminous reserves that total 23 billion tons, or 5.3 percent of U.S. reserves, and anthracite reserves that total 7.1 billion tons, or 97 percent of U.S. anthracite reserves.



Anthracite Coal Mine Site

In calendar year 2008, Pennsylvania produced approximately 68.3 million tons¹ of bituminous and anthracite coal on surface and underground mines, which is virtually the same amount as reported in 2007. Of the total coal production, bituminous mining accounted for 65.8 million tons, and the remaining 2.5 million tons were mined in the anthracite region. In addition, coal refuse mine sites were responsible for producing 7.8 million tons of material, of which 2.4 million tons were reported in the bituminous region and 5.4 million tons were reported in the anthracite region. This is a decrease from the 8.4 million tons of coal refuse material mined in 2007.

Underground mining accounted for almost 81% of the total coal mined from surface and underground mines in the bituminous region and 78% of coal mined statewide. The eight underground mines in Greene County accounted for 77% of all coal mined from underground operations. Conversely, in 2008, bituminous and anthracite surface mining companies produced 14.8 million tons of coal, which was 22% of the total surface and underground coal mined in Pennsylvania. The largest surface coal producing county, with 3.03 million tons, occurred in Somerset County with Clearfield County in second place, reporting 2.7 million tons.

In 2008, 161 bituminous mine operators reported production at 409 mine sites. That number includes 39 underground mines, 347 surface mines, and 23 coal refuse sites and is down from the 415 active mining operations reported in 2007. This figure includes 360 surface mines. Eighty anthracite mine operators reported production at 126 mine sites. That number included 58 surface mines, 56 coal refuse sites, and 12 underground mines.

Anthracite mining production increased slightly in 2008, with 2.5 million tons of coal produced on 70 mine sites. Of these sites, 0.24 million tons were produced at 12 underground mine sites, while 91% of the coal production occurred on 58 surface mines, reporting 2.3 million tons. In 2008, 7,696 people were employed in the coal mining industry in Pennsylvania.

IV. Overview of the Public Participation Opportunities in the Oversight Process and the State Program

During this evaluation period, PADEP and OSM continued several ongoing initiatives that provided opportunity for public involvement.

A. Public Involvement in PADEP's Regulatory Process

Citizens Advisory Council

PADEP solicits and/or receives public input on proposed changes to the Pennsylvania mining program from the Citizens Advisory Council (CAC). The Council consists of eighteen appointed citizen volunteers who serve staggered three year terms. The Governor, the Speaker of the House of Representatives and the President Pro Tempore of The Senate appoints these members. No more than half of the appointees are from the same political party. Since its creation in 1971, the

¹ This figure represents a PADEP compilation based on reporting efforts by PADEP and Mine Safety Health Administration

CAC has been actively involved in Commonwealth environmental issues. The Council is the only legislatively mandated advisory committee with the comprehensive charge to review all environmental legislation, regulations and policies affecting PADEP.

During this evaluation year, the CAC conducted 8 meetings and provided comments to PADEP on a number of mining related issues.

Mining and Reclamation Advisory Board

The Mining and Reclamation Advisory Board (MRAB) was created in 1984 by Act 181, which amended the Surface Mining Conservation and Reclamation Act (SMCRA), of the Pennsylvania General Assembly. MRAB's purpose is to assist and advise the Secretary of the Pennsylvania Department of Environmental Protection on all matters pertaining to mining and reclamation. The advisory role of the board also covers Title IV of the Federal SMCRA, relating to abandoned mine land reclamation issues. The MRAB is comprised of the Citizen Advisory Council, the coal industry, county conservation districts, and the Pennsylvania General Assembly. The full board meets four times per year and the subcommittees meet regularly to address a number of coal program areas each year. The meeting minutes, handouts, and MRAB's annual report are available on the PADEP website.

During the year, the MRAB was provided information regarding a variety of mining and abandoned mine land reclamation topics including the following:

- Changes in the Department's beneficial use of coal ash technical guidelines. Two draft guidelines were issued for comments.
- 2009 proposed Bond Rate Guidelines.
- Status of BAMR's AML reclamation projects.
- The proposed elimination of the Federal emergency response program.
- The Anthracite Region Mine Pool Mapping Project under the administration of the Eastern Pennsylvania Coalition for Abandoned Mine Reclamation (EPCAMR).
- The status of Primacy Bond Forfeiture Reclamation Program in the Moshannon District.
- The status of the ABS Legacy Fund, and AMD Treatment Trust Funds.
- The Department's position on OSM's proposed Remining Incentives rulemaking.
- Proposed revisions to the Pennsylvania Statewide Comprehensive AML Reclamation Plan, as a result of the AML Reauthorization, and other changes in the program.

Environmental Hearing Board

The Environmental Hearing Board (EHB) is an independent quasi-judicial agency that includes a Chairman and four members. Members are administrative law judges with a minimum of five years of relevant legal experience. The EHB has the sole power to hear and decide appeals of

PADEP's actions. Litigants have the right to appeal EHB decisions to the Commonwealth Court. During this evaluation period, the EHB issued several decisions pertaining to the approved state program. The most significant decisions are summarized below.

On November 10, 2008, the EHB issued a decision in regards to EHB Docket No. 2006-234-R. In this appeal of a Departmental order, brought by Cumberland Coal Resources, L.P., the EHB ruled that Cumberland Coal had successfully rebutted the presumption of liability for pollution, found in title 25 § 87.119(b)(1). In summary, Cumberland Coal Resources constructed a temporary access road and exploratory core hole in advance of its underground mining operation. The road was soon reclaimed and reseeded, and the bore hole was cased to 20 feet and later filled with cement. A domestic water supply, consisting of a spring was located within 1,000 feet of the mining activity. Therefore, Cumberland Coal Resources was presumed liable for the water supply in accordance with the regulations cited above. After the hole was drilled, the property owner complained of a diminution in the quantity of the spring water. Cumberland Coal Resources promptly installed a temporary water supply in August of 2005, which was maintained until the EHB decision. PADEP conducted an investigation and found the mining activity was not responsible for the loss of water in the spring. The complainant requested an informal review, and that review reversed the original decision and found that the mining activities had resulted in a decrease in flow. Cumberland Coal Resources appealed the Department's decision to the EHB, which conducted a five day trial in May 2008. EHB's decision found that Cumberland Coal Resources had demonstrated, through a preponderance of evidence, that the pollution or diminution of the spring water was not as a result of the mining activity, and was more likely due to low rainfall, and a fouled collection box.

On March 20, 2009, the EHB issued a decision in regards to EHB Docket No. 2007-140-L. In this appeal of a Departmental decision, Mystic Brooke Development, L.P. contended that Helvetia Coal Company, which holds the permit to a refuse disposal area, is allowing sulfate contamination of a water supply from discharges originating from the refuse disposal permit. Water supply contamination issues are subject to Title 25 § 87.119. However, the 1,000 foot rebuttable presumption of liability does not apply in this case because the permit was issued prior to February 16, 1993, the effective date of this provision. PADEP investigated the complaint and found that, while the sulfate contamination was originating from Helvetia's refuse disposal permit and even increasing in loading, the contamination did not affect the purpose served by the water supply. Mystic Brooke contended the water supply was developed as, and intended to be used as a potable water supply for the facility. PADEP's investigation found no evidence that the water supply had ever been used as anything but industrial water. The EHB ruling found that the water supply (D-4) still served its intended purposes, even with the increased sulfate contamination, and that the Department had acted reasonably and lawfully in determining that Helvetia is not required to replace water supply D-4 or provide a potable water supply.

On May 21, 2009, the EHB issued a decision regarding EHB Docket No. 2007-041-R. In this appeal of a Departmental Decision, PDG Land Development, Inc. appealed the Department's decision to deny a surface mining permit for a 613 acre tract of partially mined area in the City of Pittsburgh. At issue was the proposal to construct four valley fills, to create a post mining land use suitable for residential and commercial development. These valley fills would destroy 8,000 feet of perennial and intermittent streams. The Department found the destruction of 8,000 feet of

streams would be in violation of Title 25 § 86.102 (12). This is a prohibition against mining within 100 feet of a perennial or intermittent stream without a variance in which the applicant demonstrates beyond a reasonable doubt that there will be no adverse hydrologic impacts, water quality impacts or other environmental resources impacts as a result of the variance. The Department found the mining plan could not be achieved without adverse impacts to the streams. PDG Land Development, in its appeal, agreed that the streams would be negatively affected, but that the net environmental impact of its proposed development activities would far outweigh the damage to the streams, which are heavily AMD impacted, and lifeless. The EHB determined that there will be severe hydrologic, water quality and environmental resources impacts on these streams, and that the aquatic condition of the streams is not a test adopted by law. Therefore, the EHB granted the Department's motion for summary judgment on the issue of the stream buffer zone, and dismissed PDG's appeal.

On June 16, 2009, the EHB issued a decision regarding EHB Docket no. 2009-016-L. In this appeal, Mystic Brooke Development, L.P. asked EHB to intervene on a letter from the Department directing Helvetia Coal Company to submit a plan of action for collecting and treating new seeps that developed on Mystic Brooke property and which are hydrologically connected to Helvetia's coal refuse disposal permit. Mystic Brooke alleges that the letter "permits," "absolves," "exempts," and "authorizes some of the discharges from Helvetia's property that flow on Mystic Brooke property. The EHB dismissed the appeal, finding that the Department's "letter does not constitute a final appealable action of the Department that the Board has jurisdiction to review." The Board found the letter "makes no binding findings, it confers no rights, and it imposes no liability." The Board further found that the letter "appears quite interlocutory in nature, and on the face anticipates further action, such as a permit revision."

Environmental Quality Board

The Environmental Quality Board (EQB) is a 20 member independent board that reviews and adopts all PADEP Regulations. The Board, which is chaired by the Secretary of PADEP, includes members from 11 state agencies, the CAC and the State Senate and House of Representatives. PADEP, through the EQB, requests comments on all proposed regulations and holds public hearings or public meetings to provide citizens with the opportunity to provide input. The EQB addresses all comments received on proposed rules in the preamble of the final rules that are published in the *Pennsylvania Bulletin* and are available for public review on the PADEP Internet site. As part of the development of the regulations required by statute or by regulatory initiatives, PADEP holds outreach discussions or other public meetings to explain regulatory initiatives, where there is significant public interest. During the evaluation year, the EQB did not consider any regulatory packages pertaining to the coal mining program.

Independent Regulatory Review Commission (IRRC)

The General Assembly passed the Regulatory Review Act in 1982, which established the Independent Regulatory Review Commission. IRRC was created to review Commonwealth agency regulations, excluding the Game Commission and the Fish and Boat Commission, to ensure that they are in the public interest.

The Commission's mission is to review regulations to make certain that the agency has the

statutory authority to enact the regulation and determine whether the regulation is consistent with legislative intent. IRRC then considers economic impact, public health and safety, reasonableness, and clarity. The Commission also acts as a clearinghouse for complaints, comments, and other input from the General Assembly and the public regarding not only proposed and final regulation, but also existing regulations. In addition to staff, five commissioners serve IRRC. Four are appointed by the General Assembly, and the governor appoints one. During the evaluation year, the IRRC did not consider any coal mining regulatory packages.

Public Comment in Permit Review Process

PADEP received 532 applications for permitting related actions that provided for public comment. The applicant is required to publish notice of the permit application in the local newspaper. PADEP publishes notices of permit applications and major permit revisions in the *Pennsylvania Bulletin*; notifies local municipal governments of permit applications; and holds public meetings with citizens to discuss pending applications.

Public Comment in the Bond Release Process

PADEP received 1,148 annual bond calculations and completion report applications during the past year. As part of the required annual bond calculation report, each permittee must notify every property owner of how much of the property owner's land has achieved Stage I, II and III standards during the preceding year. This required notice to the property owner also includes whom in the Department to contact if the property owner disagrees with the adequacy of reclamation.

The permittee must publish each bond release application in a local newspaper once a week for four consecutive weeks. This advertisement must include permittee name, and permit number, precise location and number of acres, total amount of bond and amount of requested release, summarize the reclamation, and state where written comments should be filed. The permittee must also provide proof of notification to surface owners, adjacent property owners, local government bodies, planning agencies and sewage and water treatment facilities. At any time, a citizen may file a complaint with the local PADEP Mining District Office about the adequacy of reclamation or about mining activities. The local PADEP office will contact the complainant within two days and complete the investigation within the next two weeks unless additional time is needed for additional analysis.

Citizen Complaint Resolution

The public may submit both informal and formal complaints on ongoing and completed mining operations, and bond release requests with respect to inspection, compliance monitoring and enforcement activity. During the evaluation year, PADEP received 439 citizen complaints, 412 of which were investigated, and 430 were successfully resolved at the close of this evaluation year. Complaints not resolved may have been referred to other PADEP bureaus for action or otherwise concluded. Complaints can be directed to many aspects of the mining activities including stream pollution from erosion and mine drainage, blasting effects on structures and water supplies, damage to public roads, mining off-permit, and dust.

B. Outreach by OSM

General Outreach

OSM continued interacting with citizens, industry and other State and Federal agencies on oversight and State program initiatives. The OSM attended the MRAB meetings to provide input on oversight initiatives and explain new OSM programs.

OSM's Pittsburgh Field Division (PFD) publishes a quarterly electronic newsletter that covers Pennsylvania, Maryland and Ohio. The newsletter highlights proposed Federal regulatory changes and policy guidance, court and IBLA (Interior Board of Lands Hearings and Appeals) decisions, the status of state program amendments, findings from OSM oversight studies, interaction with watershed groups and other partners, discussions of AML and AMD reclamation projects constructed, and innovative activities that states are involved in. The PFD maintains a mailing list of interested Federal and State individuals and agencies, as well as industry staff, private consultants, foundations, non-profit organizations, and individuals interested in coal mining and reclamation and abandoned mine reclamation issues. This newsletter has been well received over the years it has been published.

V. Major Accomplishments and Innovations in the Pennsylvania Program

A. Alternative Bonding System Bond Forfeited Permits with Post Mining Discharges

In 1991, oversight activities determined that Pennsylvania's ABS contained unfunded reclamation liabilities for land reclamation and the treatment of pollutorial discharges from bond forfeiture sites under its purview. As a result, on May 31, 1991, OSM imposed the required amendment requiring Pennsylvania to demonstrate that the revenues generated by its collection of the reclamation fee would assure that its Surface Mining Conservation and Reclamation Fund (Fund) could be operated in a manner that would meet the ABS requirements contained in 30 CFR 800.11(e). Later that year, on October 1, 1991, OSM sent a notice to Pennsylvania under 30 CFR 732.17, that the Pennsylvania alternative bonding system (ABS)...[was] no longer in conformance with SMCRA (section 509) and Federal regulations [30 CFR 800.11 (e)].

On August 1, 2008, PADEP submitted a program amendment request to address the outstanding 1991 deficiency notices. The amendment proposal is designed to address numerous funding, program and policy issues involved with the resolution of the reclamation of land and water needs which are now present with primacy ABS bond forfeited permits, or may arise with the future forfeiture of such permits that did not successfully transition to full cost bonding. The submission consists of changes to Pennsylvania statutes and regulations as well as narrative demonstrations and support information. Major components of the submission are:

- A. Regulatory Changes to Establish Legally Enforceable Means of Funding the O&M and Recapitalization Costs for the ABS Legacy Sites;
- B. The Conversion Assistance Program;
- C. Trust Funds as an Alternative System and Other Equivalent Guarantee: Rationale

- for Approval;
- D. Demonstration of Sufficient Funding for Outstanding Land Reclamation at Primacy ABS Forfeiture Sites; and
 - E. Demonstration of Sufficient Funding for Construction of All Necessary Discharge Treatment Facilities at the Primacy ABS Forfeiture Sites.

Pennsylvania is proposing that the program amendment include provisions that will cover the costs of all reclamation for sites bonded under the ABS that have had their bonds forfeited, as well as potential reclamation costs for sites bonded under the ABS and not yet forfeited, but for which conventional, full cost bonds or other sufficient financial assurance mechanisms have not been posted. By Federal Register dated January 14, 2009, OSM provided an opportunity for a public comment. The public comment period is closed and OSM review is ongoing.

Pennsylvania made progress towards the reclamation of surface mine sites forfeited under the previous alternative bonding system (ABS). During the review period, PADEP continued to manage and refine the list of sites needing land reclamation and/or mine drainage abatement efforts. Based upon a report provided to OSM in January 2009, PADEP designated reclamation complete at nine sites through a variety of efforts; landowner reclamation, contracts with PADEP, conversion to an active site, completion of reclamation by the operator and reevaluation by PADEP staff. To advance reclamation of mine drainage problems on ABS forfeiture sites, PADEP developed forms for landowner access and site management, created a discharge sample information system, initiated or completed design contracting on ten sites, and began the process for contracting for operation and maintenance on nine sites.

B. Use of Coal Combustion By-Products (CCB) on mine permits

The Pennsylvania Solid Waste Management Act of 1980 was amended in December 1986 to allow for the beneficial use of coal ash on mine sites including abandoned and permitted coal mines. PADEP developed technical guidance dated April 30, 1998, to provide for beneficial use of coal ash in four situations: coal ash placement, coal ash alkaline addition, coal ash as a soil additive or soil substitute, and coal ash as low-permeability material. These guidances were updated with the publication of interim final guidance on April 6, 2009. Coal ash to be applied on mine sites under the beneficial use authority, must meet chemical and physical characteristics of the Department's Certification Guidelines, and placement must conform to regulations and guidelines, and include ground water monitoring as directed by the Department. These provisions were enhanced with the updated guidance. The updated guidance was the result of multiple inputs.

PADEP, in an ongoing effort to maintain state of the science programs, did a comprehensive study of the beneficial use of coal ash in Pennsylvania. The result was a 369 page report titled "Coal Ash Beneficial Use in Mine Reclamation and Mine Drainage Remediation in Pennsylvania," which was published in 2004. The National Academy of Sciences, National Research Council, in 2006 issued a report titled "Managing Coal Combustion Residues in Mines". The NAS study made a variety of recommendations. DEP also met with and obtained input from numerous stakeholders. Stakeholders included environmental groups (Clean Air Task Force, Environmental Integrity Project, Sierra Club, Mountain Watershed Association), industry (ARIPPA, Electric Power Generation Association, Pennsylvania Coal Association, American

Coal Ash Association, Pennsylvania Anthracite Council, Pennsylvania Mining Professionals) and advisory groups (Mining Reclamation Advisory Board, Pennsylvania Chamber of Commerce, Solid Waste Advisory Council). Drafts of the technical guidances were published in the Pennsylvania Bulletin for comment in October and November 2008. Due to the extensive comments received, the guidances were revised and republished for additional public comment in February and March 2009. Comments were again considered and the documents were published as interim final in April 2009.

The revised guidances incorporate the following changes. Ash monitoring now includes 32 chemical parameters (had been 20), monitoring is now required four times per year (had been 2), and the administrative process has been simplified. The acceptable leaching limits have been lowered for several parameters, including arsenic. Water monitoring requirements have likewise been enhanced. Complete chemical analyses are now required four times per year (increased from one annual test), baseline data is 12 monthly samples (increased from six annual tests), and PADEP now requires the monitoring of 40 parameters. Three or more down gradient and one up gradient monitoring points are specified. Wells must be purged, and both total and dissolved metals are now obtained.

The review process has also been enhanced. PADEP now requires that the certification process for ash be performed by the ash generator. In the past, ash brokers and others had been allowed to ask for beneficial use approvals. Additional questions are being asked about the ash, such as incorporation of additives, influences from air pollution control devices on ash chemistry and physical properties, and the burning of alternate fuels and how these affect ash chemistry and physical properties.

PADEP chose to use the Interim Final route for its guidance for several reasons. First, the program needed to be brought up to current protective standards. Second, the guidance documents are “interim” because they will be revised as soon as the regulations are in place. Third, PADEP has limited resources and has chosen to focus those resources on development of regulations.

The most common comment received from commentators during the technical guidance document development process was that the Department needs to incorporate much of the guidance into regulations. The PADEP Bureau of Waste Management has been taking the lead on development of regulations dealing with the beneficial use of coal ash. Beneficial Use of Coal Ash has now been given its own chapter. It will be Chapter 290 in the 25 PA Code. The regulations will incorporate the certification guidelines for the chemical parameters.

The proposed draft regulations include most of the changes listed above regarding the technical guidance. Placing these programmatic items within the regulations will make them enforceable.

C. Amendments to the Pennsylvania Approved Regulatory Program

During this evaluation year, several changes to the Pennsylvania coal mining program were initiated and completed as a result of a cooperative effort by the PADEP and OSM staff. Under this team approach, OSM and PADEP staff analyze legislative and regulatory requirements, solicit comments from citizen and industry representatives, and prepare joint proposals consistent with both agency goals and with Pennsylvania and Federal laws. This is accomplished within existing Pennsylvania and Federal rulemaking requirements to improve public commenting opportunities and to simplify and shorten the process for modifying the approved Pennsylvania program. The Pennsylvania regulatory process can take up to twenty-four months until changes are finalized and published in the Pennsylvania Bulletin.

PA-148-FOR: On June 8 2006, PADEP submitted a proposed amendment to the approved State program regarding program changes to address blasting for the development of shafts for underground mines. The amendment relates to program changes addressing a number of issues relating to blasting at a mine site and clarifies that the use of explosives in connection with the construction of a mine opening for an underground mine is a surface mining activity subject to the applicable requirements in Chapter 87 or 88, and that the person conducting the blasting activity must possess a blaster's license. The proposed amendment, PA-148-FOR, was published in the Federal Register/ Vol. 71, No. 146 / Monday, July 31, 2006 / Proposed Rules. An extension of the comment period for the proposed rule was published in the Federal Register/Vol. 71, No. 175/Monday, September 11, 2006/Proposed Rules. The final rule, approval of the amendment was published in the Federal Register/ Vol. 73, No. 231/December 1, 2008/Rules and Regulations. On December 17, 2008, PADEP requested a clarification to the final rule. The final rule: clarification was published in the Federal Register/ Vol. 74, No. 89/May, 11, 2009.

PA-150-FOR: On December 11, 2007, PADEP submitted a required regulatory program amendment to assert its program is no less effective the federal requirement relating to access to property and records for coal mining conducted incidentally to non-coal mining. The proposed amendment, PA-150-FOR, was published in the Federal Register/Vol. 73, No. 63/April 1, 2008/Proposed Rules. PADEP sent a withdrawal of the proposed amendment to OSM on December 11, 2008. PADEP withdrew the program amendment based on comments received during the comment period. The proposed rule withdrawal was published in the Federal Register/ Vol. 74, No. 34/Monday, February 23, 2009/Proposed Rules.

PA-151-FOR: On Tuesday, July 8, 2008, OSM published a final rule, PA-151-FOR, in the Federal Register/Vol. 73, No. 131/Rules and Regulations to disapprove parts of a previously submitted program amendment and reinstate a required amendment. Disapproved are the two changes pertaining to the discontinuation of the \$100 per acre reclamation fee. Reinstated is a modified version of the required amendment 30 CFR 938.16(h). The amendment requires Pennsylvania to demonstrate that revenues generated by its collection of the reclamation fee would assure that its Surface Mining Conservation and Reclamation Fund could be operated in a manner that would meet the ABS requirements contained in 30 CFR 800.11(e).

PA-152-FOR: On Tuesday, March 24, 2009, OSM published a final rule, PA-152-FOR, in the

Federal Register/Vol.74, No. 55/Rules and Regulations. This final rule reinstated 30 CFR 938.16(h) as it was written on May 31, 1991 except for the last sentence of the original required amendment.

PA-153-FOR: On August 1, 2008, PADEP submitted a formal program amendment in response to Part 732 notices and the required program amendment codified in 30 CFR 938.16(h). The amendment consists of several parts addressing the conversion assistance program, trust funds, sufficient funding for outstanding land reclamation at primacy ABS forfeiture sites, and regulatory changes to establish legally enforceable means of funding the O&M and recapitalization costs for the ABS legacy sites. The proposed amendment, PA-153-FOR, was published in the Federal Register/Vo. 74, No. 9/Wednesday, January 14, 2009.

OSM and PADEP are working collaboratively to address the program deficiencies of twenty-seven remaining required program amendments. PADEP is currently developing an amendment package to address 938.16 (ccc) permitting for exploration on lands unsuitable for mining, (iii) seismic safety factor for impoundments, (jjj) six hour precipitation event for impoundments, (nnn) two officer's signatures for indemnity agreements, (ppp) notification of decision not to revoke an exception for extraction of coal incidental to non-coal mining, (ttt) disposal of non-coal waste on refuse area or impoundment, (rr) requirement of permit denial for unabated violations, and (zz) to correct the cross-reference to 86.63 with a reference section 86.212(c).

On January 15, 2008, the U.S. Court of Appeals for the District of Columbia Circuit affirmed the District Court's decision upholding Federal rules on valid existing rights (VER) and other associated rules that OSM published on December 17, 1999. Now that legal appeals have ended with the courts affirming the Federal VER rules, OSM and PADEP have re-activated discussions on an August 22, 2000, 732.17(d) requirement for PADEP to amend its coal regulatory program to be no less effective than the 1999 Federal regulations. PADEP submitted a response to OSM's January 31, 2008, renewal 732 letter on March 31, 2008. The Federal definition of VER at Chapter 86.1 was previously adopted by cross reference and approved by OSM on July 7, 2003. The only issues remaining from the 732 letter appear to be the absence of a state VER determination procedure corresponding with 30CFR 761.16, and a corresponding location verification procedure when there is uncertainty regarding the precise boundary of a protected public facility. This requirement is found at 30 CFR 761.17(c).

On December 3, 2007, OSM issued its final Ownership and Control rule, ending many years of rule writing attempts and litigation with the National Mining Association on this issue. By letter dated April 20, 2001, OSM had notified PADEP that it was placing in abeyance 11 required ownership and control program amendments dating from a December 30, 1992 Federal Register Notice and earlier versions of the rules. Although a new 732 letter has not been issued by OSM in response to the new rule, OSM and PADEP have been revisiting the 11 required amendments to determine which are still relevant in light of the new regulations. OSM has also prepared a comparison of the final ownership and control rule and Pennsylvania regulations, to identify possible areas of deficiencies. Discussions with PADEP are continuing.

D. Mine Drainage Treatment Technologies

In October 2006, BAMR issued a Request for Proposals (RFP) (No. OSM PA(AMD-06)) for the demonstration or implementation of new or innovative in-situ or ex-situ treatment or abatement technologies or enhanced metals recovery for acid mine drainage. In June 2007, BAMR entered into Agreements with four applicants under this RFP. The total amount awarded for these projects is \$559,471.70, which will be funded entirely from the 2006 Environmental Stewardship Fund. The following four proposals have been awarded:

Pennsylvania State University/Burgos, Senko, Bruns - Aeration Terraces for Biological Low pH Iron (Fe₂) Oxidation.

Stream Restoration, Inc/BioMost, Inc. - (ELF) Inter Mine Pool Transfer, Abatement, Treatment or Reuse.

WPCAMR/Iron Oxide Technologies, LLC - Enhanced Iron Removal for Recovery from Aerobic Ponds using Retrofit LASAIRE Aeration.

Broad Top Township/Skelly & Loy, Inc. - Ex-Situ Treatment Technology Evaluation of an Existing Steel Slag Resource in the Six Mile Run Watershed for use as AMD treatment.

All of the AMD-06 Grants remain active. These four projects represent a second round of innovative technologies RFP's.

The first round of RFP's (No. OSM PA(AMD-04)) was issued in January 2005, as an initiative to promote the implementation of new technologies, and to promote economic development or industrial application of mine pools and abandoned mine lands. BAMR awarded seven contracts under the first round from the 2005 Environmental Stewardship Fund. The total amount of the awards is \$1,852,909 including \$95,729 from the Title IV ACSP Grant. All of the contracts awarded under the first RFP have been completed, and Final Reports are posted on BAMR's website: <http://www.depweb.state.pa.us/abandonedminerec/cwp/view.asp?a=1474&q=520866>.

E. Growing Greener

Growing Greener is the largest single investment of state funds in Pennsylvania's history to address Pennsylvania's critical environmental concerns of the 21st century.

The original Growing Greener legislation was signed into law by Governor Tom Ridge on December 15, 1999. Called the Environmental Stewardship and Protection Act, funds were allocated for farmland preservation, state park and local recreation projects, waste and drinking water improvements, and watershed restoration programs.

In June 2002, Governor Mark Schweiker signed legislation that increased the funding for Growing Greener, extending it until 2012. Though authorized funding levels were established, revenue shortfalls affected actual spending, and the program was in danger of running out of funds.

In 2004, Governor Rendell proposed the Growing Greener II initiative and a bond issue

resolution were placed on the statewide voting ballot. In May 2005, Pennsylvania residents approved the resolution with 61% of the vote. This authorized the Commonwealth to borrow up to \$625,000,000 for the maintenance, and protection of the environment, open space and farmland preservation, watershed protection, abandoned mine reclamation, acid mine drainage remediation and other environmental initiatives.

Funds are allocated to a variety of government agencies for award to selected projects. BAMR is authorized to allocate its share of Growing Greener funds for the following mining related activities:

Watershed restoration and protection; and abandoned mine reclamation.

AML land and water reclamation projects funded by Growing Greener can be designed, contracted and administered through BAMR, or administered through grants to municipalities and watershed groups awarded by PADEP with oversight and technical assistance provided by BAMR and DMO staff. Since 1999, BAMR has received about 29.7 million dollars from the original Growing Greener program. Under the Growing Greener II program, BAMR has awarded 47 contracts totaling \$68.6 million that includes \$45.8 million from Growing Greener II and \$22.8 million from the Title IV grant and other sources.

F. Appalachian Regional Reforestation Initiative (ARRI)

The Appalachian Region Reforestation Initiative (ARRI) is a joint effort of Appalachian States, and the OSM Regional Office. The initiative also includes partnerships with coal industry representatives, academia, landowners, environmental organizations and various governmental agencies. The goals include planting more high value hardwood trees, increased tree survival and increased tree growth and productivity. The initiative uses the Forestry Reclamation Approach (FRA). This involves the planting of higher quality trees, minimum compaction of the reclaimed ground, the use of native as well as non-competitive ground covers and proper tree planting techniques. OSM is working with PADEP in making presentations at appropriate meetings, and identifying individual permits and reclamation projects where the FRA can be applied. At the end of the evaluation year, a combination of GFCC, AML reclamation projects, and coal mine permits have been identified for reclamation using the FRA. These projects encompass all District Mining, and AML offices and regions. While some of the sites are small acreages, it is hoped they will encourage the continued program growth in the mining and reclamation program.

On May 1, and again on May 7, 2009, volunteers from local schools, community, and others from local and Pennsylvania state agencies and OSM's VISTA program, assembled on Mountaintop Coal Mining Company's Schuylkill County Airport permit in support of the Appalachian Regional Reforestation Initiative (ARRI). A 2.5 acre mined and reclaimed tract of land had been prepared for tree planting by Mountaintop Mining Company, using a large ripping bar attached to a dozer. The parcel was previously covered in grasses. The site was planted with hundreds of mixed appalachian hardwood tree species and a mixture of wildlife tree and shrub species donated by the Pennsylvania Game Commission, and other regional tree nurseries.

This event was organized by the Schuylkill Headwaters Association, in partnership with the

Office of Surface Mining's VISTA program and the Appalachian Coal Country Watershed Team. The purpose of the event was to highlight mined land reforestation efforts being made across the Appalachian Region under the ARRI program. Although the acreage was small, this event was significant because it marked the first time the principles of ARRI have been used for tree planting on an anthracite coal mine permit. ARRI promotes loose placement of the top 4 to six feet of spoil/soil material, and reduction or elimination of competing grasses, in order to enhance tree survival and growth; and the planting of native hardwood species commonly found on the surrounding lands.



ARRI Reforestation Award: from left, David Hamilton, OSM; Paul Lohin, Board Chairman Schuylkill County Conservation District; Bill Reichert, President Schuylkill Headwaters Association; Frank Staudenmeier, Schuylkill County Commissioner; Tim Vought, Mountaintop Coal Mining Company; Michael Myers OSM/VISTA.

Recognizing this pioneer effort in the anthracite region, OSM presented an ARRI Reforestation Award to the primary partners including; the Schuylkill Headwaters Association, the Schuylkill County Conservation District, the Schuylkill County Commissioners, The Pennsylvania Game Commission, and Mountaintop Mining Company. The Pennsylvania Department of Environmental Protection's Pottsville District Mining Office is also recognized for their support of the ARRI program and modification of the mining permit to allow the reclamation plan.

G. Other Initiatives and Accomplishments

Unsuitable For Mining Petitions: PADEP is currently reviewing four Areas Unsuitable for Mining (UFM) petitions as follows:

Big Run, Graham Township, Clearfield County. Department staff is in the final stages of completing a technical study of the Big Run area. This review is being completed in response to a petition submitted by the Graham Township Supervisors, which requests a 2,800 acre tract within the Big Run and Willholm Run watersheds be designated as unsuitable for surface mining operations. The petition alleges that surface mining within the area would adversely affect renewable land resources.

Muddy Run, Reade Township, Cambria County. A technical study was completed in response to

a petition submitted by the Reade Township Water Authority to have 3,690 acres designated as UFM. The petition alleges that surface mining activities could result in degradation of surface and groundwater resources used by local public water supply wells. The study documentation is currently under review by PADEP senior management.

Silver and Big Creek, Blythe Township, Schuylkill County. An application has been received from Blythe Township, petitioning 336 acres of land. PADEP has not officially accepted the application.

Rasler Run, Springfield Township, Fayette County. An application has been received from Mountain Watershed Association, petitioning 4,456 acres of land comprising of the Rasler Run Watershed. PADEP has not officially accepted the application.

Underground Mine Mapping Projects: PADEP and OSM are jointly funding projects with the University of Pittsburgh (Pitt) and with the Indiana University of Pennsylvania (IUP) which will support the scanning of old underground mine maps. These maps are important for the safe development of future underground mines in order to prevent mining accidents such as the one that occurred at the Quecreek Mine. The projects are being coordinated by the California District Mining Office as part of the Underground Mine Map Initiative to inventory all known maps of underground coal mines in Pennsylvania.

An agreement was signed with the University of Pittsburgh in February 2007 that will provide for a restoration and preservation program to stabilize and prepare historical abandoned underground coal mine maps (donated to Pitt by Consol Energy, Inc.) and which will be provided to the California DMO for digital scanning.

Because of this agreement, the University of Pittsburgh has so far produced the following:

126 hardback maps have been restored and transported to OSM's Appalachian Regional Office for scanning.

100 mines and 91 mine entries have been added or updated on PADEP's GIS.

51 existing PADEP abandoned mine files have been updated.

43 new abandoned mine files have been added to the PADEP mine map repository.

In July of 2008, Pittsburgh was awarded another mine mapping grant to continue these efforts.

The Indiana University of Pennsylvania (IUP) was awarded a mine mapping grant to scan the large format maps from the Rochester & Pittsburg Coal Company map collection located at IUP; develop a secure and redundant data base of scanned mine map images, and produce a complete database of all known mine maps for Armstrong County. IUP has also scanned over 300 large format maps from various collections held by PADEP and others.

PADEP's work with IUP has resulted in the California District Office being able to complete the first comprehensive underground mining coverage for Armstrong County. This coverage was added to an internal web site, which is used by PADEP staff to determine the need for mine

subsidence insurance. This data was also used to create maps accessible to the public through the Mine Subsidence Insurance web site, www.pamsi.org.

Fluidized Gas Desulfurization: Pennsylvania issued a general permit for use of fluidized gas desulfurization (FGD) products for mine reclamation. The FGD material is required to meet performance standards for permeability and compressive strength. The FGD material by itself does not meet these performance standards, but the standards are achieved by mixing the FGD with coal ash and an alkaline fixative. The permit also requires extensive monitoring of the chemistry of the groundwater and the FGD material. A mine site in the Anthracite Region was selected as the first area for placement. Recently, PADEP met with the company to discuss the status of the project. Issues have come up having to do with the material meeting the permeability and compressive strength requirements. Adjustments in moisture content, mixing standards, and using cement instead of lime as an additive are being tried in order to meet the general permit requirements so the material can be used on the permit.

Stream Dewatering: PADEP continued a technical study to characterize the nature of stream dewatering above longwall mining panels. This study is being conducted to determine whether a list of predictive criteria can be developed so they can be appropriately considered and applied during subsequent permitting decisions. Ongoing activities include compiling information on streams, drainage areas, geology, and mine workings for areas where longwall mining has taken place and converting that information into GIS format. During the past year, an electronic filing system was established to facilitate compilation and retrieval of inspection reports and other information needed to assess the recovery of affected streams.

Five Year Report on the Effects of Underground Mining. In February 2009, PADEP contracted the University of Pittsburgh to prepare a report summarizing the effects of underground bituminous coal mining on surface land, structures, and water resources for the 2003-2008 period. The report is required by section 18.1 of the Bituminous Mine Subsidence and Land Conservation Act and will be the third one issued since the statutory reporting requirement was imposed in 1994. The University has already gathered most of the information needed for report preparation from Department databases, electronic map files, investigative reports and permit files. Researchers are currently engaged in analyzing the information collected. The contract calls for the preparation of a draft report by February 2010 and a final report by the end of April 2010. Upon completion, the report will be presented to the Governor, the Pennsylvania General Assembly and the Citizens Advisory Council of the Department. Copies will also be provided to OSM and posted on the Department's web site.

Application forms updates. PADEP made updates to permit applications for underground anthracite coal mining operations and underground bituminous coal mining operations. Notable updates to the underground bituminous coal mining application included changes arising from the Department's 2005 surface water protection guidance and 2005 rulemaking on bituminous mine subsidence control standards and bond adjustment. Notable updates to the underground anthracite coal mining, included changes relating to adjacent mine mapping requirements and the elimination of forms relating to Phase 2 permits (which are being phased out). Revisions to the underground bituminous application were completed in October 2008. Revisions to the underground anthracite application were nearing completion in June 2009.

Technical Guidance Document: Procedures for Establishing the Quantity of Water in Low-Yield Wells (563-2112-606).

PADEP developed a technical guidance that establishes alternative procedures for testing low yield wells in coal mining areas. The guidance was developed by evaluating actual pump test data from low yielding wells (five gallons or less per minute) located in Southwestern Pennsylvania, as well as conducting discussions with staff from the Department's District Mining Operations, OSM, USGS, Pa. Coal Association (PCA) and mining industry consultants. The procedures outlined in the guidance will be used to determine the production capacity of a low yielding well in a consistent and reproducible manner. This is important in identifying mining induced effects in addition to determining the adequacy of replacement water supplies in accordance with the Department's coal mining regulations. A draft of the guidance was posted for public review and comment in June 2009.

Mine Drainage Treatability and Project Selection Guidelines:

A significant program administration and implementation accomplishment completed by PADEP, was finalization of guidelines for the review of AMD abatement and treatment projects within newly proposed hydrologic units. Development of the "AMD Set-Aside Program Implementation Guidelines" involved outreach meetings and data collection from individual and groups. As a part of this effort, PADEP conducted 10 town hall meetings, and held a focus group meeting with 59 participants. It also evaluated a number of passive treatment systems constructed by PADEP, and conducted information collection on 279 passive treatment systems identified in OSM's passive treatment data base. The final guidelines address the development of an upfront and more direct benefit-cost analysis, the development of an overarching program goal for the Set-Aside Program, application of the guidelines to entire watershed restoration plans instead of individual projects, revisions to the project evaluation and scoring procedures, and collection and review of data on many passive treatment systems constructed by watershed groups. The guidelines will serve as the primary method for evaluating newly proposed watershed restoration plans and the abatement or treatment projects identified within these hydrologic units. The guidelines will also be used to evaluate expenditures for operation, monitoring, maintenance and replacement of existing systems and contain a transition period where projects previously committed to by DEP will be completed.

H. Title IV of SMRCA AML Reclamation

The Pennsylvania Title IV AML Program was approved in July 1982. Even as early as 1982, Pennsylvania had already put forth years of committed effort to reclaim abandoned mine lands throughout the Commonwealth with a special state funded reclamation program known as Operation Scarlift. In the first decade of the approved program, Pennsylvania primarily addressed priority one and two health and safety hazards through traditional reclamation contracts. Starting in the early 1990's and culminating with changes to the approved program for a special OSM rule that expanded the scope of government financed reclamation opportunities, the Pennsylvania AML program has diversified and incorporated other agencies and organizations into productive partnerships.

This year, Pennsylvania continued to address a wide range of environmental, health and safety

problems. The Bureau of Abandoned Mine Reclamation (BAMR) reclaimed AML features through traditional construction contracts, entered into partnerships with property owners to reclaim safety hazards on sites that will provide opportunities for community development, and worked with other government agencies, private organizations and watershed groups to leverage additional funding for abatement of pollution from mine drainage. Finally, Pennsylvania committed substantial sums of funds from both Growing Greener programs to collaborate with the Title IV program and to independently address sites that would not normally fall under the approved AML program. Pennsylvania has a diverse and effective AML program.

In December 2006, Congress reauthorized AML fee collections through 2021 and made a number of changes to fund distribution and programmatic operations of the AML program. Based on OSM projections it appears that a substantial amount of AML funding will be available to Pennsylvania over the life of the program. The first significant funding increase resulting from reauthorization is expected in the 2010 grant when Pennsylvania's funding is projected to increase by 49% over the prior year.

Traditional Title IV Reclamation

Abatement of Health and Safety Impacts

Pennsylvania's AML program continued to make progress in traditional areas of abandoned mine land reclamation such as dangerous highwall removal, subsidence control, and sealing shafts and portals. Specific accomplishments include completion of 22 major projects for a total of 924 acres of land reclamation. The total construction cost for these projects exceeded \$26.6 million and included \$11.5 million of non-Title IV matching funds. Reclamation included 64,574 linear feet of dangerous highwalls, numerous deep mine shafts and entries, and two water line extension projects to address impacted drinking water supplies.

During the year, contracts were awarded on 15 new projects at a cost of \$9.3 million, which includes \$9.1 million from the Title IV grant and \$0.2 million from matching state sources. At the end of the evaluation period BAMR had 43 projects under construction at a total cost exceeding \$52.4 million. Upon completion, these projects will address approximately 1850 acres of abandoned mine land. Preparing for future reclamation, BAMR has approximately 100 projects in some stage of design and approximately 80 under development.

Appalachian Reclamation Award Winner

The Gladden Discharge/Fishing Run Reclamation Project

In 2008, Pennsylvania was awarded the Appalachian Regional Award for the Fishing Run Restoration and Maude Mine Reclamation Project site located in South Fayette Township, Allegheny County. The project is contained within the lower section of the Chartiers Creek Watershed to the southwest of the City of Pittsburgh. Significant community interest and support facilitated this project. A local watershed group, the South Fayette Conservation Group (SFCG), initiated the project through a grant application and ensuing partnership agreement with BAMR. Previous watershed studies and AML inventory work by BAMR, SFCG and the Chartiers Nature Conservancy identified this site as having significant adverse impacts to water quality and high-

priority AML features that posed a serious threat to public health and safety.

The project reclaimed several Priority 2 AML features including an open portal, a partially sealed mine opening, approximately 1,500 linear feet of dangerous highwall and numerous dilapidated coal preparation plant and coal load-out structures. In addition, the open mine portal was capturing all of the flow from the upper portion of a clean water stream called Fishing Run. The stream flow entered an abandoned underground mine complex and emerged several miles downstream as part of a large AMD discharge to Millers Run, known as the Gladden Discharge. Reclamation also eliminated water inflow into the abandoned mine, reduces pollution load output at the Gladden Discharge, and restored 1,100 linear feet of Fishing Run to its approximate pre-mining configuration. Because of the hydrology improvements, passive treatment of the remaining Gladden discharge is now more feasible thus allowing for significant future water quality improvement in Millers Run and the Chartiers Creek Watershed.



Maude Mine opening before (left) showing Fishing Run stream flowing uncontrolled into the entry and sealing of the opening (right) during reclamation

Anthracite District and Bituminous District (AD/BD) State Workforce Programs

Pennsylvania addressed many smaller AML problems this year with two special state employee work crews; located in the Wilkes-Barre and Cambria offices (Anthracite District & Bituminous District, respectively). These small state workforces conduct maintenance activities and address small AML problems that are not suited for the more complicated and expensive contractual bidding approach used for traditional site reclamation.

The Anthracite District (AD) crew, located in the Wilkes-Barre Office, consists of three people; a foreman, an operator and a maintenance repairman. Though small, the AD Crew is available to address a variety of Abandoned Mine Land (AML) related problems. AML problems abated by the AD crew range from re-filling previously filled vertical shafts or areas of recently completed projects that have settled, to removing debris or repairing ditches which have become clogged by weather related events. Additionally, the AD Crew assisted at the Rausch Creek Treatment

Plant, maintained a passive treatment system, and is currently involved in securing access to an active mine fire.

Palo Alto Mine Drainage AD Project Schuylkill County

In June 2009, the Anthracite District in house construction crew (AD crew) of the Wilkes-Barre BAMR District Office completed a project to address a mine drainage problem directly affecting one property owner and indirectly affecting the surrounding neighborhood as the water from the discharge was flowing across and down the borough street, creating an icing condition during the winter months and a maintenance issue year round. The drainage was a residual problem from an AML project conducted in 2006. Returning to the site, the AD crew excavated and installed approximately thirty-two feet of pipe along with 15 tons of stone. The pipe system was then connected to a drainage inlet installed under the 2006 contract, thus removing overland flows of mine drainage. The Palo Alto project is an example of the how the BAMR in house construction crews satisfy an essential reclamation program need; the ability to quickly address small but troublesome AML hazards.



Palo Alto Project Pre-Construction

The Bituminous District (BD) crew, located in the Cambria Office, is made up of seven individuals: two Construction Foremen, four Equipment Operator B's and one Equipment Operator A. Cambria District Office's BD Crew is often called upon to correct a variety of AML problems with a host of hidden dangers and safety concerns for the public, including problems that include subsidence holes, mine gas problems, abandoned surface mines, acid mine drainage, clogged french drains and other mine drainage pipes, and mine fires. The BD crew also assists at active treatment plants, and the operation and maintenance of AMD passive treatment systems.

During the past year the BD Crew completed 93 projects of varying complexity that lasted from one day to several months.



BD Crew backfilling a 3 acre site with 40 foot highwall

Doud's of Plumville BD Project Indiana County

This BD project is known as BD 2882 PA 2981- Mine Subsidence Control project at Doud's of Plumville. The project was located in Plumville Borough, Indiana County. The subsidence control project was a unique undertaking by the BD Crew and included activities such as; pneumatic stowing of material to stabilize the store and roadway, installing a mine drain to eliminate a potential mine pool blowout, using the project for an OSM training class, and converting an existing exploratory drill hole to a dry hydrant into the mine pool, for use by the local fire company.

Douds of Plumville, a local furniture store was affected by a localized subsidence event. The initial subsidence caused the mine pool to rise, potentially causing a future mine blowout. Exploratory drilling into the portal after the subsidence showed there is additional void space along the entry which had the potential of subsiding and causing severe surface deformation and damage to the Douds building and State Route 85. To correct the problem, the BD Crew excavated the portal opening, installed an eight (8) inch pipe to convey the mine water. The BD crew helped the subcontractor pneumatically stow aggregate into the entry to support the mine roof under the building and highway. Also during construction, the site was used as an OSM training class. The AML Design Workshop for subsidence had 13 students from 7 states including the Navajo Tribe as well as representatives from the Cambria Office and Pittsburgh's Greentree OSM office. The project provided the students with a firsthand view of the stowing and pipe installation. During the completion of the project, the Department was approached by the local fire company about the possibility of utilizing the mine as a water source. The existing exploratory drill hole was modified to provide a dry hydrant into the mine pool. The availability of this additional water supply added greatly to the local Fire Department's ability to provide water for fire protection for the community. The total cost of the Doud's of Plumville subsidence control project including the stowing subcontractor's cost was \$36,930.84.



Drain pipe installation Doud's of Plumville

Government Financed Construction Contracts (GFCC)

Pennsylvania leads the nation in achieving reclamation under the AML Enhancement Rule promulgated by OSM on February 12, 1999. The 1999 “AML Enhancement Rule” was an amendment to the Federal Regulations to allow incidental coal removal on Title IV AML reclamation projects in the cases where there is less than 50 percent government financing. Prior to this rule change, SMCRA Title IV AML reclamation projects that involved incidental coal removal were required to have at least 50 percent of the cost of reclamation provided by a governing agency’s budget. The purpose of this regulatory change was to encourage reclamation of Title IV eligible sites that are unlikely to be reclaimed under an AML grant-funded reclamation project or a Title V surface mining permit. Many low-rated health/safety and environmental problems would otherwise go unreclaimed because scarce grant funds would be expended on higher-priority projects and remining operations would avoid the area because of the potential risks posed by marginal coal reserves and/or long-term liabilities associated with pre-existing pollutional discharges or other environmental concerns. Removing the minimum 50 percent government funding threshold in projects involving coal removal incidental to an AML reclamation contract, encourages reclamation of additional AML at little cost to the public. According to cumulative information provided by PADEP for previous reports, 316 GFCC project applications have been submitted since the program’s inception.

During the evaluation year, 15 GFCC projects reclaiming 129 acres were completed. The completed projects represented approximately \$691,900 in reclamation savings to the AML program. Completed projects reclaimed barren land, eliminated highwalls and addressed water quality problems. PADEP approved 29 complete applications. During the evaluation year, PADEP accepted 18 new applications and held 25 pre-application meetings with contractors and OSM. PADEP has a rigorous site review and application process. PADEP includes OSM in the initial pre-application site review and the public in the review of the application. During the period, PADEP rejected 2 applications with an additional one withdrawn by the applicant. Reasons that applications are rejected by the program can include site eligibility problems,

incomplete documentation, and potential water-related problems. As with year, applications are occasionally withdrawn by the applicant or are simply not pursued to contract.

PADEP continued to promote AML Enhancement Rule reclamation in the Anthracite region with one new project being approved. Representatives from the BAMR, the PADEP Pottsville District Office, and OSM collaborated to meet with a potential contractor, review reclamation proposals, and develop administrative information in support of project authorization. The PADEP offices in Pottsville, Wilkes-Barre, and Harrisburg have been developing expertise in GFCC program operations to promote additional reclamation under the AML Enhancement Rule in the Anthracite region.

GFCC Project Data

Report Period – July 1, 2007 to June 30, 2008

| | EY2008 | EY2009 |
|--|------------|-----------|
| # Applications Received | 42 | 18 |
| # Applications Approved | 28 | 29 |
| # Applications Rejected/Withdrawn | 3 | 3 |
| # Applications Still Under Review | 30 | |
| \$\$ Reclamation Value Approved (Bond \$\$) | \$ | |
| # Projects Completed | 9 | 15 |
| # Acres Completed | 150 | 129 |
| \$\$ Reclamation Value Completed (Bond \$\$) | \$ 831,000 | \$691,900 |

Sandy Run South GFCC Luzerne County

Over the last year, the PADEP Pottsville District Mining Office (DMO) organized a work group of BAMR, DMO and OSM employees to shepherd through a second Enhancement Rule project in the Anthracite region. The DMO representative worked closely with the contractor, organized workgroup meetings, and the coordinated review of a proposal to reclaim abandoned refuse along Sandy Run Creek. The material to be reclaimed is approximately three to five feet in thickness covering 4.5 acres. Material will be excavated from along Sandy Run Creek, screened to remove trash and non-refuse material, and then removed from the site. Once completed, the affected areas will be re-graded and re-vegetated. Projects conducted under the AML Enhancement Rule result in reclamation of AML lands at little cost to the public. Completion of reclamation on the Sandy Run Creek project represents a savings to the AML program of approximately \$68,000.



Sandy Run GFCC prior to reclamation

Whitney Mine Site GFCC Westmoreland County

The Whitney site in Unity Township, Westmoreland County contained coal refuse from the Whitney Mine that was operated by the now defunct Frick Coal Company. For many decades, this material washed and eroded into an unnamed tributary of Nine Mile Run causing flooding and pollution. Local government officials were anxious to have the pile removed but lacked financial resources to complete the cleanup with public funds.

PADEP contracted with Robindale Energy Services Inc. of Seward, Indiana County to remove the refuse from site. The material was taken to a nearby waste coal power plant. As part of the refuse removal project, Robindale cleaned up a bond-forfeited site adjacent to the main pile, relocated the stream to its original channel, and established vegetation on the reclaimed land.

Throughout the process, Robindale Energy Services maintained good working relationships with neighboring property owners and the local municipal government. The former wasteland, containing erosion, pollution and flooding problems, is now restored to usable land and the property owner and his church group are raising funds to begin construction of a K-12 Christian school on the site.

Pennsylvania's AMD Set-Aside Program

Pennsylvania currently has a balance of \$20.6 million in the Set-Aside fund. The total accumulated revenue with interest that has been placed into the fund since inception is \$47.3 million. Future plans for the Set-Aside fund include watershed-wide abatement projects to keep surface streams from entering deep mine pools, and the construction of active treatment facilities where the AMD problem is too large to address with passive facilities.

Since 2004, Bennett Branch Sinnemahoning Creek has been the focus of a comprehensive multi-program effort to restore water quality. To date, accomplishments include the restoration of the Dents Run Tributary to net alkaline water quality for the first time in over a century. This project alone eliminated over one-quarter of the acid load to Bennett Branch. In addition, the effort has

included the restoration of over 800 acres of abandoned surface mine land into rangeland for Pennsylvania's growing elk herd, and partnering with the active mining industry to reclaim several coal refuse piles and several hundred acres of AML at no cost to Pennsylvania's AML Program. During the last review period, PADEP finalized its plan for the Bennett Branch Hydrologic Unit. State funding for capital construction of the much needed treatment plant was approved by the governor on June 11, 2009 and contracting and construction should begin in late 2009 or early 2010. Addressing mine drainage on Bennett Branch Sinnemahoning Creek and the headwaters of the West Branch Susquehanna River are part of a larger effort by the Commonwealth to improve the opportunities for tourism and economic development in north central Pennsylvania by improving water quality. PADEP also continued to support five mine drainage treatment plants with AMD Set-Aside funding.

During the review period, PADEP also committed to construction of the Lancashire No. 15 Mine Drainage Treatment Project with AMD Set-Aside funding. The project addresses AMD from the former Barnes and Tucker mining operation conducted as late as the 1960's. The new treatment plant will provide additional water to the Susquehanna River Basin to offset agricultural consumption. The Pennsylvania General Assembly approved funding for a long-term operation and maintenance trust fund. It is anticipated that up to 10 million gallons per day will be treated and discharged to the Susquehanna River Basin during the low flow season each year. The new plant will employ a circular clarifier and dense sludge recirculation technology. At the end of the review period, PADEP reported that their plans for future Set-Aside hydrologic units include additional treatment in the West Branch, as well as units in Blacklick Creek, Little Conemaugh, and Clearfield Creek watersheds.

VI. Success in Achieving the Purposes of SMCRA

OSM's national regulatory program oversight guidelines known as REG-8 requires an evaluation of off-site impacts, reclamation success, and a component of customer service in its annual oversight work plan with PADEP. Summaries of those evaluations and other significant program evaluations are discussed below.

A. Off-Site Impacts

OSM Directive REG-8, Oversight of State Regulatory Programs, requires an annual evaluation of the success of mining and reclamation as determined by the number and severity of impacts outside of the mining permit boundary. This information is one of OSM's Government Performance Results Act (GPRA) program performance measures. Off-site impact information is presented in Table 4 of the Pennsylvania Annual Report. The information presented in Table 4 comes from PADEP's data management system, e-FACTS. Off-Site Impacts are grouped as impacts on people, land, water, and structures, and includes blasting, land stability, hydrology, encroachment, and other impacts. Severity is determined as minor, moderate and major.

An off-site impact is defined as anything resulting from a surface coal mining and reclamation activity or operation that causes a negative effect on resources (people, land, water, and structures.) To count as an off-site impact, Pennsylvania must regulate or control the mining or reclamation activity causing an off-site impact. In addition, the impact must be outside the area

authorized by the permit for conducting mining and reclamation activities.

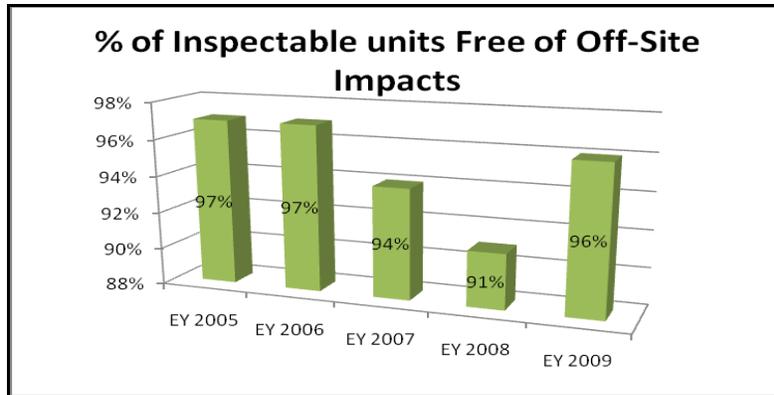
The impacts are classified by degree as minor, moderate, and major. A minor impact would not affect the public, only disturb a small area or have negligible effect on the receiving stream. A moderate impact would be any impact not fitting the criteria for minor or major. A major impact would be defined as having a significant impact to the public, affect a large area; have a major impact to the receiving stream, and would include mining without a permit.

Collection of off-site impact data is an integral part of permit monitoring and begins with the state inspector. PADEP inspection staff record off-site impacts as part of the permit inspection process. Off-site impacts result in compliance orders, which can initiate the assessment of civil penalties. When a compliance order is written for a violation causing off-site impacts, the inspection report includes a civil penalty work sheet that is provided to the compliance officer for assessment of a civil penalty. The inspector's report, determining off-site impacts, is reviewed by the supervisor and verified for correctness. The compliance officer reviews the information provided in the inspection report and the district compliance officer or legal assistant determines the impact and severity of the impact, and enters the data in eFACTS.

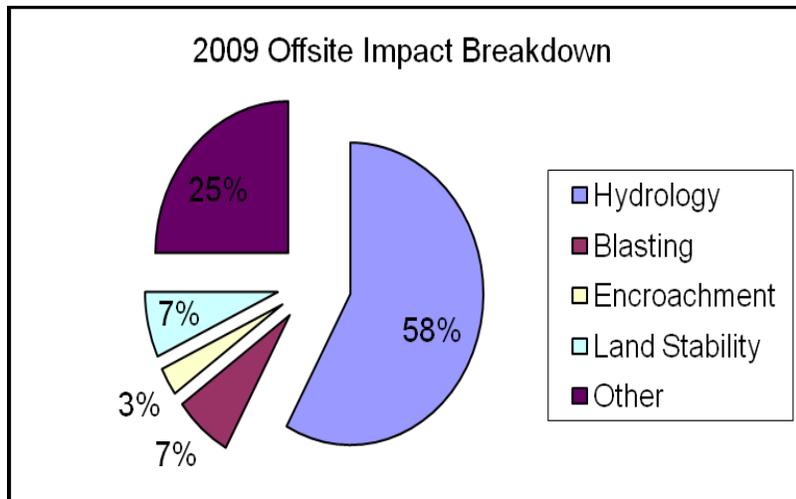
During this evaluation year quarterly offsite reports were provided to OSM staff by Bureau of Mining and Reclamation (BMR) staff. The reports were reviewed and comments provided to PADEP on the completeness of data reporting and consistency in the data screens. All comments were considered and changes were made to data reporting and recording to make the information consistent and more complete.

Discussion of impacts

During the 2009 evaluation year PADEP inspectors conducted partial and complete inspections on 1912 surface, underground, refuse, and preparation plant permits and reported 142 off-site impacts. Out of the 142 impacts reported, 46 were determined to be administrative, with no on the ground impacts, and were eliminated from the discussion. There are 96 remaining that meet the criteria of off-site impacts. Twenty four of the off-site impacts were recorded on the same permits. Therefore, there were 72 unique permits with violations involving off-site impacts. In statistical terms, 96% of the permits were free of off-site impacts. The 2008 annual report showed 91% of the permits were free of off-site impacts. Pennsylvania continues to maintain a very high level of permits free of off-site impacts, and meets OSM's Government Performance Results Act (GPRA) goal of 93% of permits free of off-site impacts.



The 96 off-site impacts collected this year are identified by PADEP as 10 major, 23 moderate and 63 minor. They are categorized as follows: 56 hydrology (58% of total), 23 other (25% of total), 7 land stability (7% of total), 7 blasting (7% of total), 3 encroachment (3% of total.)



Off-Site Impacts by Category

The majority of the impacts continue to be categorized as hydrology, resulting from the discharge of improperly treated or untreated water that exceeds the numerical effluent limitation specified in the permit and in Pennsylvania Title 25 Chapter 87.102. There were 56 hydrology impacts (58% of the total). Of the 56 hydrology impacts, 5 were major, 11 were moderate, and 40 were minor. The five major hydrology impacts were for the following violations:

- Failure to restore or replace an affected water supply.
- Failure to provide existing use protection.
- Discharging water that does not meet water quality limits.
- Failure to conduct mining activities to protect fish and wildlife.
- Failure to protect the prevailing hydrologic balance.

The majority of the minor and moderate hydrological off-site impacts were for the following violations: failure to properly design, construct or maintain erosion & sedimentation controls, and discharging water that does not meet quality limits.

The second largest category of off-site impacts fell into the **other** category with 23 impacts (25% of the total). Four of the impacts were major and cited for the following violations:

- Two for conducting mining activities without a permit.

- Two for failure to file a notice of intent to explore prior to conducting coal exploration.

There were 7 off-site blasting impacts (7% of the total) with one moderate impact cited for failure to employ adequate air pollution controls. The remainder were categorized as minor.

Land stability resulted in 7 off-site violations (7%) of the total.) There was a major land stability violation cited for conducting mining activities without a permit. Two land stability violations were classified as moderate for conducting mining on an unbonded area and failure to plant disturbed areas during the first planting season after backfilling.

Encroachment was the smallest category with 3 violations which comprise 3% of the total. There were no major encroachment off-site impacts reported for the period. There were two moderate impacts for conducting mining activities in a barrier area without first obtaining a variance and conducting mining activities on an unbonded area. The one minor impact was cited for conducting mining activities on an unbonded area.

OSM inspectors conducted 113 oversight complete inspections in the bituminous and anthracite areas. As an independent check of the data collected by PADEP, OSM's oversight complete inspections note any observed off-site impacts. OSM observed 18 off-site impacts which are broken down as follows: 8 hydrology, 7 encroachment, 1 land stability, 1 other and 1 blasting. Thus, 84% of the permits inspected by OSM over the course of the evaluation period were free of off-site impacts.

An analysis of the data provided by PADEP indicated that a violation of 25 PA Code §86.11, conducting mining activities without a permit, and 25 PA Code §86.133, a failure to file a notice of intent to explore, prior to conducting coal exploration, were all classified as major off-site impacts. In accordance with OSM's REG 8, this is a major impact. OSM and PADEP staff previously discussed the inconsistencies in reporting these violations and it appears to be resolved.

Another issue, that has been resolved, is the reporting of off-site impacts if a violation of 25 PA Code §87.102 was cited. A violation of §87.102 is discharging water that does not meet effluent standards. In past evaluation years, OSM noted that PADEP inspectors may choose not to report an off-site impact if the non compliant discharge did not affect the water quality of the receiving stream (already severely degraded). For the 2009 evaluation year, PADEP reported off-site impacts for all citations issued under 25 PA Code §87.102.

In past discussions with PADEP staff, there was agreement that mining without a permit, mining outside the permit boundary, and mining without a license would be classified as a violation with

a major off-site impact. All of the citations issued this year for these violations were correctly classified.

The number of permits with no off site impacts has remained consistently high for the last several evaluation years. Hydrology still remains the highest source of off-site impacts with failure to properly design, construct or maintain erosion & sedimentation controls being overall the largest violation. The total number of off-site impacts cited has fallen from the 2008 evaluation year, when 165 off-site impacts were recorded for 1667 permits. This could in part be a result of increased understanding, among the inspection and enforcement staff, with the process for identifying and recording off-site impacts, and BMR staff efforts to assure the eFACTS data is properly entered. There is also more consistency in reporting off-site impacts when non compliant water leaves the permit and flows into a degraded stream.

B. Reclamation Success

OSM Directive REG-8, Oversight of State Regulatory Programs, requires a yearly evaluation of the success of reclamation as determined by the acres of bond release. In Pennsylvania, acres reclaimed to Stage I, II, and III standards is used instead of acres with bond release because this provides a more contemporary measure of the reclamation activity. This information is one of OSM's GPRA (Government Performance Results Act) program performance measures. Bond release information is presented in Table 5 of the Pennsylvania Annual Report. The information presented in Table 5 comes from PADEP's eFACTS data management system.

In Evaluation Year 2009, PFD inspection staff reviewed a sample of permits with reports of acres reclaimed during the evaluation year, using the most recently filed Annual Bond Calculation or Coal completion Report. In EY 2007, OSM's review determined that data entry into eFACTS from these reports was good, so no review of this activity was scheduled for EY 2009. However, in EY2010, PFD will again be evaluating the field component of the process to determine data validation and entry efficiency. The 2009 Reclamation Success Inspection Form was completed for 18 permits where reclaimed acreage was reported. Sixteen were for bituminous permits and two were for anthracite permits. Seventeen of the permits reported acreage meeting Stage I requirements (mining completed and area backfilled and planted). Six of the permits reported acreage meeting Stage II reclamation standards (vegetation established, with 70% coverage). Two of the permits sampled reported Stage III reclamation (vegetation requirements met for 5 years). A total of 429 acres of Stage I reclamation was reported by the operators, and OSM verified that all reported acreage met Stage I requirements. A total of 515 Stage II acres were reported by the operators, and all reported acreage except 4 acres was verified as meeting Stage II standards. On that permit, four acres reported as meeting Stage II standards did not have the required trees. Ninety-six acres was reported and confirmed as meeting Stage III requirements. PADEP accumulates acres meeting Stage I, II and III reclamation success through operator reporting on the Annual Bond Calculation and Coal Completion Reports. This information is entered into eFACTS and compiled every year for Table 5. For the current evaluation year, PADEP reports 7,471 Stage I acres; 4,546 Stage II acres; and 4,120 Stage III acres.

C. Customer Service

OSM Directive REG-8, Oversight of State Regulatory Programs, requires a yearly evaluation of a component of PADEP's public participation and customer service provisions in the approved regulatory program. This year OSM selected public participation in the bond release program for evaluation. Pennsylvania coal mine permittees and PADEP District Mining Office staff have various regulatory responsibilities, policy guidelines, and administrative programs for notifying the general public on issues involving bond release of a mining permit. These include publishing bond release notification, soliciting comments on bond release actions, and possibly holding public meetings. The manner in which permittees and PADEP carry out these responsibilities can impact the number and severity of concerns expressed by land owners and the public. This study reviewed PADEP's regulations and the implementation of public participation procedures in notifying the public of meetings and the process of accepting and responding to citizen input. The review consisted of a file review of public participation, notification issues, and citizen responses for the period July 1, 2008 through April 30, 2009. Files were reviewed for notification of meetings and bond release actions.

Overall, the study was able to demonstrate that regulatory responsibilities, policy guidelines, and administrative programs for notifying the general public on issues involving bond release of a mining permit are being met. Generally, the district offices have effective file maintenance systems and provide easy access for the public to review bond release documentation and information. However, it is recommended that the Pottsville District Office develop a method to track bond release documentation and a more efficient way of providing the information to the public. The other district offices should consider developing a checklist to verify that all information required to be in a bond release newspaper advertisement is part of the advertisement.

OSM determined that the PADEP District Mining Offices are cognizant of the requirements of the bond release process. They demonstrate, in file maintenance, documentation tracking, and information accessibility, their effort to provide an effective public participation process.

D. Refuse Disposal Mine Permit Study

During the evaluation year, the Harrisburg Field Office initiated an oversight study focused on identifying and assessing the permitting techniques used by PADEP to prevent coal refuse disposal sites from developing post-mining discharges, and during mining, to minimize disturbances to the prevailing hydrologic balance in the permit and adjacent areas and to prevent material damage to the hydrologic balance outside the permit area. The study is divided into two phases. In the first phase, completed during the 2009 oversight year, contained four objectives. The first objective was to present the regulatory requirements relating to the protection of the hydrologic balance at refuse disposal sites. The second objective of the study was to document the PADEP's permitting strategies used for refuse operations to prevent post-mining discharges. The third objective was to determine whether PADEP's refuse disposal permitting strategy is consistent with Federal Regulation and OSM's AMD policy. The fourth objective was to provide a characterization of the permit status of refuse disposal sites in Pennsylvania.

The study found that PADEP uses a “zero discharge” permitting strategy to prevent post-mining discharges at refuse operations. The program requires refuse piles to be “encapsulated” by installing a liner and capping system to prevent ground and surface water infiltration into the refuse material, after reclamation. The program contains a technical guidance document that outlines the testing and standards that must be achieved before a material can be used to construct a cap or liner. The program also requires a professional engineer certify the construction of the refuse pile and requires in-situ of the liner and cap to ensure proper construction. The testing and certification requirements are part of PADEP’s strategy to ensure the cap and liner are designed and constructed with materials that will prevent infiltration after reclamation and prevent a perpetual discharge. While the permitting strategy is designed to prevent a perpetual post-mining discharge, the program does recognize that a temporary discharge will occur during active refuse disposal and before reclamation. Every refuse disposal permit application must submit a treatment plan to address the temporary discharge. The study found that PADEP’s zero discharge permitting strategy is consistent with Federal regulations that require operations to be designed to minimize impacts to the hydrologic balance within the permit area and prevent material damage outside the permit area.

The study produced a characterization of non-forfeited primacy refuse disposal pile permits in Pennsylvania. PADEP’s eFACTS was queried to identify refuse permits and permit status. Figure 1 shows that 127 refuse disposal permits, which were not forfeited, were issued since primacy. Of the 127 permits, 65 have achieved reclamation and full bond release. The query showed that ~12% of the refuse permits are in reclamation stage and 26% of the permits are still active.

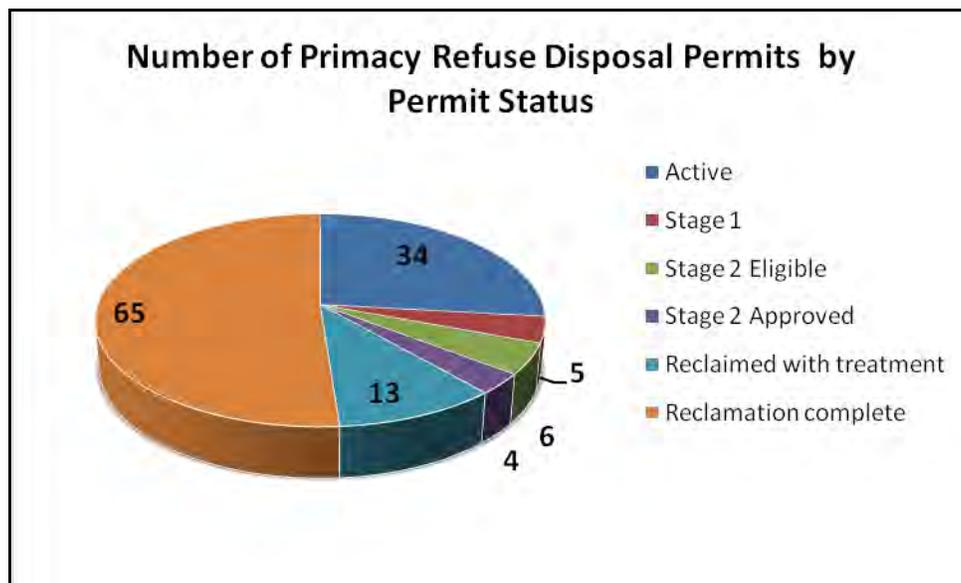


Figure 1: Breakout of refuse disposal permits by permit status

Of the 127 refuse disposal permits identified in the query, 20% of them contain a post-mining discharge. Figure 2 provides insight into the refuse disposal sites that contain a perpetual

discharge. Figure 2 shows that 10 of the 25 sites with discharges contain an “active” permit status, meaning that refuse is still be disposed of on site or the site has not achieved the reclamation requirements for stage 1 bond release. Figure 2 also shows that 13 of the 25 sites have achieved all land reclamation standards and 3 sites are still in the process of being reclaimed but have a perpetual discharge.

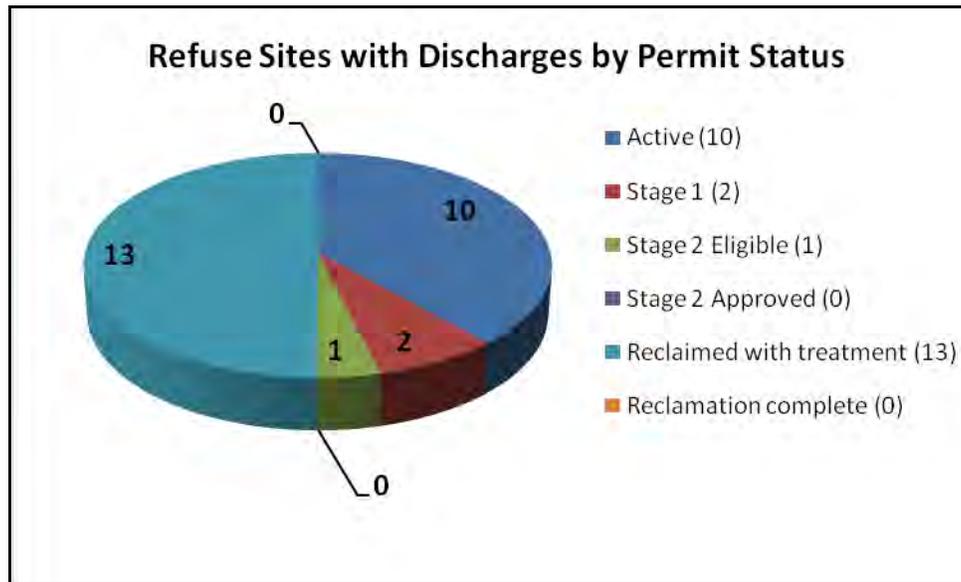


Figure 2: Breakout of refuse disposal permits that contain a perpetual discharge by permit status

All objectives of Phase I were met. During the 2010 evaluation year, Phase 2 of the refuse study will be completed. Phase 2 contains three objectives. The first objective is to perform permit and onsite reviews to ensure the prevention and minimization techniques are being implemented. The second objective is to document the hydrologic review process at bond release for refuse piles. The third objective is to validate the “reclamation complete” status in eFACTS by visiting several permits that contain that status and field validating the hydrologic reclamation.

VII. OSM Assistance

A. AML/AMD Treatment Systems GIS and Information Data Base

The number of passive AMD treatment systems installed in Pennsylvania to remediate the effects of abandoned mine drainage in streams is rapidly growing. Treatment systems are being funded and/or installed by or under the supervision of PADEP’s BAMR and DMO, County Conservation Districts, local governments and non-profit organizations. Pennsylvania’s Growing Greener Program provides significant funding to PADEP and numerous local municipalities and watershed groups for the construction of AMD treatment facilities. OSM’s WCAP also provides direct assistance to watershed groups for AMD remediation. There are numerous foundations, conservancies and other organizations providing funding for AMD treatment facilities. Because of the large numbers of entities involved in the funding, construction and operation/maintenance

of these systems, no one agency or organization had compiled a complete list of basic GIS information on the projects. However, there is general consensus on the need to maintain one data base of all passive treatment projects.

Through June 30, 2009, approximately 280 individual passive treatment project sites have been entered into the Pennsylvania GIS data base. These projects have a total capital investment of over 70 million dollars. It is noted that there are often multiple treatment systems at each project site, and the data base contains information on the type and number of treatment systems associated with each project. Information on projects is collected from a wide range of sources including consultants, State and Federal agencies, conservation districts, and non-profit watershed groups. In 2007/2008, PADEP made extensive use of the data base in preparation for the state wide meetings to solicit input for future use of Title IV AML funds anticipated under AML Reauthorization. PADEP also used the data base in developing the Program Implementation Guidelines for BAMR's AMD Set-Aside Program. BAMR also conducted significant outreach to sponsoring organizations soliciting updated information regarding the passive treatment systems in the data base. This effort provided valuable information regarding the condition of the treatment systems and the need for a state-wide operation and maintenance program. All of the data collected was converted into electronic format and is being uploaded to a publicly available website, www.datashed.org. OSM and BAMR are in agreement that there is value in continuing to maintain and update the data base as new AMD treatment projects are constructed, or as existing treatment systems are modified or rehabilitated. Discussions are underway regarding how this objective will be accomplished.

B. AMD Inventory Maintenance (Primacy Permits)

PADEP and OSM continued their cooperative approach to maintenance of a statewide mine drainage inventory (MDI) of long-term polluttional discharges from sites mined under the Pennsylvania primacy program. The purpose of the inventory is to provide a data base with which PADEP and OSM can determine the number and size of post mining polluttional discharges on primacy permits assess the potential treatment technologies to address problem sites, identify the amount of bond available to treat the discharges and estimate the cost to abate the pollution. Currently, PFD maintains the MDI and shares information with PADEP.

The inventory is a dynamic tool, which is being updated, as new information is made available. Throughout the evaluation year PFD inspectors inspect permitted sites with polluttional discharges, and collect water samples. This information is then updated in the inventory.

PADEP is in the process of incorporating the MDI into eFACTS. This integration will eliminate the necessity for OSM and PADEP to maintain two versions of the MDI. Having the MDI on eFACTS will provide transparency of the MDI and an avenue for the public sector to access discharge information. It will also facilitate the process for identifying permits to be reviewed by OSM in future studies.

For this year's study, OSM inspectors inspected the following permits and provided an analysis for each discharge:

| Permit Number | Operator | Site Name |
|---------------|-------------------------------|---------------|
| 03801302 | Keystone Coal Mining Corp. | Margaret No 7 |
| 03851305 | Cannel Coal Co. Inc. | Cannel #1 |
| 11831301 | Meadows & Leonard Mining Inc. | Shuster Mine |
| 32921301 | Keystone Coal Mining Corp. | Plumcreek #1 |
| 33841303 | Doverspike Bros. Coal Co. | Dora #6 |
| 41920101 | Fisher Mining Co. | Frazier Mine |
| 56823108 | C & O Coal Co. | Burkholder |
| 56841306 | Lion Mining Co. | Grove #1 |
| 56841328 | Rosebud Mining | Windber 78 |
| 63891301 | Mon Valley Steel | Clyde |

PFD conducted file reviews on these ten AMD discharge sites listed on the MDI to collect the most recent PADEP discharge sampling information. Sites are selected as part of a multi-year systematic plan to continually update information on the MDI. The MDI currently lists 261 primacy permits with a total of 428 AMD discharges. OSM will continue to update the MDI with new discharges, and updated flow and chemistry information, as they become known through OSM and PADEP inspections.

C. Watershed Cooperative Agreement Program

In 1999, OSM established the Watershed Cooperative Agreement Program (WCAP), funded under the Appalachian Clean Streams Program (ACSP). To date, 77 WCAP grants have been awarded to Pennsylvania non-profit watershed groups for a total of about 7 million dollars. Total costs for these projects including all partner cash and in-kind donations of labor and services are about 32 million dollars. In total, OSM's contribution to the projects averages about 22 percent. Seventy-two of the projects have been awarded to construct passive treatment systems with most projects involving more than one treatment system. Two projects were for land reclamation to reduce or eliminate a source of mine drainage. Three projects were for active treatment of mine water. Seventy-two projects have been completed. In the evaluative year, there was one new project grant awarded for a total of \$100,000. PADEP is frequently involved as a primary partner in these direct assistance grants, either providing funding and or technical assistance, and OSM Harrisburg Office staff coordinates with PADEP to help assure the successful completion of the projects. Funds provided by OSM complete the remediation budget, and OSM receives a large number of financial assistance requests from Growing Greener program applicants. Other financial partners involved in WCAP projects include the NRCS, Environmental Protection Agency, the Eastern and Western Pennsylvania Coalitions for Abandoned Mine Reclamation, the U.S. Army Corps of Engineers (COE), and numerous foundations, conservancies, watershed groups, industries and coal mining companies, and individuals. Because of the partnership nature of the WCAP, the OSM Harrisburg Office is routinely involved in meetings and site visits

with watershed groups, PADEP and other project partners, helping to coordinate the technical and programmatic aspects, and to resolve issues. The OSM has dedicated a significant amount of staff resources in administering this program, and provides significant technical help to watershed groups seeking the best available technology to remediate their mine drainage problems.

VIII. General Oversight Topic Reviews

Each year the OSM, in consultation with PADEP, develops an oversight work plan, as required by the OSM Directive REG-8, Oversight of State Regulatory Programs. This plan includes various aspects of Pennsylvania's approved coal regulatory and Title IV AML programs that OSM will evaluate for effectiveness, innovation, and compliance. OSM's oversight is not process driven. It focuses on the on-the-ground/end result success of Pennsylvania's program in achieving the purposes of SMCRA. A review team is established for each topic and a team leader is designated. PADEP is invited to appoint team members, and in some cases, joint OSM/PADEP team leaders are designated. At the conclusion of the evaluation, a report is written and provided to PADEP for comment prior to finalization. Copies of the reports are maintained in the public evaluation file located in the OSM Harrisburg Office.

Several evaluation studies have been discussed earlier in this report and are not repeated here. A summary and results of each remaining study follows.

A. Oversight Inspections

The oversight inspection study is conducted to fulfill responsibilities as specified in OSM's Oversight policy REG-8, regarding review of PADEP's permitting and inspection program for surface coal mining operations. This study includes reviews of applicable mine permit files and on-site inspections focused on identification of off site impacts resulting from various mining activities. Inspections are documented using OSM's Mine Site Evaluation and addendum forms. Inspection data is entered into a national data base. Specifically, this study provides monitoring capability for the entire spectrum of State program operations and gives an up-to-date perspective of the on-the-ground successes of Pennsylvania's mining program. In addition, data was collected in support of other studies identified in the 2009 Work Plan.

OSM conducted a total of 251 inspections during the evaluation year. Of those inspections, 113 were oversight complete inspections (OC) of mine sites, with 80 conducted in the bituminous region and 33 conducted in the anthracite region. These inspections covered 6% of the total number of active mining permits in Pennsylvania. The other 138 inspections were in support of other oversight work plan evaluations, document reviews, the mine drainage inventory, Government Financed Construction Contract (GFCC) proposals, responses to citizen complaints, Ten-Day Notices, and state enforcement action follow-ups.

The 113 OCs inspections revealed 51 permits had violations which represents 45% of the sites inspected. In the bituminous region, 35% of the permits inspected had violations noted. In the anthracite region, 67% of the permits inspected had violations noted. This marks an improvement over the last evaluation period in which 52% of the total permits inspected had violations. A total of 122 violations were identified during OC inspections this year and referred to PADEP for

resolution. This represents a slight improvement in the violation per inspection ratio from 2008 (1.07 in 2009 versus 1.13 in 2008). This year, multiple violations were observed on 27 permits.

Of the 122 violations identified, 6 were for pond certifications, and 4 were for haul road certifications. In 2008, there were 36 violations identified for pond and haul road certification. On June 6, 2008, PADEP issued guidance to the operators requiring annual pond certifications to be submitted with the annual bond review commencing on July 1, 2008, and road certifications for all new roads, as constructed. At the end of the evaluation year, PADEP was preparing guidance for certifying roads constructed before July 1, 2008. OSM will continue to monitor this activity.

All of the 122 violations discovered pursuant to OC s were deferred to DEP for enforcement action. OSM tracked the resolution of these deferred violations and found that PADEP took action to have all the violations abated. This year, 18 of the 122 violations (14.7%) observed were considered to have resulted in off-site impacts. This also represents an improvement from 2008, when 20 of the violations noted resulted in off-site impacts. The off-site impacts included 8 violations related to “hydrologic impacts;” 7 violations related to “encroachment;” 1 violation related to “land stability;” 1 violation related to “blasting” and 1 violation is categorized as “other,” further identified as violations due to exploration activities without authorization by DEP.

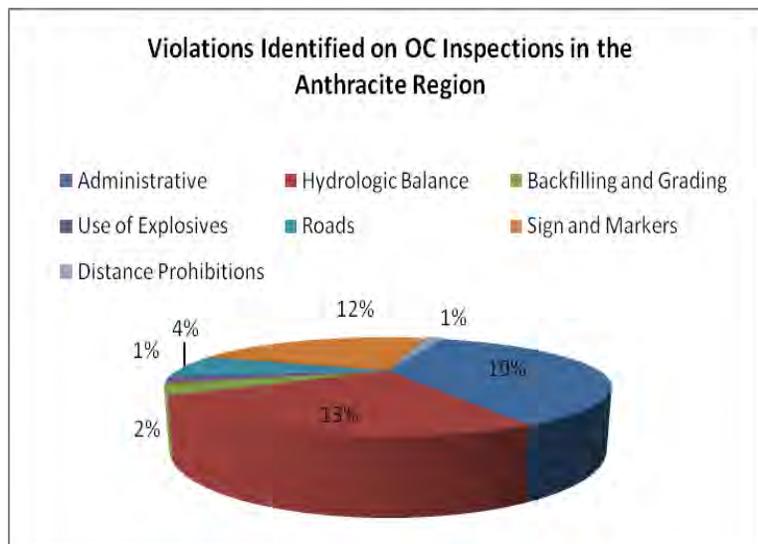
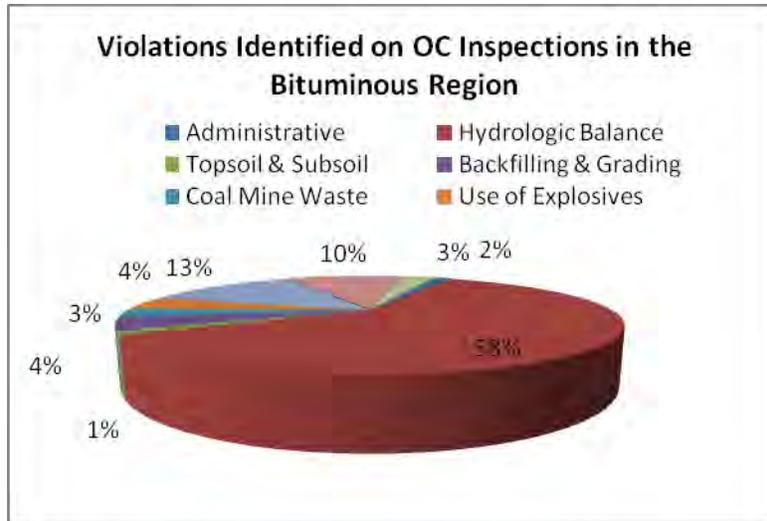
During this evaluation period OSM initiated a study to acquire data regarding violations noted during OSM oversight inspections compared to complete and/or partial inspections conducted by PADEP inspectors performing inspections, without OSM present, during the six month period prior to the OSM OC inspection. The results of this study are outlined in Table 2 below:

| PADEP District Mining Office | OSM inspections per DMO | OSM violations noted during inspection | DEP violations noted during inspection* |
|------------------------------|-------------------------|--|---|
| Ebensburg | 23 | 5 | 5 |
| Greensburg | 29 | 34 | 11 |
| Moshannon | 18 | 18 | 7 |
| Knox | 10 | 13 | 1 |
| Pottsville | 33 | 52 | 4 |
| Total | 113 | 122 | 28 |

*Note: DEP violation data included the total for all inspections conducted in the past 6 months

In the chart above, column two shows the total number of permits inspected by OSM and the distribution by District Office. Column three shows the total number and distribution of violations observed on the 113 permits inspected by OSM. Column four shows the total number

of violations cited by PADEP on the same permits, in the previous six months. All of the 122 violations deferred by OSM to PADEP for action were found resolved in OSM's follow up inspections. The data illustrates the large difference in violation citation rates between OSM and PADEP. Further evidence of this difference is found in the total ratio of violations cited by PADEP per inspection. With 16,685 partial and complete inspections conducted in EY09 and 612 violations issued, PADEP inspectors cited .04 violations per inspection, whereas PADEP inspectors identified 1.07 violations per inspection when OSM was present for an OC inspection. The following two graphs illustrate the distribution of violations noted during OSM's OC inspections.

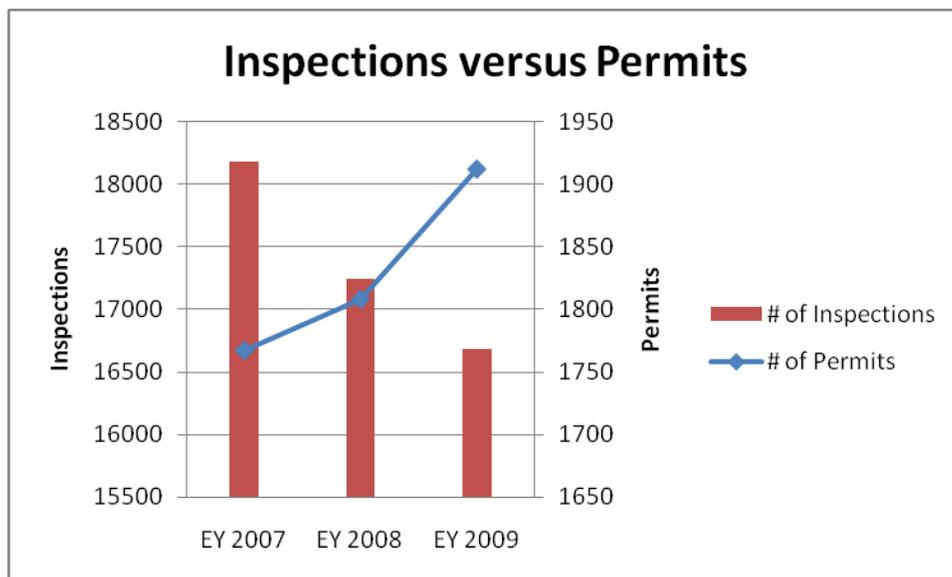


Analysis of the data shown above demonstrates two major trends: hydrologic impacts, within the bituminous region, continue to be the most prevalent environmental concern and there is a growing trend of significant administrative violations, particularly in the Anthracite Region. The specific types of administrative violations in the anthracite region include: violations for mining without a permit; mining outside a bonded area; terms and conditions of a permit; failure to provide sufficient permit information; improper signs and markers; insufficient drainage control

and violation of temporary cessation orders.

A trend noted is the decreasing number of inspections even as the total number of permits is increasing. The number of inspections has decreased from 18,181 in 2007 to 16,685 in 2009, while the number of permits has grown from 1,767 in 2007 to 1,912 in 2009. PADEP is required to inspect a permit every month, in a combination of partial and complete, with a complete inspection at least every quarter. The frequency of partial inspections of inactive (Phase II complete or temporary cessation) permits is discretionary as necessary to ensure compliance with the permit. Assuming the most aggressive inspection frequency, PADEP could have conducted 22,944 inspections on 1,912 permits. For 2009, PADEP conducted 73% of this expected number. Of more concern is that the number of complete inspections required (four per year) should be 7,648 for 1,912 permits, while only 6,397 were reported. PADEP reports that budgetary restrictions and the resulting inability to fill vacancies resulted in inspection frequency prioritization and stratification.

OSM believes this reduction in the number of inspections shows up in Table 10, State Enforcement Activity. In EY 2008, PADEP reported that 744 violations were issued. In the current year PADEP reports 612 violations, an 18% drop in one year. However, the rate of violations cited per inspection remains the same from 2008 to 2009 at .04%. OSM will further investigate this issue during the 2010 Evaluation Year.



Fifty of the operations inspected had provisions in their permit for “re-mining.” Several positive impacts were noted on the majority of these 50 operations. Reduction of lineal feet of high wall and abandoned acreage reclamation were common positive impacts. The OSM inspectors examining these sites anticipate additional positive impacts from re-mining; however reclamation had not yet reached the applicable reclamation phases at the point in time of the OSM OC inspection. Thirteen of the operations inspected were permitted with “Subchapter F” conditions.

Each OC inspection provided a focused evaluation of the bond and bond calculations for the disturbed area, distance and item limits allowed within the permit. Of the 80 OC inspections

conducted within the bituminous region, two sites were determined to have inadequate bonding. However, in one case, the permit was forfeited in 1995, and there is inadequate bond for reclamation, and in the other case, the permit expired in 2006 without bond being posted. This case is in litigation. Of the 33 OC inspections conducted within the anthracite region, two sites were determined to have inadequate bonding. Bond inadequacy is being addressed through a CO&A at one permit, and in the other, the bonding shortfall was identified in a deficiency letter and will be resolved in the upcoming annual bond review. All other permits reviewed were found to be adequately bonded in accordance with the bonding guidelines.

There were six new Ten Day Notices (TDN) issued during the evaluation year. Five TDNs were issued on the basis of citizen's complaints and one was issued on the basis of an OSM inspection. The TDNs resulted in the deferral of 20 alleged violations to PADEP for action. The TDNs are summarized below.

TDN 08-121-50-001 Waroquier Coal Co. This TDN was issued based on a citizen complaint that the permit had not been properly revegetated and that a sediment control structure was not adequately maintained. PADEP responded that the revegetation issues had been addressed by the operator, and that a violation had been issued to remove sediment from the pond. OSM found PADEP had taken appropriate action to have the violation corrected and shown good cause that no violations existed regarding the other two allegations. The citizen did not request an informal review.

TDN 08-121-273-002 Helvetia Coal Company. This TDN was issued based on a citizen complaint that mine seeps were entering private property from an adjacent permitted refuse disposal area. This TDN was the second of three issued against this permit. PADEP responded that one of the seeps was covered by an existing permit, and that it had directed the permittee to develop a plan to address the other 3 seeps. PFD found that PADEP had demonstrated good cause for not taking action regarding the one seep and appropriate action to have the other seeps addressed. The complainant filed a request for informal review, and the Regional Director is reviewing the case.

TDN 09-121-147-001 Mulligan Mining Inc. This TDN was issued based on a citizen complaint that topsoil was not being properly conserved and re-spread on the farm after mining, that approximate original contour was not being achieved, and that ruts in a field, left by equipment, were not removed. PADEP responded that it had met with the complainant and that all issues had been resolved. OSM found PADEP had demonstrated good cause for not taking action in that there were no violations of the permit requirements. Sufficient topsoil was being spread on the permit, approximate original contour will be achieved when the sediment pond is removed, and the ruts had been filled. The citizen did not request an informal review.

TDN 09-121-011-002 TDK Coal Sales Inc. This TDN was issued on the basis of an OSM oversight inspection. OSM noted that a required haul road certification was not in the permit file. PADEP responded that program changes were being made to provide instructions for certifying roads in existence before July 1, 2008, and that once those guidelines were issued, road certifications for pre-existing roads would be required with the annual bond review. OSM accepted this response as appropriate action to have the violation corrected.

TDN 09-121-273-001 Helvetia Coal Company. This TDN was issued on the basis of a citizen complaint that a refuse disposal permit was creating off-site impacts on an adjacent property. This is the third TDN issued for this permit on behalf of the adjacent landowner. There were a total of six alleged violations including off permit seeps, failure to acquire landowner access, inadequate bonding for the seeps, and failure to comply with permit requirements when discharging surface water into an underground mine. PADEP responded that the permittee had been ordered to submit a permit revision to address all of the violations. PFD accepted the response as appropriate action to have the violations corrected. The complainant requested an informal review from the Regional Director, and that review is underway.

TDN 09-121-011-001 Albert Stiffler Mining Company. This TDN was issued on the basis of a citizen complaint that blasting activities at a nearby mining operation had resulted in the contamination of a well water supply, and damages to the residence. PADEP response documented that there was no correlation between the damages at the residence, or the well water contamination, and blasting activities at the mine. PFD accepted this response as demonstrating good cause that no violations existed. The citizen requested an informal review from the Regional Director of the decision regarding blasting damages at the residence, and the review is under way.

There are two continuing actions from a prior evaluation year, regarding ground water contamination from the placement of coal combustion by-products on mine refuse disposal permits. In both these cases, PFD found PADEP's response demonstrated "good cause" for not taking action. One of these coal ash complaints received an informal review from the Regional Director. The Regional Director upheld PFD's "good cause" determination, and the complainant appealed the decision to Interior's Board of Land Hearings and Appeals (IBLA). IBLA remanded OSM's decision for further review, and OSM is currently reviewing the decision to determine what action is needed. The other coal ash complaint is under informal review by the Regional Director.

One other continuing case was reviewed by IBLA at the request of the complainant, following a "good cause" determination by PFD, which was subsequently upheld during an informal review. This case involved off permit mine discharges from Helvetia Coal Company's refuse disposal permit, which were allegedly contaminating a private water supply. IBLA remanded the case to OSM to address information gaps in the record. OSM is addressing IBLA's comments. This case was the first of three interrelated TDN's on the Helvetia Mining Company's refuse disposal permit, as discussed above.

B. Abandoned Mine Lands Project Reviews

OSM conducts site reviews of AML projects to understand how PADEP controls the reclamation process and to determine whether the program is meeting stated goals and objectives. During the evaluation year, the Harrisburg office conducted 24 site visits to approved AML projects during various phases of completion. When possible, site visits were coordinated with BAMR which is offered the opportunity to accompany OSM during the review. OSM gathered information on site status, BAMR monitoring, overall project success, and the existence of actual or potential problems. The site visits conducted by OSM included 11 construction phase reviews, 5 final

inspection phase reviews, and 8 post-completion phase reviews. Overall, OSM construction, final, and post-final reviews confirm that BAMR successfully manages the AML project reclamation process. BAMR develops effective designs and monitors contractor performance to ensure that the projects meet the goals and objectives of the AML program.

C. Use of Conventional Bonds and Treatment Trust Funds for long term treatment

PADEP continued to negotiate and implement Trust Funds and Conventional Bonds for the perpetual treatment of primacy permits with post mining discharges. PADEP uses AMDTreat, and/or actual water treatment cost data the coal company or a third party provides, as instruments to aid in the establishment of the bond or treatment trust funds amount. Other factors such as the trust's life span, market rate, and administration costs are also taken into consideration for establishing trust fund accounts.

PADEP has developed a database type instrument to track the operators and facilities requiring a pollutional discharge financial instrument. This Treatment Trusts database is sectioned by district office and agreement status to track pollutional discharge agreements and bonding. Offices identified are California, Cambria, District Mining, Greensburg, Knox, Moshannon, and Pottsville. Agreement status includes data collection in progress, initial calculations are completed, negotiations are ongoing, agreement has been reached, and Trust/Bond is finalized. Included in the database are pre-primacy and non-coal permits along with primacy coal mining permits. This data base is being converted to an eFACTS format, and will include information on payments and payment schedules, disbursements and reports.

The treatment trust database contains 107 agreements associated with primacy, coal mining related pollutional discharges. The 107 primacy pollutional discharge agreements encompass 184 permits and address 317 discharges. The process to have a financially solvent reclamation guarantee for each discharge requires several steps. Agreements are in various stages of financial execution. They are:

| | |
|-----------------------|------|
| Fully Funded/Bond | – 46 |
| Fully Funded/Trust | – 23 |
| Partially Funded | – 9 |
| Not Started/Bond Req. | – 29 |

During the Evaluation Year, PFD selected three trust agreements to determine if basic information required by the agreements was present in the files, and to evaluate implementation of the agreements. The review found the basic information required by parts H through N of the agreement was present. However, the review found that the trusts are not reaching or maintaining their financial goals. The review found that required treatment systems upgrades are not being completed, and, in one case, associated reclamation bonds were released before the trust was fully funded. The review also found that required annual financial reviews are not being consistently conducted. PFD also noted the absence of income and disbursement ledger sheets, which would make it easier to track the financial status of the trust funds. Upgrading the treatment trusts into eFACTS should remedy the financial concerns.

D. Internal Control Study

The OSM and PADEP conducted a joint review of the DMO offices for the tenth year during the fall of 2008. The team reviewed two areas:

Procedures for the dissemination and actions required when processing water monitoring reports received by the district offices.

Pit variance procedures, concurrent reclamation, and on bond calculations on pits exceeding 1,500 feet in length or 300 feet in width.

The review teams consisted of two representatives from DMO and OSM. Prior to the offices' visits, questionnaires were sent to each District Mining Office to gather initial information on water monitoring reports and pit variance requests procedures. Each mining office provided data on water monitoring procedures and compiled a list of sites with pits longer than 1,500 feet or wider than 300 feet. The California District Office is the regulatory authority for underground mining, refuse disposal sites and coal preparation plants and therefore participated only in the water monitoring portion of the study.

The review teams conducted 72 office reviews on water monitoring reports and procedures. The Mine Conservation Inspector (MCI) for each site was solicited to provide information about his responsibilities and the office's procedures regarding water monitoring reports and the course of action when a non-compliant sampling is observed.

The review teams conducted 51 permit reviews of mining sites with pit variances to review bond adequacy and documentation for concurrent reclamation. The review teams performed 20 field inspections on surface mining sites with pit variances.

Selected Findings:

Water monitoring was found to be generally complete and current except for one office where several discrepancies between what is listed in the Sample Information System (SIS), the permit requirements, and what the operator is submitting were evident.

The Department relies heavily on the MCI to review the water monitoring reports. Although this is an important aspect of the MCI's duties, it is easy for them to miss a problem early on when it can readily be addressed.

The Pottsville Office has some very large pits in the Anthracite region using "Phased Bonding." This bonding is based on 25 PA Code 86.161, and is a payment schedule over a period of time to allow for complete bonding of the sites. Although these sites are closely monitored by the district office, it does expose the Department to a potentially large backfilling obligation. Also, as bond rates continue to escalate, it raises the question if the mine site would ever achieve full bonding.

It is difficult in the anthracite region to determine bond adequacy at any given point in time because of the nature of open pit mining. In some cases it seems a great deal of confidence is put in the consultants calculations as being accurate even though the Pottsville District Office does perform spot checks of the calculations.

The current Technical Guidance Document (TGD) allows for a 15% overage and this amount could result in sites being vastly under bonded while still meeting the spirit of the TGD.

In all of the district offices it was difficult to follow the paper trail on how determinations were made to issue a pit variance and what the appropriate bonding amounts should be. It appears that the offices looked at various criteria for determining bonds. Some counted access ramps as part of the pit while others chose not to address the ramps. It was also difficult to determine how the cut off for bonding was determined in whether the site was bonded at less than 500 feet or greater than 500 feet or how much of each applied to the site.

In one office, where sites met the requirements for an exemption request, it was found that the requests were granted but the bond calculations were never upgraded. Some sites were still bonded at rates from 2006 and 2007.

PFD will follow up on these findings during EY2010.

E. Status of LC&N Permit

LC&N is in bankruptcy and operating under a Consent Order and Agreement (CO&A) initially executed in September 2002, and amended on April 26, 2006 and June 2, 2008. A third amendment is pending. This is an 8,000 acre permit near Tamaqua, Schuylkill County PA. The permit is an Alternative Bonding System (ABS) permit that has not converted to full cost bonding. Forfeiture of this permit could have a significant impact on the financial ability of PADEP to complete its land and water reclamation obligations remaining under the former ABS program. To help understand the potential implications of this possibility, OSM conducted a review of the status of the permit and was provided the following information by PADEP.

The primary features of the permit are two large un-reclaimed pits (Springdale and 99/111) and a discharge (Route 309) with a flow rate between 3 and 4 thousand gpm, which is currently being treated with a pebble quick lime system. The CO&A establishes backfilling and payment schedules for the two pits and the AMD treatment system trust fund.

The CO&A, amendment No. 2 established a backfilling schedule of 425,000cyds per quarter into the pits, and a bond payment of \$575,000 per quarter beginning in the first quarter of 2009. In 2010 the quarterly bond payment grows to \$700,000, and in 2011, the quarterly payment grows to \$777,500. In 2012, the remaining bond amount liability will be calculated and reconciled. If 425,000cyds of material is placed in the pits, the required bond posting is \$575,000/quarter. There is about a dollar for dollar ratio between material placed and bond posted. Therefore, for every cubic yard of material placed above the 425,000, the amount of bond required for that quarter is reduced by one dollar. Should the amount of material placed fall below 425,000cyds, the bond amount increases correspondingly.

In the first quarter of 2009, LC&N reported almost 1 million cubic yards of material deposited into the two pits. The information is being verified by PADEP, but if true, the required bond deposit would be about \$9,500. In the first two months of the second quarter, LC&N reports 609,000cyds of material deposited (subject to PADEP verification). The 2008 Annual Bond Review for the LC&N permit shows a total land reclamation bond liability for the permit of

\$14,723,407. There is a total of \$7,605,878 posted, including \$2,100,000 in conversion assistance. This leaves a deficit of \$7,117,529. As the amount of material deposited grows, and quarterly bond deposits are made, the bond deficit will decrease.

PADEP is confident that, should LC&N default on its obligations and the permit is forfeited, there will be opportunities for other companies to take over, or carve out sections of the permit for continued operation. PADEP believes there are sufficient coal reserves, and coal deposits in the associated refuse material, to interest other companies, or to keep LC&N operating. Based on current progress, the land reclamation should be fully bonded by the end of 2010.

The CO&A, amendment No. 2 established a payment schedule into a treatment escrow account of \$50,000/month beginning in January 2009, for the Route 309 discharge. This escrow will eventually be converted to a treatment trust fund. LC&N is currently treating the Route 309 discharge, and expending about \$500,000/year. It is estimated that approximately 11 million dollars would be needed in a trust fund to maintain the current treatment system. At the time of the evaluation, there was between \$600,000 and \$650,000 in the escrow account for treatment, and LC&N was behind \$115,000 in treatment escrow payments for 2009. This is a consideration of Amendment No. 3 to the CO&A, which is in progress. OSM is concerned that there is substantial unfunded treatment liability for this ABS discharge, which would substantially impact the Reclamation Fee O&M Trust Account, if the permit is forfeited.

APPENDIX A

Acronyms used in this Report

| | |
|---------|---|
| ABS | Alternative Bonding System |
| AMD | Acid Mine Drainage (Relates to all mining related pollutional discharges) |
| AML | Abandoned Mine Lands |
| AMLIS | Abandoned Mine Land Inventory System |
| BAMR | Bureau of Abandoned Mine Reclamation |
| BMR | Bureau of Mining and Reclamation |
| CAC | Citizens Advisory Council |
| CBS | Conventional Bonding System |
| CO&A | Consent Order and Agreement |
| COE | U.S. Army Corps of Engineers |
| DCED | Department of Community and Economic Development |
| DMO | Bureau of District Mining Operations |
| eFACTS | Environment Facility Application Compliance Tracking System |
| EHB | Environmental Hearing Board |
| EQB | Environmental Quality Board |
| GFCC | Government Financed Construction Contract |
| GPRA | Government Performance Results Act |
| HUP | Hydrologic Unit Plan |
| MRAB | Mining and Reclamation Advisory Board |
| NEPA | National Environmental Policy Act |
| NRCS | Natural Resources Conservation Service |
| OSM | Office of Surface Mining Reclamation and Enforcement |
| PADEP | Pennsylvania Department of Environmental Protection |
| PASMCRA | Pennsylvania Surface Mining Conservation and Reclamation Act |
| PFD | Pittsburgh Field Division |
| SMCRA | Surface Mining Control and Reclamation Act of 1977 |
| TMDL | Total Maximum Daily Load |
| WCAP | Watershed Cooperative Assistance Program |

APPENDIX B

Tabular Summaries of Data Pertaining to Mining, Reclamation and Program Administration

These tables present data pertinent to mining operations and State and Federal regulatory activities within Pennsylvania. They also summarize funding provided by OSM and Pennsylvania staffing. Unless otherwise specified, the reporting period for the data contained in all tables is the same as the evaluation year. Additional data used by OSM in its evaluation of Pennsylvania's performance is available for review in the evaluation files maintained by the Harrisburg OSM Office.

When OSM's Directive REG-8, Oversight of State Programs, was revised in December 2006, the reporting period for coal production on Table 1 was changed from a calendar year basis to an evaluation year basis. The change was effective for the 2007 evaluation year. However, with Change Notice REG-8-1, effective July 1, 2008, the calendar year reporting period in Table 1 for coal produced for sale, transfer or use was reestablished and is effective for the 2008 evaluation year. In addition, for the 2008 evaluation report, coal production for the two prior years reported on Table 1 was recalculated on a calendar year basis so that all three years of production reported in the table are directly comparable. This difference in reporting periods should be noted when attempting to compare coal production figures from annual evaluation reports originating both before and after the December 2006 revision to the reporting period.

TABLE 1

Coal Produced for Sale, Transfer, or Use
 (Millions of Short Tons)

| Period | Surface Mines | Underground Mines | Total |
|--|----------------------|--------------------------|--------------|
| Coal production^A for entire State: | | | |
| Calendar Year | | | |
| CY 2006 | 11.818 | 56.155 | 67.973 |
| CY 2007 | 11.672 | 54.649 | 66.321 |
| CY 2008 | 11.878 | 54.521 | 66.399 |

Coal production as shown in this table is the gross tonnage and includes coal produced during the calendar year (CY) for sale, transfer or use. The coal produced in each CY quarter is reported to OSM during the following quarter by each mining company on line 8 (a) of form OSM-1, 'Coal Reclamation Fee Report.' Gross tonnage does not provide for a moisture reduction. OSM verifies tonnage reported through routine auditing of mining companies. This production may vary from that reported by States or other sources due to varying methods of determining and reporting coal production.

A

Provide production information for the latest three full calendar years to include the last full calendar year for which data is available.

TABLE 2

**Inspectable Units
As of June 30, 2009**

| Coal mines and related facilities | Number and Status of Permits | | | | | | | | Nbr. of Insp. Units ^A | Permitted Acreage ^B (100's of acres) | | | | |
|--|--------------------------------|--------------|--------------------------------|------------|-----------|------------|----------|--------------|----------------------------------|--|------------|---------------------|----------------|----------------|
| | Active or temporarily inactive | | Inactive Phase II bond release | | Abandoned | | Totals | | | Federal Lands | | State/Private Lands | | All Lands |
| | IP | PP | IP | PP | IP | PP | IP | PP | | IP | PP | IP | PP | Total |
| | IP | PP | IP | PP | IP | PP | IP | PP | | IP | PP | IP | PP | Total |
| LANDS FOR WHICH THE STATE IS THE REGULATORY AUTHORITY | | | | | | | | | | | | | | |
| Surface mines | 0 | 769 | 0 | 542 | 0 | 87 | 0 | 1,398 | 1,398 | 0.0 | 0.0 | 0.0 | 2,958.0 | 2,958.0 |
| Underground mines | 0 | 128 | 0 | 39 | 0 | 17 | 0 | 184 | 184 | 0.0 | 0.0 | 0.0 | 477.0 | 477.0 |
| Other facilities | 0 | 257 | 0 | 49 | 0 | 24 | 0 | 330 | 330 | 0.0 | 0.0 | 0.0 | 438.0 | 438.0 |
| Total | 0 | 1,154 | 0 | 630 | 0 | 128 | 0 | 1,912 | 1,912 | 0.0 | 0.0 | 0.0 | 3,873.0 | 3,873.0 |

Total number of permits: 1,912

Average number of permits per inspectable unit (excluding exploration sites): 1.00

Average number of acres per inspectable unit (excluding exploration sites): 202.56

Number of exploration permits on State and private lands: 0 On Federal lands^C: 0

Number of exploration notices on State and private lands: 430 On Federal lands^C: 0

IP: Initial regulatory program sites
PP: Permanent regulatory program sites

^A Inspectable units include multiple permits that have been grouped together as one unit for inspection frequency purposes by some State programs.

^B When a single inspectable unit contains both Federal lands and State/Private lands, enter the permitted acreage for each land type in the appropriate category.

^C Includes only exploration activities regulated by the State pursuant to a cooperative agreement with OSM or by OSM pursuant to a Federal lands program. Excludes exploration regulated by the Bureau of Land Management.

TABLE 3

**State Permitting Activity
As of June 30, 2009**

| Type of Application | Surface mines | | | Underground mines | | | Other facilities | | | Totals | | |
|--|---------------|------------|--------------|-------------------|------------|--------------------|------------------|-----------|------------|------------|--------------|--------------|
| | App. Rec. | Issued | Acres | App. Rec. | Issued | Acres ^A | App. Rec. | Issued | Acres | App. Rec. | Issued | Acres |
| New Permits | 79 | 49 | 6,901 | 2 | 3 | 201 | 6 | 6 | 449 | 87 | 58 | 7,551 |
| Renewals | 219 | 169 | | 16 | 28 | | 37 | 35 | | 272 | 232 | |
| Transfers, sales, and assignments of permit rights | 35 | 31 | | 2 | 8 | | 11 | 6 | | 48 | 45 | |
| Small operator assistance | 0 | 5 | | 0 | 0 | | 0 | 0 | | 0 | 5 | |
| Exploration permits | | | | | | | | | | 0 | 0 | |
| Exploration notices ^B | | | | | | | | | | | 453 | |
| Revisions (exclusive of incidental boundary revisions) | | 175 | | | 45 | | | 35 | | | 255 | |
| Revisions (adding acreage but are not incidental boundary revisions) | 62 | 56 | 249 | 40 | 33 | 0 | 11 | 12 | 16 | 113 | 101 | 265 |
| Incidental boundary revisions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Totals | 395 | 485 | 7,150 | 60 | 117 | 201 | 65 | 94 | 465 | 520 | 1,149 | 7,816 |

OPTIONAL - Number of midterm permit reviews completed that are not reported as revisions: 0

^A Includes only the number of acres of proposed surface disturbance.

^B State approval not required. Involves removal of less than 250 tons of coal and does not affect lands designated unsuitable for mining.

TABLE 4

OFF-SITE IMPACTS (excluding bond forfeiture sites)

| RESOURCES AFFECTED | | | People | | | Land | | | Water | | | Structures | | |
|---|----------------|-----------|----------|----------|----------|-----------|----------|----------|-----------|-----------|----------|------------|----------|----------|
| DEGREE OF IMPACT | | | Minor | Moderate | Major | Minor | Moderate | Major | Minor | Moderate | Major | Minor | Moderate | Major |
| TYPE OF IMPACT AND TOTAL NUMBER OF EACH TYPE | Blasting | 7 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 |
| | Land Stability | 7 | 0 | 0 | 0 | 3 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| | Hydrology | 56 | 0 | 0 | 1 | 1 | 0 | 0 | 39 | 11 | 4 | 0 | 0 | 0 |
| | Encroachment | 3 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Other | 23 | 1 | 2 | 0 | 9 | 2 | 4 | 5 | 0 | 0 | 0 | 0 | 0 |
| | Total | 96 | 2 | 3 | 1 | 14 | 6 | 5 | 44 | 11 | 4 | 6 | 1 | 1 |

Total number of inspectable units (excluding bond forfeiture sites): 1,766
 Inspectable units free of off-site impacts: 1,694
 Inspectable units with off-site impacts: 72

OFF-SITE IMPACTS ON BOND FORFEITURE SITES

| RESOURCES AFFECTED | | | People | | | Land | | | Water | | | Structures | | |
|---|----------------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|----------|------------|----------|----------|
| DEGREE OF IMPACT | | | Minor | Moderate | Major | Minor | Moderate | Major | Minor | Moderate | Major | Minor | Moderate | Major |
| TYPE OF IMPACT AND TOTAL NUMBER OF EACH TYPE | Blasting | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Land Stability | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Hydrology | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 70 | 0 | 0 | 0 | 0 | 0 |
| | Encroachment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Total | 0 | 70 | 0 | 0 | 0 | 0 | 0 |

Total number of inspectable units (only bond forfeiture sites): 146
 Inspectable units free of off-site impacts: 76
 Inspectable units with off-site impacts: 70

TABLE 5

Annual State Mining and Reclamation Results

| Bond release phase | Applicable performance standard | During this Evaluation Year | | |
|---|---|--|-------------------------------------|--------------------------------------|
| | | Total acreage released | Acreage also released under Phase I | Acreage also released under Phase II |
| A | B | C | D | E |
| Phase I | - Approximate original contour restored - Topsoil or approved alternative replaced | 7,471 | | |
| Phase II | - Surface stability - Establishment of vegetation | 4,546 | 0 | |
| Phase III | - Post-mining land use/productivity restored - Successful permanent vegetation - Groundwater recharge, quality and quantity restored - Surface water quality and quantity restored | 4,120 | 0 | 0 |
| Bonded Acreage^A | | Acres during this evaluation year | | |
| Total number of new acres bonded during this evaluation year | | 46,118 | | |
| Number of acres bonded during this evaluation year that are considered remining, if available | | 471 | | |
| Number of acres where bond was forfeited during this evaluation year | | 241 | | |
| Bonded Acreage Status | | Cumulative Acres | | |
| Total number of acres bonded as of the end of last review period (June 30, 2008) ^B | | 350,517 | | |
| Total number of acres bonded as of the end of this review period (June 30, 2009) ^B | | 387,338 | | |
| Sum of acres bonded that are between Phase I bond release and Phase II bond release as of June 30, 2009 ^B | | 0 | | |
| Sum of acres bonded that are between Phase II bond release and Phase III bond release as of June 30, 2009 ^B | | 0 | | |
| Disturbed Acreage | | Acres | | |
| Number of Acres Disturbed during this evaluation year | | 2,956 | | |
| Number of Acres Disturbed at the end of the evaluation year (cumulative) | | 5,829 | | |
| <p>^A Bonded acreage is considered to approximate and represent the number of acres disturbed by surface coal mining and reclamation operations.</p> <p>^B Bonded acres in this category are those that have not received a Phase III or other final bond release (State maintains jurisdiction).</p> | | | | |

Brief explanation of columns D & E. The States will enter the total acreage under each of the three phases (column C). The additional columns (D & E & E) will "break-out" the acreage among Phase II and/or Phase III. Bond release under Phase II can be a combination of Phase I and II acreage, and Phase III acreage can be a combination of Phase I, II, and III. See "Instructions for Completion of Specific Tables," Table 5 for example.

TABLE 6

State Bond Forfeiture Activity
(Permanent Program Permits)

| Bond Forfeiture Reclamation Activity by SRA | Number of Sites | Dollars | Acres |
|---|-----------------|------------|-------|
| Sites with bonds forfeited and collected that were unreclaimed as of June 30, 2008 (end of previous evaluation year) ^A | 91 | | 1,939 |
| Sites with bonds forfeited and collected during Evaluation Year 2009 (current evaluation year) | 7 | \$ 109,020 | 294 |
| Sites with bonds forfeited and collected that were re-permitted during Evaluation Year 2009 (current evaluation year) | 5 | | 369 |
| Sites with bonds forfeited and collected that were reclaimed during Evaluation Year 2009 (current evaluation year) | 2 | | 317 |
| Sites with bonds forfeited and collected that were unreclaimed as of June 30, 2009 (end of current evaluation year) ^A | 95 | | 1,998 |
| Sites with bonds forfeited but uncollected as of June 30, 2009 (end of current evaluation year) | 51 | | 535 |
| Surety/Other Reclamation (In Lieu of Forfeiture) | | | |
| Sites being reclaimed by surety/other party as of June 30, 2008 (end of previous evaluation year) ^B | 12 | | 846 |
| Sites where surety/other party agreed to do reclamation during Evaluation Year 2009 (current evaluation year) | 1 | | 81 |
| Sites being reclaimed by surety/other party that were re-permitted during Evaluation Year 2009 (current evaluation year) | 1 | | 10 |
| Sites with reclamation completed by surety/other party during Evaluation Year 2009 (current evaluation year) ^C | 4 | | 672 |
| Sites being reclaimed by surety/other party as of June 30, 2009 (current evaluation year) ^B | 3 | | 344 |

^A Includes data only for those forfeiture sites not fully reclaimed as of this date

^B Includes all sites where surety or other party has agreed to complete reclamation and site is not fully reclaimed as of this date

^C This number also is reported in Table 5 as Phase III bond release has been granted on these sites

| TABLE 7 | |
|--|---------------|
| State Staffing (Full-time equivalents at end of evaluation year) | |
| Function | EY 2009 |
| Regulatory Program | |
| Permit Review | 47.00 |
| Inspection | 82.25 |
| Other (administrative, fiscal, personnel, etc.) | 105.75 |
| Regulatory Program Total | 235.00 |
| AML Program Total | 127.40 |
| Total | 362.40 |

TABLE 8

**Funds Granted To Pennsylvania
 BY OSM**

(During the Current Evaluation Year)

(Actual Dollars, Rounded to the Nearest Dollar)

| Type of Funding | Federal Funds Awarded During Current Evaluation Year | Federal Funding as a Percentage of Total Program Costs |
|--|--|--|
| Regulatory Funding | | |
| Administration and Enforcement Grant | \$ 12,684,550 | 50.00 % |
| Other Regulatory Funding, if applicable | \$ 0 | 0.00 % |
| Subtotal | \$ 12,684,550 | |
| Small Operator Assistance Program | \$ 0 | 100 % |
| Abandoned Mine Land Reclamation Funding ^A | \$ 29,975,292 | 100 % |
| Totals | \$ 42,659,842 | |

^A Includes funding for AML Grants, the Clean Streams Initiative and the Watershed Cooperative Agreement Program.

TABLE 9

**State Inspection Activity
 During Current Evaluation Year**

| Inspectable Unit Status | Number of Inspections Conducted | |
|--------------------------------|--|----------------|
| | Complete | Partial |
| Active ^A | 4,507 | 9,105 |
| Inactive ^A | 1,525 | 880 |
| Abandoned ^A | 365 | 303 |
| Total | 6,397 | 10,288 |
| Exploration | 97 | 22 |

^A Use terms as defined by the approved State program.

TABLE 10

**State Enforcement Activity
During Current Evaluation Year**

| Type of Enforcement Action | Number of Actions^A | Number of Violations^A |
|-----------------------------------|--|---|
| Notice of Violation | 502 | 612 |
| Failure-to-Abate Cessation Order | 15 | 16 |
| Imminent Harm Cessation Order | 41 | 51 |

^A Do not include those violations that were vacated.

TABLE 11

**Lands Unsuitable Activity
During Current Evaluation Year**

| | Number | Acreage |
|---|--------|---------|
| Number Petitions Received | 2 | |
| Number Petitions Accepted | 0 | |
| Number Petitions Rejected | 0 | |
| Number Decisions Declaring Lands Unsuitable | 0 | 0 |
| Number Decisions Denying Lands Unsuitable | 0 | 0 |