

# 2010 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 2010**

**(July 1, 2009 to June 30, 2010)**

## 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.....	7
V.	Major Accomplishments/Issues/Innovations.....	7
	A. ABS Forfeiture Permits with Post Mining Discharges.....	7
	B. Coal Combustion By-Products on Mine Permits.....	9
	C. Amendments to the Pennsylvania Approved Regulatory Program .....	11
	D. Mine Drainage Treatment Technologies.....	12
	E. Growing Greener .....	13
	F. Appalachian Regional Reforestation Initiative (ARRI).....	14
	G. Other Initiatives and Accomplishments .....	15
	H. Title IV of SMCRA AML Reclamation.....	17
VI.	Success in Achieving the Purposes of SMCRA.....	35
	A. Off-Site Impacts.....	35
	B. Reclamation Success.....	39
	C. Customer Service.....	40
	D. Refuse Disposal Mine Permit Study.....	41
	E. National Priority Review – Bond Adequacy.....	44

F.	National Priority Review – Approximate Original Contour.....	44
G.	Consol’s Bailey Refuse Disposal Permit.....	44
VII	OSM Assistance.....	46
A.	AML/AMD Treatment Systems GIS and Information Data Base .....	46
B.	AMD Inventory Maintenance (Primacy Permits) .....	46
C.	Watershed Cooperative Agreement Program.....	47
VIII	General Oversight Topic Reviews.....	49
A.	Oversight Inspections.....	49
B.	Abandoned Mine Lands Project Reviews.....	57
C.	Conventional Bonds and Treatment Trust Funds.....	57
D.	Status of LC&N Permit.....	58
E.	Coal Exploration.....	59

On the cover is an Amfire Permit in Somerset County. Photograph courtesy of Matt Riley of PADEP

- APPENDIX A: Acronyms used in the Report
- APPENDIX B: PADEP comments on draft report
- APPENDIX C: Tabular summaries of data pertaining to mining, reclamation and program administration

- 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 2010 evaluation year, from July 1, 2009, to June 30, 2010. 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 2010 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 2010 (July 2009 through June 2010) 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 384 permit inspections including 207 oversight complete inspections, and 102 state enforcement follow ups. In Evaluation Year 2009, 251 total permit inspections were conducted including 113 oversight complete inspections. This 35% increase is primarily due to the availability of a full complement of certified inspectors for most of the year. OSM also conducted 30 abandoned mine reclamation project inspections. Data show PADEP is administering a regulatory program where active mining sites are, with 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. 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 2009, Pennsylvania produced approximately 61.0 million tons<sup>1</sup> of bituminous and anthracite coal on surface and underground mines. This production is down from 68.3 million tons reported for calendar year 2008. Of the total coal production, bituminous mining accounted for 58.06 million tons, and the remaining 2.94 million tons were mined in the anthracite region. In addition, coal refuse mine sites were responsible for producing 5.9 million tons of material, of which 2.0 million tons were reported in the bituminous region and 3.9 million tons were reported in the anthracite region.

Underground mining accounted for almost 84% of the total coal mined from surface and underground mines in the bituminous region and 80% of coal mined statewide. The seven underground mines in Greene County accounted for 74% of all coal mined from underground operations. Conversely, bituminous and anthracite surface mining companies produced 9.7 million tons of coal, which was 20% of the total surface and underground coal mined in 2009 in Pennsylvania. The largest surface coal producing county with 1.93 million tons was Clearfield County, with Somerset County in second place, reporting 1.67 million tons.

In 2009, 131 bituminous mine operators reported production at 343 mine sites. That number includes 40 underground mines, 285 surface mines, and 18 coal refuse sites and is down from the 409 active mining operations reported in 2008. Seventy-nine anthracite mine operators reported production at 126 mine sites. That number includes 61 surface mines, 54 coal refuse sites, and 11 underground mines.

Anthracite mining production increased slightly in 2009, with 2.94 million tons of coal produced on 72 mine sites. Of these sites, 0.17 million tons were produced at 11 underground mine sites, and 94% of the coal production occurred on 61 surface mines, which reporting 2.77 million tons. In 2009, 7,324 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

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

more than half of the appointees are from the same political party. Since its creation in 1971, the 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.

### **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 and regulations.
- 2010 proposed Bond Rate Guidelines.
- Status of BAMR's AML reclamation projects.
- The status of Primacy Bond Forfeiture Reclamation Program.
- The status of the ABS Legacy Fund, and AMD Treatment Trust Funds and ABS Project Reclamation.
- Potential changes in Total Dissolved Solids requirements and effect on mining industry.
- Proposed increase in permit application fee from current \$250.00.
- OSM's proposal to amend its stream protection regulations.
- Remining Operator Assistance Program (ROAP).

### **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. OSM reviewed all EHB decisions for the evaluation year, regarding coal mining cases, and identified the following two cases for their relevance to Pennsylvania's approved program.

EHB Docket No. 2009-007-L Issued: December 29, 2009. In this case, as citizen appealed a Departmental decision against taking enforcement action regarding his complaint of property damage resulting from coal mining activities. The Department filed a motion to dismiss, arguing that the letter sent to the citizen is not an appealable action. EHB found that a letter from the Department may under some circumstances constitute an appealable action. Where, however, a letter does no more than describe the outcome of the Department's investigation of a third-party complaint and reports that the Department will not pursue enforcement action against the object of the complaint, the letter is generally not appealable absent a claim of bias or corruption or perhaps other unusual circumstances. The EHB noted that the Department's letter contains an appeal paragraph. However, the Board has consistently held that such a paragraph does not in and of itself transform a nonappealable action into an appealable action. The Board dismissed the appeal. In similar cases, the Board has stated that it will not interfere with the Department's exercise of its prosecutorial discretion, and that it has no authority to order the Department to take enforcement action against a permittee. OSM is reviewing the EHB's position regarding appeals of Departmental decisions on citizen complaints to determine if it is consistent with the requirements of 30 CFR § 840.15 Public Participation.

EHB Docket No. 2008-291-R Issued: April 28, 2010. In this case a husband and wife filed a motion for the Department to order Rosebud Mining Company to pay the company's estimate of costs to repair their home, damaged by subsidence, in the amount of \$48,000 as interim repair costs. The Department reviewed and accepted the company's original repair estimate, although further investigation by the Department disclosed additional mine subsidence damages not previously considered by the company. The Department revised the scope of work. The citizens' own estimate of the repair costs was \$202,188.72. EHB noted there was sharp disagreement over the extent of mine caused damages, and the method to repair. The EHB found that it would be premature to order payment of the original repair cost estimate as an interim payment, noting that the matter is scheduled for trial in the fall, and that the merits hearing is likely the best place to resolve the issue. EHB denied the appellants' motion.

### **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.

## **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.

### **Public Comment in Permit Review Process**

PADEP received 449 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 1,066 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 377 citizen complaints, 337 of which were investigated, and 330 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.

REG 8, OSM's Oversight of State Regulatory Programs Directive, provides guidance regarding oversight of approved state programs. This directive requires each field office to develop and conduct an outreach program to solicit comments for the public and interested parties regarding the oversight process, recommendations for additional review topics for the evaluation year and suggestions for improvements of future annual evaluation reports. On June 28, 2010, representatives of OSM's Harrisburg Office informally met with a group of individual citizens and representatives of the Citizen's Coal Council, the Center for Coalfield Justice, the Mountain Watershed Association and others. The meeting was held in Washington Pennsylvania. The purpose of the meeting was to listen to the citizen's perspective on coal mining issues affecting them, and to solicit suggestions for oversight studies. The meeting was informative, and included discussions regarding well water and stream loss from underground long wall mining and public participation in PADEP's permitting program. OSM agreed to include these topics in its 2011 Work Plan.

## **V. Major Accomplishments and Innovations in the Pennsylvania Program**

### **A. Alternative Bonding System (ABS) 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 pollutional 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 notice dated August 10, 2010, OSM partially approved the program amendment. OSM also revised the required amendment at 30 CFR 938.16(h) to require Pennsylvania, by October 12, 2010, to submit either a proposed amendment or a description of an amendment to be proposed, together with a timetable for adoption, to ensure that its program provides suitable, enforceable funding mechanisms that are sufficient to guarantee coverage of the full cost of land reclamation at all sites originally permitted and bonded under the ABS. Satisfaction of the revised required amendment will likewise constitute satisfaction of the

remaining requirements of the October 1, 1991, 732 letter.

Pennsylvania continues to make progress towards the reclamation of surface mine sites forfeited under the previous alternative bonding system (ABS). The following information was derived from the Department's January 2010 ABS Progress Report.

PA has established and funded the new accounts (The Reclamation Fee O & M Trust Account and the ABS Legacy Sites Trust Account-as described in 25 Pa. Code 86.17 and 86.187) for constructing and managing the ABS projects. Revenues and expenses are tracked in order to gather the necessary information to determine the reclamation fee amount. The revenue is specifically related to the reclamation fee, civil penalties and interest. During 2009, the Department generated the first fiscal year report in order to calculate the reclamation fee amount for 2010. In addition, PA has begun more detailed tracking of expenditures for the ABS project.

Expenditures from the Reclamation Fee O & M Trust Account from July 1, 2009 through December 31, 2009 totaled \$34,952.21. This represents DEP staff time (\$2,662.20), sample costs (\$1,314.31), a grant to the Clean Streams Foundation for the O & M at the Racic site (\$28,550.70) and O & M costs under a contract (\$2,425). The balance in the Reclamation Fee O&M Trust Account as of December 31, 2009 was \$4,078,864.42. The December 31, 2009, balance in the ABS Legacy Sites Trust Account was \$5,320,003.58. This balance includes \$300,000 transfer of excess funds from the Reclamation Fee O & M Trust Account as recommended by the Mining and Reclamation Advisory Board. The money available from the Released Bond account as of December 31, 2009 was \$2,696,940.58. The actual balance in the ABS Land Reclamation Closeout account as of December 2009 was \$4,367,120.92. The committed balance in this account at the end of December 2009 was \$3,816,557.69. This balance reflects projected expenditures from pending projects.

Land reclamation was completed on five ABS forfeited sites and initiated on one other site. Reclamation was completed using Departmental contracts, GFCC AML contracts, and by landowners. Two other projects will be initiated using remaining permits. The December 2009 District Office Summaries for Land Reclamation show 31 ABS forfeited permits with land reclamation remaining. These sites are in a variety of stages of reclamation or re-permitting. In July 2008, PADEP reported 51 ABS forfeited permits needing land reclamation.

The current inventory of ABS forfeited permits with discharges, which need treatment, include 61 permits with 106 discharges. These discharges will remain on the inventory until and if the Department determines treatment is no longer necessary.

BMR has created a record in eFACTS for each ABS BF Discharge. The records include the quality and quantity data used for the AMDTreat calculations. This new function in the eFACTS database is intended to replace the Mine Drainage Inventory.

The transition is beginning from solely using cost estimates based on AMDTreat to using the actual expenses for O & M. In the few cases where preliminary data is available (primarily where DEP is doing the O & M), the actual costs are generally lower than the AMDTreat calculations. However, the AMDTreat calculations will be used for these sites in the overall estimated O & M cost until more data is available. Actual contract/grant costs will also be used

to provide a better total cost estimate as the contracts/grants are executed. Staff from the Bureau of District Mining Operations (DMO) conducted operation and maintenance (O&M) activities during 2009 on treatment systems at 11 ABS discharge sites.

Treatment system designs were completed for four sites in 2009, and there are 20 designs in process for other sites. Note that an individual treatment system may include more than one discharge. O&M contracts are in place for treatment systems at 13 permits. There are now 37 treatment systems in place for the forfeited ABS discharges. Other discharges are in various stages of activity. PADEP also noted in its 2010 report that fully funded trusts were achieved for 7 discharges associated with five ABS permits which had not been forfeited. In July 2008, there were 44 primacy permits with 74 discharges for which there was not a finalized trust of full-cost bond in place. Interim treatment is being maintained by the operator on these non-forfeited permits.

#### **B. Beneficial 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 technical guidance dated April 30, 1998 provided 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. 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.

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. Based on these recommendations and PADEP's self-examination of its program in light of its own studies, PADEP chose to revise its coal ash program to accommodate the NAS recommendations and to include insights from experience. The changes to the coal ash program include updating the technical guidance and drafting new regulations.

PADEP updated its April 30, 1998 technical guidance by publishing two interim final technical guidance documents on April 6, 2009. These are Certification Guidelines for the Chemical and Physical properties of Coal Ash Beneficially Used at Mines (563-2112-224) and Mine Site Approval for the Beneficial Use of Coal ash (563-2112-225). The first of these deals with testing for the chemical characteristics of the ash and the second addresses use at mines.

PADEP has drafted regulations (25 PA Code Chapter 290) incorporating much of the language in the guidance. Regulations will give DEP enforcement capabilities not possible with guidance. The draft regulations are far along in the development process, with only a few steps remaining. The Environmental Quality Board is scheduled to vote on the regulation package at their August

2010 meeting. From there the regulations will be reviewed by a Legislative committee, the Independent Regulatory Review Committee, and the Attorney General. It is anticipated that they will be published in the Pennsylvania Bulletin as final in December 2010.

Over the past several years the coal ash program has undergone the following enhancements:

*Added Chemical Parameters for Leaching Test:* PADEP has added to the Synthetic Precipitation Leaching Procedure (SPLP) test for ash quality the following additional parameters - silver, beryllium, cobalt, fluoride, thallium and vanadium.

*Added Chemical Parameters to Bulk Chemical Tests:* Bulk chemical tests for ash, to the extent possible, sample for the same parameters as for leaching.

*Water Quality Monitoring:*

- Increased sampling frequency of a the comprehensive groundwater characterization from yearly to quarterly;
- Added groundwater monitoring locations to mine sites consistent with possible flow routes;
- Required detection limits at or below drinking water standards;
- Additional parameters added for groundwater monitoring; including nine elements not previously assessed: silver, boron, barium, beryllium, cobalt, molybdenum, antimony, thallium and vanadium.
- Revised groundwater monitoring to ensure that the elements monitored are the same as those analyzed for the ash characterization test;
- Monitoring data is regularly reviewed for increasing trends and, if a trend is detected or if pollution is observed, increased monitoring will be required to pinpoint the source;
- Monitoring will extend 10 years post closure. If an upward trend is detected, monitoring will continue beyond this date.
- PADEP has lowered the leaching limits for several ash parameters. The most significant of which are arsenic and selenium.

Language has been proposed in the revised solid waste regulations to address enforceable corrective actions. Should a problem be observed, PADEP has the discretion to require additional monitoring. Finally, as discussed above, DEP is drafting enforceable ash regulations that will incorporate much of what is currently done by policy. Regulations will provide DEP with a greater ability to enforce the beneficial use of coal ash program.

### **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. PADEP and OSM meet regularly to discuss the status of outstanding required program amendments, including resolution options, and to discuss new and proposed program amendment submissions.

PA-154-FOR: On February 24, 2010, PADEP submitted a formal program amendment in the form of a statutory amendment to Pennsylvania's Coal Refuse Disposal Control Act (CRDA), 52 P.S. § 30.51 et seq. Section 4.1(a) of the CRDA was amended by House Bill 1847. The

submission requests approval of section 4.1(a) of the CRDA by adding subsection (6) to section 4.1(a). Section 4.1(a)(6) states: An area adjacent to or an expansion of an existing coal refuse disposal site. The proposed rule, PA-154-FOR, was published in the Federal Register, Vol. 75, No. 118, Pages 34962-34964, on Monday, June 21, 2010. This amendment would add areas adjacent to or an expansion of an existing coal refuse disposal site, to the list of “preferred sites” for site selection.

PA-155-FOR: On March 4, 2010, PADEP submitted a required regulatory program amendment to address 30 CFR 938.16 (bbb). The submission is an “As Effective As” argument to address ownership and control requirements for cessation orders. PADEP advocates that its program addresses cessation orders through its violation notice definition. The proposed rule, PA-154-FOR, was published in the Federal Register, Vol. 75, No. 118, Pages 34960-34962, on June 21, 2010.

PA-156-FOR: On March 17, 2010, PADEP submitted a formal program amendment to address various program deficiencies found at 30 CFR 938.16. The amendment also includes revisions to the regulations relating to Remining Financial Guarantees. The fourteen required program amendments addressed in this program amendment are found at 30 CFR §§ 938.16(rr), (tt), (uu), (vv), (ww), (xx), (zz), (aaa), (ccc), (iii), (jjj), (nnn), (ppp) and (tt).

OSM and PADEP are working collaboratively to address the eleven remaining required program amendments in 30 CFR § 938.16.

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 30 CFR 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 eleven required ownership and control program amendments dating from a December 30, 1992 Federal Register Notice and earlier versions of the rules. PADEP has submitted a program amendment to address the eleven required amendments. PADEP, with OSM’s assistance has also been working on a comprehensive amendment package to address the other changes in the Ownership and Control regulations adopted in 2007.

#### **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 (Fe<sub>2</sub>) 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.

These four projects represent a second round of innovative technologies RFP's. Two of the AMD-06 Grants remain active. Two of the contracts have been completed, and Final Reports are posted on BAMR's website:

[http://www.depweb.state.pa.us/portal/server.pt/community/abandoned\\_mine\\_reclamation/13961/innovative\\_technology\\_grant\\_final\\_reports/695029](http://www.depweb.state.pa.us/portal/server.pt/community/abandoned_mine_reclamation/13961/innovative_technology_grant_final_reports/695029)

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 also posted on BAMR's website.

#### **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 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 from the original Growing Greener program. Under the Growing Greener II program, BAMR has awarded 50 contracts totaling \$83.8 million that includes \$48.9 million from Growing Greener II and \$35 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 introducing ARRI to Pennsylvania. Small, demonstration projects have been initiated in all Districts, and in the AML program. 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 April 30 and May 1, 2010, the Schuylkill Headwaters Association, in collaboration with the Schuylkill County Conservation District, the Office of Surface Mining (OSM), the Pennsylvania Bureau of Forestry, and the Pennsylvania Department of Environmental Protection, sponsored Arbor Day tree planting Celebrations at two coal mining sites in Schuylkill County Pennsylvania. The planting areas were prepared by the coal mine owners using the Forestry Reclamation Approach (FRA). The FRA is a five step process for preparing ground suitable for growing trees, and planting a variety of wildlife and eastern hardwood tree species. These two sites were selected because of the willingness of the land owner (Schuylkill County), and the mine owners to use a portion of the permits to demonstrate this superior method for returning mined lands to self sustaining forest lands. The two sites were at Mountaintop Coal Company and K&K Coal

Company permits. About 1,500 trees were planted on the 1.5 acre site at Mountaintop, and 4,500 trees were planted on 4.5 acres at the K&K site. The Mountaintop mine site had been previously reclaimed and was “ripped” by a dozer using a 3 foot steel bar. The trees were planted in the overturned soils. The area at the K&K site was ungraded spoil material, “backcast” from a dragline. At both sites, the intent was to create a loose, non compacted planting zone, to allow proper root development and moisture infiltration which enhances tree survival and growth. About 75 volunteer tree planters representing North Schuylkill and Blue Mountain High Schools, the Penn State, Schuylkill Biology Club and other interested individuals assisted in planting the trees, under the guidance of staff from OSM and the Pennsylvania Bureau of Forestry.



**Mountaintop Site showing compacted land on right, and ripped land, suitable for trees on the left**

### **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 petition was published for comment in the Pennsylvania Bulletin on May 8, 2010. The comment period ended June 7, 2010. No comments were received and the final regulation is being prepared.

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.

Lower Indian Creek Watershed, Fayette County. A petition has been received, but the initial review has not been completed.

**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. Both Pitt and IUP were awarded FY2010 UGMM project grants to continue their respective projects.

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

273 mines and 549 mine entries have been added or updated on PADEP's GIS.

75 existing PADEP abandoned mine files have been updated.

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

In August of 2010, 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 1100 maps from the Rochester & Pittsburg Coal Company map collection and over 3500 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](http://www.pamsi.org).

**Third 5 Year Report on the Surface Effects of Underground Mining:** The University of Pittsburgh commenced work on report preparation in February 2009. University researchers have compiled most of the information needed for impact assessment from Department files and databases. Researchers have created a geographic information system (GIS) that is used in establishing relationships between study period mining and overlying properties, structures, streams, water supplies and other surface features. In addition to the Department's data, researchers have reviewed reports prepared by the Center for Public Integrity as a means of gathering additional information on mining-related impacts and landowners' views regarding those impacts. The researchers are currently engaged in evaluating the data that has been gathered. University biologists have visited stream sites where mining related impacts were reported and performed independent biological assessments of many of the sites. In November, PADEP directed researchers to perform biological assessments of several additional streams, which the researchers were unable to sample between the award of the contract and the end of May. (Under the applicable scoring protocol, macroinvertebrate sampling must be performed between October and May) Researchers experienced several unanticipated set backs in correlating information from various sources and, as a result, are running behind schedule. Based on revised projections, the delivery date for the final report has been pushed from May to September 2010. However, major portions of the report have been delivered by the contractor for preliminary review.

**Proposed Rulemaking-Coal Permit Fees:** PADEP presented a proposed rulemaking package to the MRAB at the October 2009 meeting. This package included fees for coal mining permit applications. The MRAB objected to the fee amounts and recommended that the rulemaking proceed without the fee revisions. In the meantime, BMR is working with the MRAB's Regulation, Legislative and Technical Committee (RLT) to establish a fee approach that is in line with recommendations the MRAB made at the January 2010 meeting.

On April 22, 2010, the MRAB made a recommendation that the Department prepare a rulemaking package that includes permit fees that would generate about \$400,000 per year. This rulemaking package is being assembled.

**NPDES Permitting for mine sites:** The mining program has focused its attention on improving the documentation for NPDES permit reviews. This is necessary due to recent initiatives by EPA and OSM. Efforts will focus on dealing with the conductivity/TDS requirements and reasonable assurance of meeting the state water quality standards. EPA plans to conduct a permit quality review for NPDES permits for mine sites in 2010.

#### **H. Title IV of SMCRA 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.

### **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 17 major projects for a total of 531 acres of land reclamation. The total construction cost for these projects is \$9.5 million and included \$3.9 million of non-Title IV matching funds. Reclamation included 38,830 linear feet of dangerous highwalls, numerous deep mine shafts and entries, and one water line extension project to address impacted drinking water supplies.

During the year, contracts were awarded on 19 new projects at a cost of \$9 million, which includes \$8 million from the Title IV grant and \$1 million from matching state sources. At the end of the evaluation period BAMR had 38 projects under construction at a total cost exceeding \$65 million. Upon completion, these projects will address approximately 1,870 acres of abandoned mine land. Preparing for future reclamation, BAMR has approximately 105 projects in some stage of design and approximately 94 under development.

#### **Examples of Title IV funded reclamation projects completed in EY 2010**

##### **Dents Run Watershed Rehabilitation Project - Elk County**

In June 2010, the BAMR completed the final surface mine reclamation project in a multi-phased and complex restoration effort in the Dents Run Watershed located in north-central Pennsylvania. The final reclamation project, identified as Site PA 3896/97, restored over 48 acres that included alkaline addition and the elimination of 5,600 linear feet of dangerous highwall. A lime silo was also strategically installed at this site in lieu of constructing a passive treatment system.

Dents Run is a 25.5 square mile watershed located in Elk County. The upper portions of the watershed are a Class A wild trout stream. Dents Run is unique in that it is located in the center of the habitat range for Pennsylvania's growing elk herd and it flows primarily through state-owned lands. The lower 4.5 miles of the stream have been severely degraded by pre-SMCRA acid discharges from both surface and underground mines and unreclaimed mine sites located in

a sub-drainage basin, called Porcupine Run. Discharges into Porcupine Run contribute over 90% of the pollution load to Dents Run, and approximately 40% of the pollution load to the Bennetts Branch of Sinnemahoning Creek.



**Dents Run AMD Pollution**

BAMR completed a preliminary evaluation of the work required to restore the watershed in 1996 and developed a partnership with the U.S. Army Corps of Engineers (USACOE) to share the substantial reclamation cost. During the spring and summer of 1997, BAMR evaluated the watershed and identified a limestone reserve adjacent to the project that would be sufficient to provide all of the necessary alkaline material for land reclamation projects and for passive treatment. BAMR then developed a partnership with P&N Coal Company whereby the limestone would be recovered as associated coal reserves were removed; thus reducing the overall project cost.

The USACOE began evaluating the watershed for rehabilitation under their Section 206 Program in 1998 and completed a feasibility study in 2001 that recommended surface mine reclamation including alkaline addition and AMD treatment for several sites. A ground breaking ceremony was held in October 2002. Funding for reclamation was comprised of contributions from the USACOE, BAMR, PA Growing Greener, and offset credits from mining.



**State Game Lands After Reclamation**

By November 2002, mining for limestone began, as did the construction of PA 3888 passive AMD treatment system. Over the next several years the USACOE concentrated their efforts on passive AMD treatment projects while BAMR concentrated on surface mine reclamation projects and the strategic placement of lime dosers. Between 2003 and 2010, 274 acres of abandoned strip mine was reclaimed in the watershed which included alkaline addition and the elimination of 25,350 L.F. of dangerous highwall. Much of this reclamation occurred on State Forest Lands or State Game Lands and included revegetation plans designed to create additional rangeland for the growing elk herd in the area. Additionally, two lime dosing silos were installed and four passive treatment systems were constructed. The combined cost of the project was \$11.6 million with approximately 50 percent contributed by the Title IV program.



**P&N Coal Company Site**

At the onset of this partnering effort Dents Run water quality was devastated from the confluence of Porcupine Run to its mouth at Bennetts Branch Sinnemahoning Creek. The pH levels at the confluence of Porcupine Run and Dents Run ranged from 3.0 – 3.5, and at the mouth of Dents Run, the pH level ranged between 4.0 – 4.3. Biological surveys completed at the beginning of the project indicated almost no aquatic life was present. Currently, the water quality has been restored to pH levels above 6.0 with many signs of the return of aquatic life. Local fishermen are again catching wild trout in the lower reaches of the stream. Additional biological and fish surveys are planned for this fall to further document the recovery of the stream.



**Porcupine Hollow Lime Silos**

Much of the success of the restoration effort relies on the continuous operation of the two lime dosing silos. One of the primary project partners, the Bennett Branch Watershed Association, has developed a trust fund with over \$600 thousand to ensure the continued operation and maintenance of the lime dosers for the foreseeable future.



**Dents Run Water Quality Restored**

### **Little Wolf Creek AML Project - Schuylkill County**

During the evaluation period, BAMR completed reclamation of over 260 acres of abandoned mine lands related to the St. Clair Colliery and Pine Forest Colliery that ceased operations prior to 1970. The project site is located in East Norwegian Township and Blythe Township, Schuylkill County, Pennsylvania. The 260 acres contained dangerous highwall, abandoned structures, and one dangerous embankment.

To complete the reclamation, refuse material was used to fill abandoned pits, abandoned mining equipment was removed, and three cinderblock buildings were demolished. The site was recontoured to create a final topography similar to that which existed prior to mining. Rock piles and brush piles were constructed throughout the site to enhance wildlife habitat opportunities. When completed, the reclamation involved the excavation and grading of approximately 7.9 million cubic yards of on-site material, and the elimination of approximately 7,600 linear feet of dangerous highwall.

The project was funded as a partnership with the Title IV AML Program and the Pennsylvania Growing Greener 2 Program contributing \$5 million and \$5.8 million, respectively.



**Completed Little Wolf Creek AML Project**

### **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 Bituminous District (BD) crew is located in the Cambria Office in Ebensburg and is made

up of seven individuals including two construction foremen and five equipment operators. The BD Crew is often called upon to correct AML problems with a variety of hidden dangers and safety concerns. Typical problems addressed by the BD Crew are subsidence holes, mine gas problems, abandoned surface mines, acid mine drainage, dangerous impoundments, clogged french drains and other mine drainage pipes, and mine fires. The BD crew also assists at active mine drainage treatment plants, and the operation and maintenance of AMD passive treatment systems. During this review period, the BD Crew completed 88 projects of varying complexity that lasted from one day to several months.

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 AML related problems. AML problems previously abated by the AD crew range from maintaining (filling-in) recovered vertical shafts that have settled, to removing debris or repairing ditches which have become clogged by weather related events. The AD Crew assists at the Rausch Creek Treatment Plant, maintains a passive treatment system, and with the routine maintenance of dams along the Schuylkill River. The crew is currently involved in securing access to an active mine fire. During this review period, the AD Crew completed 19 projects.

#### **Tyler Impoundment BD Project - Clearfield County**

Tyler Impoundment represents a typical project undertaken by the BD Crew during the evaluation. Located near the town of Tyler in Clearfield County, the reclamation project consisted of removing a dangerous impoundment by grading 14,000 cubic yards of earthen material and creating a positive grade. The dangerous water impoundment was over 14 feet deep, highly-acidic due to abandoned mine drainage, and at risk of failure.



**Draining Tyler Impoundment BD 2776**



**Grading and Surveying – Tyler Impoundment**

**Pine Creek North BD Project - Armstrong County**

The BD Crew also completed the Pine Creek North BD 2923 project during the evaluation period to address a dangerous highwall. The highwall, located north of Spaces Corners in Armstrong County, was approximately 650 feet in length and up to 60 feet high. The project reclaimed approximately 3 acres of land to pre-mining conditions by backfilling the highwalls, eliminating steep unstable piles of mine spoil, and revegetating the entire affected area with grasses and legumes. The final project cost was approximately \$10,000.



**Pine Creek North Highwall Area**



**Grading the Pine Creek North Highwall Area**



**Completed Pine Creek North Highwall Area**

**Freeland Outflow AD Project - Luzerne County**

In January 2010, the AD Crew completed a project to address a hazardous facility and a clogged stream affecting the backyards of a residential neighborhood. The abandoned mine drainage from the Freeland Outflow normally flows through a structure from abandoned mine workings and then through a drainage channel where the AMD mixes with stormwater runoff. Large volumes of AMD from previous years have carried mine material into the channel creating flooding conditions. Recently, the roof of the structure partially collapsed creating a condition where one could easily access the workings. In order to curtail access and restore flow, the AD crew implemented a three-step plan; excavation of the buildup of AMD sediment, reestablishment of the stormwater channel, and repair of the structure at the outflow. The Freeland Outflow project is an example of the how the BAMR in house construction crew satisfies an essential reclamation program need; the ability to quickly address small but troublesome AML hazards.



**Freeland Outflow AD Project**

### **AML Enhancement Rule Projects**

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 polluttional 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, 329 GFCC project applications have been submitted since the program’s inception.

During the evaluation year, 6 AML Enhancement Rule projects reclaiming 31.2 acres were completed. The completed projects represented approximately \$232,340 in reclamation savings to the AML program. Completed projects reclaimed barren land, eliminated highwalls and addressed water quality problems. PADEP approved 14 complete applications. During the evaluation year, PADEP accepted 13 new applications. 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 1 application 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. Applications are occasionally withdrawn by the applicant or are simply not pursued to contract.

**Long Run Site AML Enhancement Rule Project  
Bradford Township, Clearfield County**

The Long Run site is located in Bradford Township, Clearfield County on lands formerly mined and subsequently abandoned by Maple Hill Coal Company in the late 1950's. The 25.0 acre site included 16.0 acres of unreclaimed abandoned mine spoil, two abandoned water filled pits and approximately 2,300-feet of abandoned highwall on the Middle Kittanning coal seam. The land is open for public use and the abandoned highwalls and water filled pits were a serious safety hazard.

Sky Haven Coal, Inc, of Penfield, Clearfield County entered into a contract with PADEP to reclaim the 16.0 acres of abandoned mine land and 2,300-feet of abandoned highwall. Reclamation activities began in fall of 2006 and were completed in the fall of 2009. Sky Haven reclaimed the abandoned mine pits using the abandoned spoil material on site in addition to the spoil generated by mining approximately 300-feet into the existing Middle Kittanning highwall. Alkaline waste lime was applied to areas where coal was extracted. The area was graded to approximate original contour and vegetated.

Also included in the reclamation was the construction of a two clay lined surface depressions to provide wildlife habitat. The surface depressions were located at low spots in the backfilled site to provide an environment for the promotion of wetland species.



**Abandoned Pit – Long Run Site**



**Reclaimed Abandoned Pit – Long Run Site**

**Lydick Site AML Enhancement Rule Project - Westmoreland County**

During the evaluation period, reclamation of a subsidence opening was completed by Coal Loaders, Inc. of Ligonier. The project was authorized under the 1999 Enhancing AML Reclamation rule and was scoped to restore stream flow to an unnamed tributary to Stony Run. The Lydick Site was located on a farm in a pasture field and included the establishment of a new subsidence proof stream channel and mitigation of an offsite downstream flooding hazard.

The problem was the result of an undermined stream channel that had been washing soil into a deep mine through an opening in the stream bed. The property owner attempted to fill the hole; however, the problem had accelerated beyond his capability. The shallow land cover over the mine created a condition where any subsidence in this shallow portion of the mine would eventually affect the stream. Once construction re-established the stream flow back on the surface, downstream culverts had to be resized to address potential flooding conditions. Abandoned fuel storage tanks discovered inside the project area were also removed along with contaminated soils. The work included removing all subsidence potential below the stream channel and building a new lined and protected stream channel that now supports benthic invertebrates and small fish.



**Lydick Site Before Reclamation**



**Lydick Site Pre-reclamation Impacts**



**Lydick Site After Reclamation**



After reclamation

### **Sportsman Site AML Enhancement Rule Project Lawrence Township, Clearfield County**

The Sportsman site is located in Lawrence Township, Clearfield County on lands currently owned by the Old Town Sportsman Association. The land was formerly mined and subsequently abandoned by Warren Hartman in the mid 1960's. The 12.0 acre site included 11.0 acres of unreclaimed abandoned mine spoil, one water filled pit and approximately 800-feet of abandoned highwall on the Upper Kittanning coal seam. The bench left by the past mining was being used as a shooting range by the sportsman association. The close proximity of the abandoned highwall, abandoned pit and steep spoil piles to the shooting range posed a significant safety hazard to association members and guests.

Swisher Contracting, Inc., of Clearfield, Clearfield County entered into a contract with PADEP to reclaim the 11.0 acres of abandoned mine land and 800-feet of abandoned highwall. Reclamation activities began in July of 2008 and were completed in May of 2010. Swisher reclaimed the abandoned mine pits using a portion of the abandoned spoil material on site in addition to the spoil generated by mining approximately 300-feet into the existing Upper Kittanning highwall. Alkaline waste lime was applied to areas where coal was extracted. The area was graded to approximate original contour and vegetated.

Also included in the reclamation was the reconstruction of the shooting and rifle range for the Old Town Sportsman Association. The reconstructed range included protective berms and several shooting stations with a maximum shooting distance of 1,000 feet. The association members and local law enforcement use the range on a regular basis.



**Sportsman's Project After Revegetation**



**Sportsman's Project – Reconstructed Shooting Range**

### **Pennsylvania's AMD Set-Aside Program**

Pennsylvania has a balance of \$2,847,265 in the Set-Aside fund, as of May 31, 2010. In addition, there is an O&M Treatment balance of \$4,094,735. The total accumulated revenue with interest that has been placed into the fund since inception is \$47.4 million. The O&M Treatment sub-category was established to allow for the build-up of funds specifically earmarked for the long term operation and maintenance of AMD treatment systems. The total Set Aside funds have been significantly reduced by encumbrances for two large active treatment plants currently in construction. State funds are providing the majority of the funding to one of those

projects, while the other is entirely Set Aside funded. Future plans for the Set-Aside fund include the construction of two more active treatment facilities where the AMD problem is too large to address with passive facilities.

PA DEP has continued to make progress in the restoration of Bennett Branch Sinnemahoning Creek. In addition to the previously reported accomplishments of the restoration of the Dents Run tributary, the restoration of abandoned surface mine land, 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, construction of the Hollywood AMD Treatment Plant is underway.

The project consists principally of the installation of an AMD conveyance system that collects mine drainage from 21 points and conveys it to a treatment plant. Preliminary design parameters for the treatment facility included a design flow rate of 10 million gallons per day (6,950 gallons per minute), an influent acidity concentration of 177.8 - 271.8 mg/l, an influent iron concentration of 21.9 - 45.6 mg/l, an influent manganese concentration of 1.2 - 1.5 mg/l and aluminum concentration of 12.8 - 18.2 mg/l. The 18,000 linear feet collection system will be gravity fed to three pump stations which will feed the AMD to the plant. Additionally, three existing boreholes will be sealed, and two 500 feet directional boreholes will be included to drain the Proctor No. 2 Mine Complex. New wet mine seals will be installed at each of the 21 collection points. The treatment plant facilities will have several treatment components including two ferrous oxidation reactors, a 180 feet diameter clarifier, two sludge conditioning reactors, and a 4.5 acre polishing pond. The contract was awarded to Kukurin Contracting, Inc. of Export at the bid price of \$14,224,422.00, of which only \$99,422 is Set-Aside funding.

During the review period, PADEP also began construction of the Lancashire No. 15 Mine Drainage Treatment Project entirely with AMD Set-Aside funding (\$11,124,555). 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.

Also during the review period, PADEP reported progress on future Set-Aside hydrologic units including Blacklick Creek, the Little Conemaugh River, Clearfield Creek, Chartiers Creek, and the lower Bennett Branch Sinnemahoning Creek. PADEP is in the pre-design phase on two additional active treatment plants in Clearfield Creek (also part of the agricultural mitigation effort in the Susquehanna basin) and Blacklick Creek. They are evaluating potential passive and active treatment projects in lower Bennett Branch to supplement the expected improvements upon completion of the Hollywood Treatment Plant. They are evaluating potential partnerships with active industry (coal and Marcellus gas) in the L. Conemaugh and Chartiers watersheds. In these watershed evaluations, PADEP is following the Set-Aside Program Guidelines developed last year (July 15, 2009). In addition, PADEP is being assisted by OSM personnel in the use of Geochemist Workbench as a stream modeling tool to predict impacts to watersheds with treatment of existing discharges. This is an important planning tool for PADEP staff.

## **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.

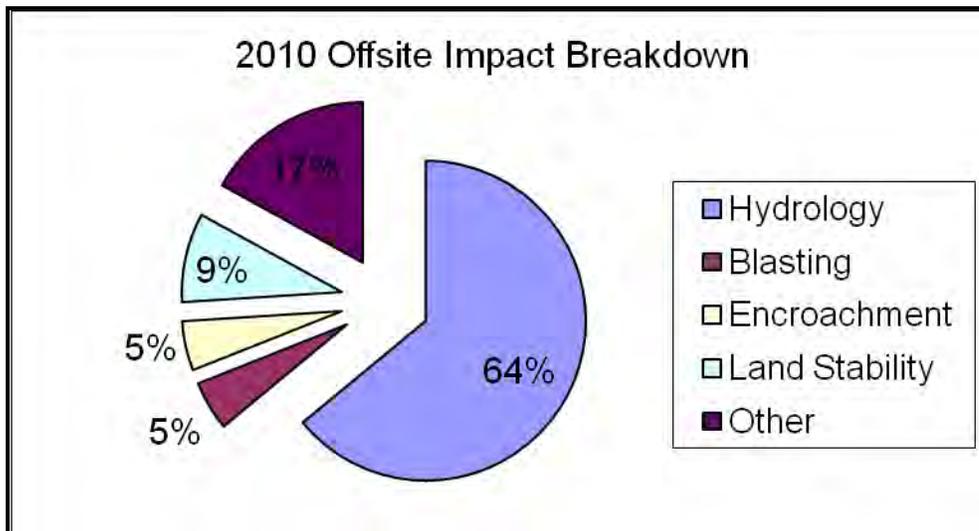
Collection of off-site impact data is an integral part of permit monitoring and begins with the state inspector. PADEP inspection staff record off-site impacts as part of the permit inspection process. Off-site impacts result in compliance orders, which can initiate the assessment of civil penalties. 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.

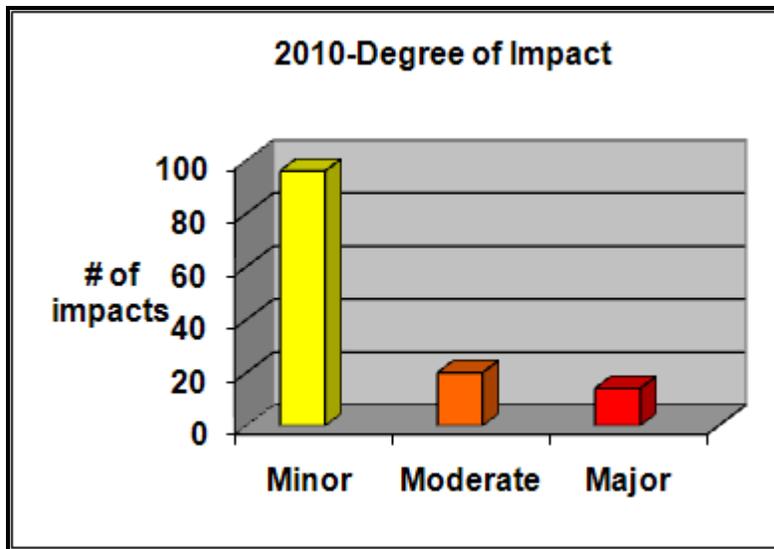
During this evaluation year quarterly offsite reports were provided to OSM staff by Bureau of Mining and Reclamation (BMR) staff. The reports were reviewed and comments provided to PADEP on the completeness of data reporting and consistency in the data screens. All comments were considered and changes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

## Discussion of impacts

During the 2010 evaluation year PADEP inspectors conducted partial and complete inspections on 1,623 active or inactive surface, underground, refuse, and preparation plant permits and reported 176 off-site impacts. There also were 61 unreclaimed bond forfeited permits with 61 off-site impacts from non-compliant discharges and land stability issues. PADEP reports an additional 12 bond forfeited permits with functioning active or passive mine drainage treatment systems, which are having no off site impacts, and are not included in the calculations. This report focuses on the off-site impacts from the active and inactive permits. Out of the 176 impacts reported, 46 were determined to be administrative, with no on the ground impacts, and were eliminated from the discussion. There are 130 remaining that meet the criteria of off-site impacts. There were 103 unique permits included in the off-site impacts. Therefore, 94% of the active/inactive permits were free of off-site impacts. The 2009 annual report showed 96% 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 88% of permits free of off-site impacts.

The 130 off-site impacts identified this year are listed by PADEP as 14 major, 20 moderate and 96 minor. They are categorized as follows: 83 hydrology (64% of total), 22 other (17% of total), 12 land stability (9% of total), 7 encroachment (5% of total), 6 blasting (5% of total).





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 83 hydrology impacts (64% of the total). Of the 83 hydrology impacts, 10 were major, 10 were moderate, and 63 were minor. There was 1 hydrology impact reported as none in the impact category.

The ten major **hydrology** impacts were for the following violations in decreasing occurrence:

- Failure to properly design, construct or maintain erosion and sedimentation controls
- Failure to comply with the terms and conditions of the permit
- Discharging water that does not meet water quality limits
- Failure to protect the prevailing hydrologic balance
- Unlawful conduct; failure to comply
- Conducting mining activities on unbonded area

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

The second largest category of off-site impacts fell into the **other** category with 22 impacts (17% of the total). Four of the impacts were major and cited for the following violations:

- Two for conducting mining activities on an unbonded area
- One for unlawful conduct, failure to comply
- One for failure to file a notice of intent to explore prior to conducting coal exploration

The moderate violations were for failure to reclaim an operation that is permanently ceased, unlawful conduct; failure to comply, and failure to comply with the terms and conditions of the permit. The minor violations were for the following: other coal mining violations, conducting mining activities on an unbonded area, failure to maintain adequate backfilling equipment on site, and failure to properly design, construct or maintain erosion & sedimentation controls.

**Land stability** resulted in 12 off-site violations (9%) of the total (130.) There were no major violations for the reporting period. Two violations were moderate for failure to prevent slides and one for conducting mining activities without a permit. According to REG 8, this violation should be considered a major impact. The minor violations were cited for:

- Conducting mining activities on unbonded areas
- Failure to backfill currently with mining
- Failure to properly design, construct or maintain upslope diversion ditches
- Failure to revegetate disturbed areas in accordance with approved plans
- Failure to properly design, construct or maintain erosion & sedimentation ponds
- Failure to plant disturbed areas during the first planting season after backfilling

**Encroachment** comprised 5% of the total with 7 off-site violations. There were no major impacts reported for the period. There were three moderate impacts for conducting mining activities in a barrier area without first obtaining a variance and conducting mining activities on an unbonded area. The four minor impacts were cited for conducting mining activities in a barrier area without first obtaining a variance.

**Blasting** was the smallest category with 6 violations which comprise 5% of the total. There were no major impacts reported for this category. There was one moderate impact cited for exceeding the maximum ppv (peak particle velocity) of the z-curve. The remaining five violations were categorized as minor for the following violations:

- Three for failure to control airblast
- Two for exceeding the maximum ppv of the z-curve

OSM inspectors conducted 207 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 40 off-site impacts which are broken down as follows: 28 hydrology, 2 encroachment, 5 land stability, 5 other. Thus, 81% of the permits inspected by OSM over the course of the evaluation period were free of off-site impacts. The percentage of permits free of off-site impacts reported for the 2009 evaluation year was 84%.

The number of permits reported by PADEP with no off site impacts has remained consistently high for the last several evaluation years. Hydrology still remains the highest source of offsite

impacts with 25 PA Code §87.102, discharging water that does not meet water quality limits, being overall the largest violation. The total number of off-site impacts cited has risen from the 2009 evaluation year, when 96 off-site impacts were recorded for 1755 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.

All offices have been consistent in reporting off-site impacts when non compliant water leaves the permit and flows into a degraded stream. Each year, the reporting is more complete and the reporting more consistent and accurate.

OSM will continue to compare off-site impact results from its oversight complete inspections with PADEP results and continue to review quarterly eFACTS reports to determine if additional guidance is needed in identifying off-site impacts.

## **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 2010, 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. The 2010 Reclamation Success Inspection Form was completed for 42 permits where reclaimed acreage was reported. Thirty-eight were for bituminous permits and four were for anthracite permits. Twenty-five of the permits reported acreage meeting Stage I requirements (mining completed and area backfilled and planted). Twenty-two of the permits reported acreage meeting Stage II reclamation standards (vegetation established, with 70% coverage). Four of the permits sampled reported Stage III reclamation (vegetation requirements met for 5 years). A total of 774 acres of Stage I reclamation was reported by the operators, and OSM verified that 764 acres met Stage I requirements. On one permit 10 acres was reported as meeting Stage I, and OSM's inspection determined that no land was disturbed on the permit. A total of 1,324 Stage II acres were reported by the operators, and all reported acreage except 17.5 acres was verified as meeting Stage II standards. On that permit, required trees had not been planted. Six hundred forty-one 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 11,802 Stage I acres; 7,925 Stage II acres; and 11,611 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 evaluation year's study reviewed PADEP's process to ensure public participation in permit revisions involving post mining land use changes.

The study determined there is consistency throughout the PADEP District Offices in ensuring major amendments involving land use changes follow the procedures outlined in 25 Pa. Code §86.54. Public notice of permit revision. Two of the five PADEP District Offices visited either did not have a major revision involving a post-mining land use change or only had one major revision involving a land use change.

The 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 major permit revisions involving post-mining land use changes for a mining permit. This includes publishing notices in a local newspaper, soliciting comments on land use change requests, and holding public meetings if requested. 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.

The review consisted of a file review of public participation requirements for the period April 1, 2009 through March 31, 2010. Permit files were reviewed for information required in a public notice. The study focused on the requirements in the Pennsylvania Code Title 25, §86.52 and §86.54. A permit revision request is subject to the notice requirements of §86.31; which describes the information required in the public notice advertised in a local newspaper. Twelve post-mining land use revision applications were reviewed for the study.

There were no objections noted to the post-mining land use change revisions. Every property owner affected by the post-mining land use change signed a notarized letter requesting the change. Most of the newspaper advertisements encompass more than one landowner and varied post-mining land use changes. A breakdown of the post-mining land use changes and the number of property owners affected are:

Forest land to commercial use – 1

Forest land to pasture land / land occasionally cut for hay – 8

Forest land to wildlife / unmanaged natural habitat – 4

Cropland to wildlife / unmanaged natural habitat – 1

Pasture land / land occasionally cut for hay to wildlife / unmanaged natural habitat - 1

Property owners – 19

The change away from forest land and toward pasture land, land occasionally cut for hay, and unmanaged natural habitat as post mining land uses is noted, and will be the subject of an

oversight study in EY2011.

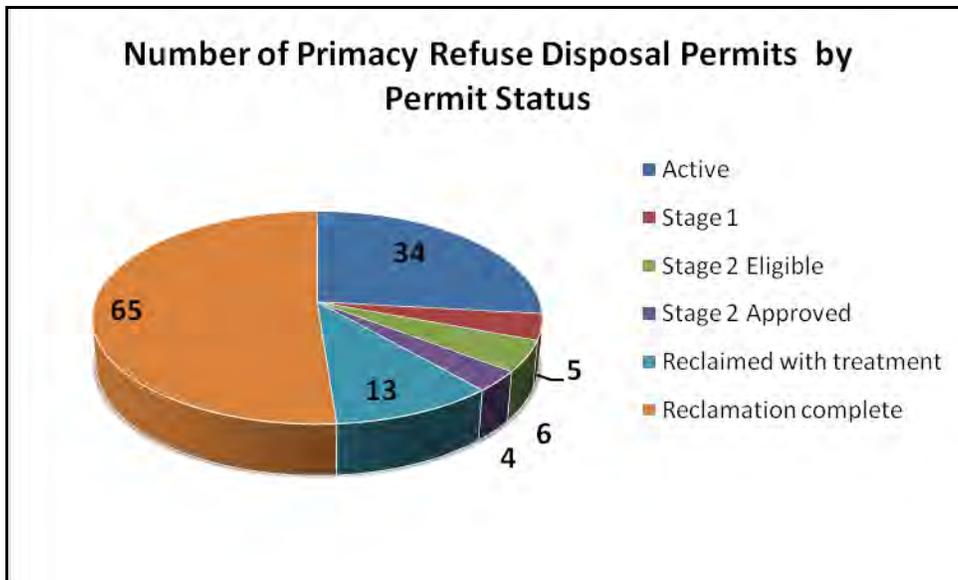
The study documented that regulatory responsibilities, policy guidelines, and administrative programs for notifying the general public on issues involving post-mining land use changes of a mining permit are being met.

#### **D. Refuse Disposal Mine Permit Study**

During the evaluation year, the Harrisburg Field Office continued working on 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.

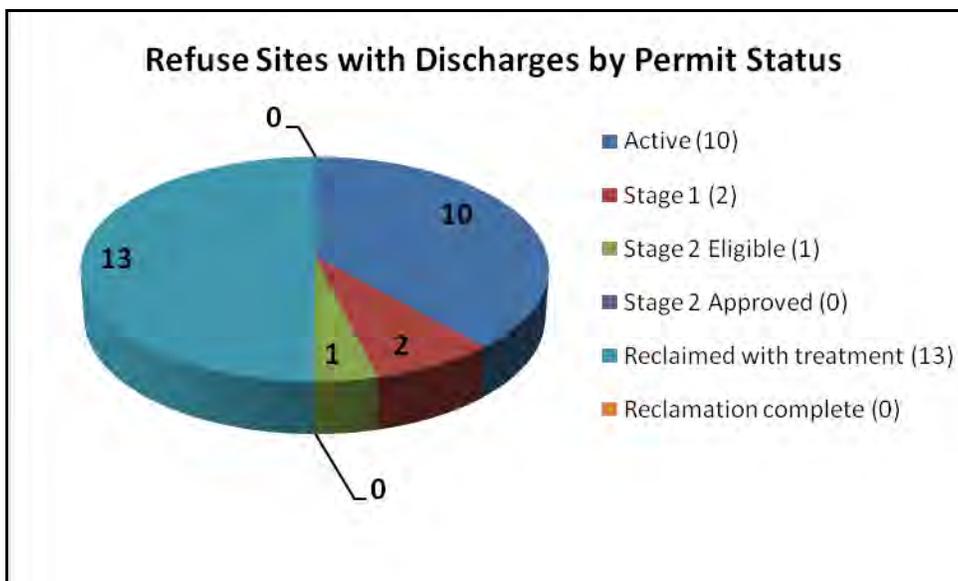
The study found that PADEP uses a "zero discharge" permitting strategy to prevent post-mining discharges at refuse operations. The program requires refuse piles to be "encapsulated" by installing a liner and capping system to prevent ground and surface water infiltration into the refuse material, after 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 that a professional engineer certify the construction of the refuse pile and requires in-situ testing 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, the Mine Drainage Inventory (MDI) identified 20% of them as containing a discharge that would continue after reclamation. Figure 2 provides insight into the refuse disposal sites that contain these MDI discharges. 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**

During the 2010 evaluation year, Phase 2 of the refuse study was initiated and this portion of the study contained three objectives. The first objective is to perform permit and onsite reviews to confirm that the post-mining discharge 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.

During the past year, OSM completed one of the four planned inspections to ensure the discharge prevention and minimization requirements are being implemented at active refuse disposal sites. A permit review was conducted before the site inspection to review monitoring data and to identify the required prevention techniques. The permit review found that all of the water quality monitoring data and refuse construction certifications were complete and current. The main post-mining discharge prevention technique for this site was to require the company to install a synthetic liner and cap to prevent infiltration from precipitation and to prevent ground water contaminates during active refuse disposal. The permit contained very specific installation requirements including the type and thickness of the sub base material and the cushion material required on top of the liner. The permit also required the leachate drain to be constructed from non-calcareous durable stone to prevent the drain from plugging as a result of mine drainage reactions. The main objective of the site inspection was to confirm the installation of the monitoring wells and to ensure the post-mining discharge prevention techniques are being implemented. The inspection found that all of the monitoring wells were installed. The inspection also found that operator was performing all of the required liner installation techniques; including site preparation, sub base material and thickness, and liner cushion material and thickness. It was clear from the site inspection that the operator was concerned about installing the liner properly to avoid a post-mining discharge. On the other hand, the inspection revealed that the company, mistakenly, used limestone to construct the leachate drain. Sampling of water before and after the leachate drain showed that low-pH refuse water was reacting with the limestone and causing sludge accumulation to occur within the leachate drain, which would ultimately lead to drain failure. PADEP issued a violation for not following the permit requirements and the company obtained a permit revision to reconstruct a portion of the drain.

The other refuse study inspection, that occurred during the evaluation year, was to confirm that a Stage II approved permit did not have a post-mining discharge and that water quality data was being reviewed as part of bond release. A permit review was conducted before the site inspection. During the permit review, Stage I & II bond release documentation was reviewed to ensure hydrologic monitoring data was being reviewed. The permit review revealed that all hydrologic monitoring, including the ground water monitoring wells, ceased after the site achieved Stage II bond release. After further inquiry, OSM found that it is common practice in Pennsylvania to discontinue all hydrologic monitoring after Stage II bond release. After several discussions, PADEP revised their procedures to require companies to request for the discontinuing of hydrologic monitoring and that a PADEP geologist to review the hydrologic data before responding to the request. The site inspection found that the site was successfully reclaimed and that a discharge is not flowing from the leachate drains.

This study will be completed during the 2011 evaluation year and the report will contain site-specific and program conclusions and recommendations.

### **E. National Priority Review – Bond Adequacy**

During the evaluation year, OSM required its field offices to conduct a national oversight review of the states' procedures for estimating reclamation costs for establishing bonds on coal mining permits. This review required; an analysis of each states' process for calculating and updating bonds; that the OSM Bonding Handbook be utilized to act as a barometer for evaluation of total bond required under state program; and an assessment of recently reclaimed forfeiture sites to determine adequacy of reclamation in relation to forfeited funds available. A draft report for the Pennsylvania bonding program was prepared, and is under review by the Appalachian Region. When finalized, the report will be available for review in the Harrisburg office of the Pittsburgh Field Division.

### **F. National Priority Review – Approximate Original Contour**

During the evaluation year, OSM required its field offices to conduct a national oversight review of the states' implementation of guidelines and regulations for establishing approximate original contour (AOC) on mine sites. The national oversight study identified three topics to evaluate the implementation of AOC, 1) AOC interpretation and permitting documentation; 2) processes for on-the-ground AOC verification; and, 3) field verification that backfilling and grading are following the approved plan. A draft report on Pennsylvania's implementation of its AOC requirements was prepared, and is under review by the Appalachian Region. When finalized, the report will be available for review in the Harrisburg office of the Pittsburgh Field Division.

### **G. Consol's Bailey Refuse Disposal Permit**

On June 7, 2010, PADEP issued CONSOL a permit, initially to include 91.5, acres to begin constructing a treatment pond and support facilities for a new slurry pond and coarse refuse disposal area for its Bailey Underground Mine in Greene County. Ultimately the new disposal site will encompass over 700 acres hundred acres of forest and pasture land, and cover 25,835 feet of streams and 5.68 acres of wetlands. This will be the third such facility at the Bailey Mine. This action culminated years of review by PADEP, and involved extensive and detailed consultations and negotiations with CONSOL, and with EPA, USCOE, and USFWS for a Section 404 Clean Water Act permit, and compliance with the Endangered Species Act. The site is habitat for the Indiana Bat, a Federally listed threatened or endangered species.

The USCOE issued its Section 404 permit on June 11, 2010, incorporating a comprehensive stream restoration plan for Templeton Fork, a tributary to Enlow Fork, and in the same watershed as the permit. The stream loss mitigation plan requires restoration of 40,413 feet of Templeton Fork, which has been heavily impacted by agricultural sediment loading, damages to the stream channel and riparian zone damages. CONSOL will be required to acquire permanent easements from the property owners to help protect improvements and limit access from livestock, and post a bond to guarantee completion of the work. CONSOL will also construct 6.27 acres of mitigation wetlands. The impacts of stream improvements will be monitored to assure restoration targets are met. The 404 permit and mitigation plan are incorporated into PADEP's CRDA permit, and are enforceable by PADEP. PADEP issued the 401 water quality certification on June 1, 2010.

Mist netting and radio telemetry studies conducted in the summers of 2007 and 2008, documented that Indiana Bats forage and roost within the proposed permit area. The USFWS concluded that the project would likely adversely affect Indiana Bats through the loss of foraging and roosting areas. However, with the incorporation of a species specific Protection and Enhancement Plan (PEP) into the approved CRDA permit, and approval of a Section 404 permit from the USCOE, the USFWS gave Incidental Take coverage under Section 9 of the Endangered Species Act. The PEP restricts the cutting of trees to October 1 through April 30, requires CONSOL to compensate for the loss of habitat through purchase of conservation easements which meet detailed criteria, payment of \$291,200 into the Indiana Bat Conservation Fund, professional monitoring of the effects of the project on Indiana Bats, and preparation of an Indiana Bat Conservation Plan. Additional mitigation requirements will be applied as additional phases of the permit are approved.

Of concern to the USFWS and OSM, was CONSOL's tree cutting in the proposed permit area prior to permit issuance, and the effect of that action on issuance of the Incidental Take Authorization. In 1996, OSM and the USFWS negotiated a Biological Opinion covering compliance with The Endangered Species Act when the activity is covered by a SMCRA permit. The biological opinion requires, among other actions, the inclusion of species specific protective measures in the permit. CONSOL's tree cutting, within the seasonal restrictions, but outside of an approved SMCRA permit, jeopardized the USFWS Incidental Take authorization, and also led OSM to issue a Ten Day Notice, and ultimately an Imminent Harm Cessation Order to cause tree cutting to be suspended. Please refer to the TDN summary in Section VIII A. of this report for a discussion. On May 24, 2010, the USFWS issued an Incidental Take Authorization to CONSOL, conditioned upon the approval of a SMCRA permit by PADEP. The USFWS also stated that the cutting of 200 acres of trees in March 2010 was not authorized under the Endangered Species Act, but that CONSOL's adherence to the Species Protection and Enhancement Plan developed for and incorporated into this permit, would be taken into consideration by USFWS in fulfilling its obligations under the Endangered Species Act.

In another issue related to circumstances of this permit, on February 1, 2010, Pennsylvania amended its Coal Refuse Disposal Control Act (CRDA). This change affected how sites can be selected for coal refuse disposal activities. The proposed amendment adds sites adjacent to existing coal refuse disposal sites to the list of preferred sites. The effect of this amendment is that an area adjacent to an existing site would not be subject to the prohibition of coal refuse disposal in areas "known to contain Federal threatened or endangered plants or animals. This amendment is currently under review by OSM. However, PADEP advises that CONSOL's Bailey mine permit was issued under the previous site selection provisions of the CRDA which defined non-preferred (prohibited) sites to include areas containing federal threatened or endangered plants or animals or state threatened or endangered animals. Although the site surveys showed Indiana Bat activity in and around the permit areas, PADEP made the determination that the sightings did not meet the standard of "known to contain" because the area was not critical habitat. See PADEP Technical Guidance 563-2113-600.

## **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, 2010, 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](http://www.datashed.org). In a recent meeting of the Passive Treatment Project Data Management Team, agreement was reached for Datashed, administered by Stream Restoration Inc., to assume management of the data base previously developed and maintained by OSM. All new passive treatment project information will be uploaded into datashed.

### **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 pollutional 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 pollutional 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.

PADEP is incorporating the statewide MDI into the Environment, Facility, Application, Compliance Tracking System (eFACTS) and has completed the task of creating discharge records for each of the Primacy Alternate Bonding System Bond Forfeiture (ABS BF) discharge sites. There are 61 permits with 106 discharges identified in the ABS BF Discharge Data list from eFACTS. The records include the quality and quantity data used for the AMDTreat calculations. This integration eliminates the necessity for OSM and PADEP to maintain two versions of the MDI. Having the MDI in eFACTS will provide transparency of the MDI and an avenue for the public sector to access discharge information. 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 pollutional discharges, and collect water samples. This information is then updated in the inventory. Having the discharges in eFACTS will facilitate the process for identifying permits to be reviewed by OSM in future studies.

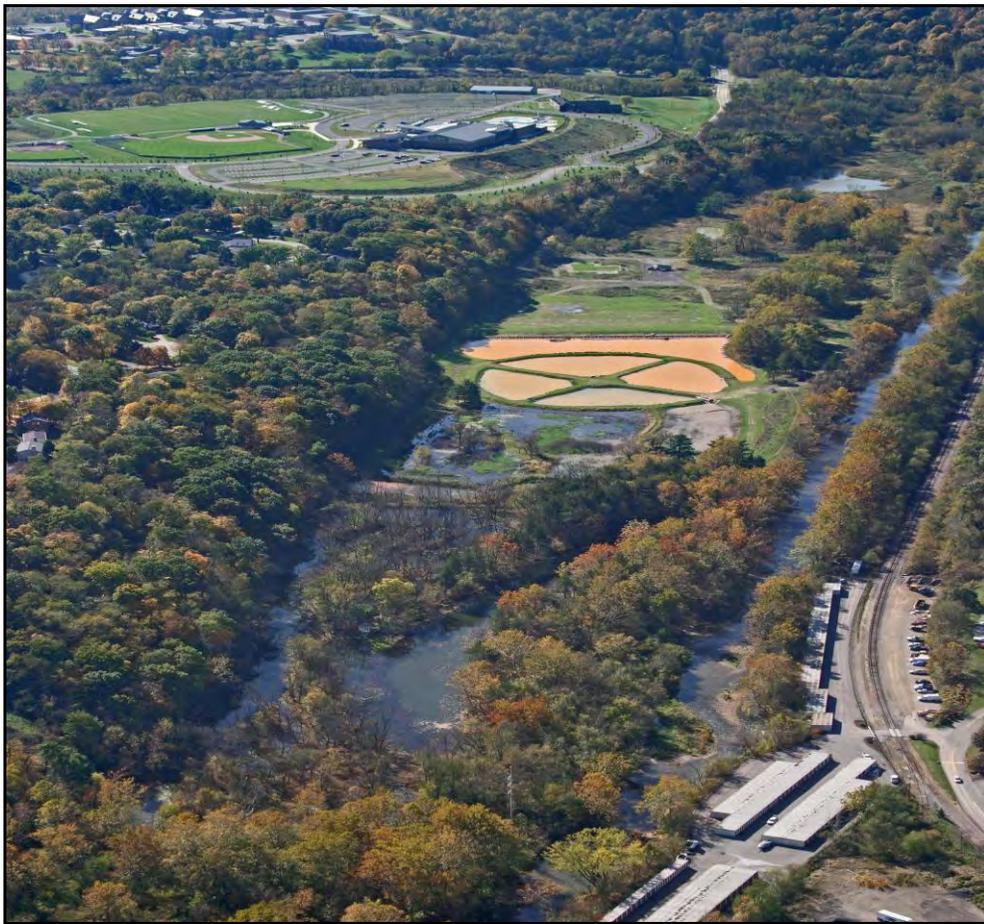
There are 261 primacy permits in the OSM MDI with a total of 428 AMD discharges that require cross referencing with the discharge information in eFACTS. An evaluation will be initiated in 2011 to begin the cross referencing process. OSM will notify PADEP to update the MDI with new discharges, and updated 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). To date, 79 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-four 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-six projects have been completed. In the evaluative year, there was one new project grant awarded for a total of \$17,000. At the end of the evaluation year, several new applications were under review, or in the award process. 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.

## **Wingfield Pines Watershed Cooperative Agreement Project**

In the Summer of 2009, the Allegheny Land Trust completed a \$750,000 acid mine drainage remediation project within 80 acres of land it owns adjacent to Chartiers Creek, an important recreational stream and watershed within 15 miles of Pittsburgh Pennsylvania. This abandoned mine discharge, with an average flow of 1,500 gallons per minute, and a dissolved iron concentration of 12 milligrams per liter (mg/l) of water, had deposited 43 tons of iron oxide per year into the creek since mining ceased in 1940. This pollution severely degraded several miles of Chartiers Creek. In a funding partnership with the Pennsylvania Department of Environmental Protection and OSM, the Allegheny Land Trust, with the consulting help of Hedin Environmental, constructed an aerobic wetlands treatment system with a unique wheel design of treatment and settling ponds, one discharging cleaner water into the next. At the end of the wetland system, the water has a dissolved iron concentration of .2mg/l. The project also was designed for recovery of the iron oxide for commercial applications such as paint pigment. The Allegheny Land Trust has plans to operate the system for educational purposes, and will install an interpretative trail around the site. The successful completion of this project is one important step in a comprehensive plan to restore Chartiers Creek.



**Wingfield Pines Treatment System**

## **VIII. General Oversight Topic Reviews**

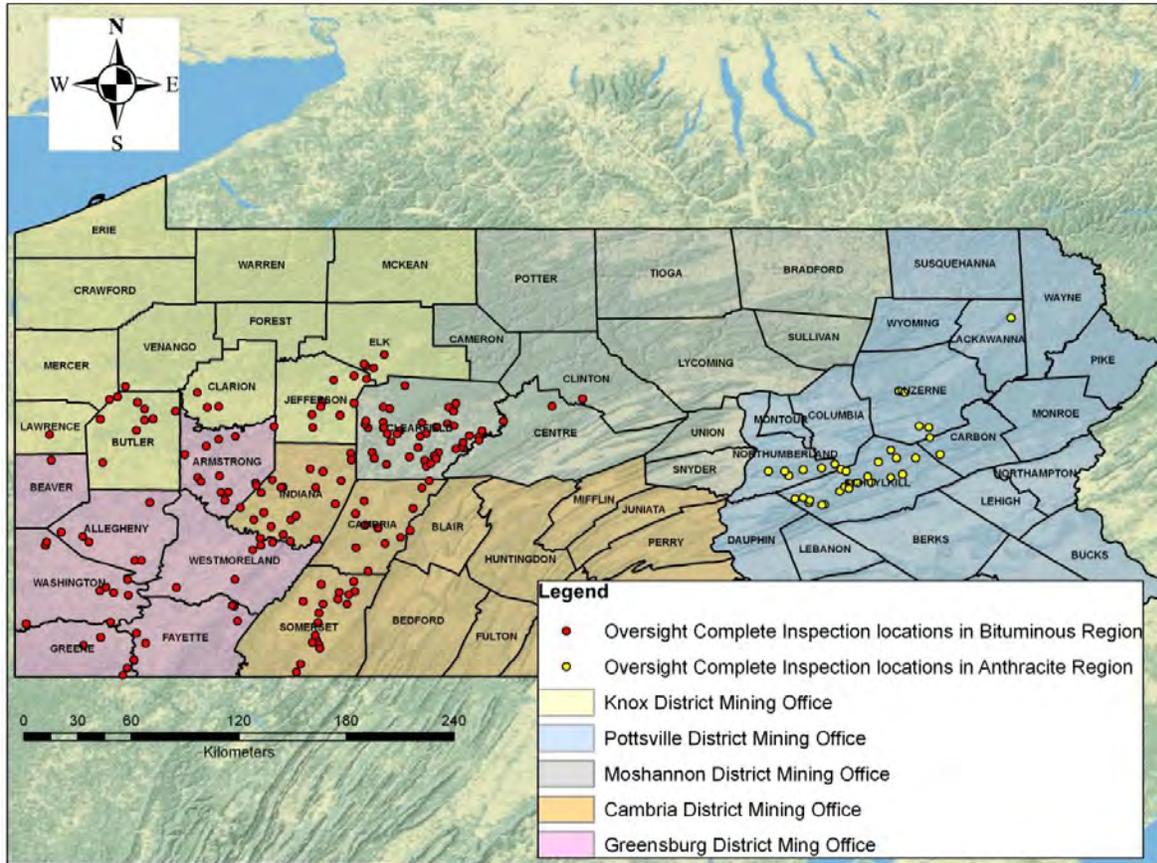
Each year the OSM, in consultation with PADEP, develops an oversight work plan, as required by the OSM Directive REG-8, Oversight of State Regulatory Programs. This plan includes various aspects of Pennsylvania's approved coal regulatory and Title IV AML programs that OSM will evaluate for effectiveness, 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. 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 2010 Work Plan.

OSM conducted a total of 384 inspections during the evaluation year. Of those inspections, 207 were oversight complete inspections (OC) of mine sites, with 173 conducted in the bituminous region and 34 conducted in the anthracite region. These inspections covered 12% of the total number of inspectable units (see Table 5) in Pennsylvania. As a point of comparison, in EY 2009, 6% of the inspectable units were inspected by OSM inspectors. The other 177 inspections were in support of other oversight work plan evaluations, file document reviews, bond forfeiture actions, AML Enhancement Rule project proposals, responses to citizen complaints, Ten-Day Notices (TDN), and state enforcement action follow-ups. There were 102 state enforcement action follow up inspections conducted. These inspections are conducted to track compliance with notices of violation issued by PADEP inspectors as a result of OSM's oversight inspections, or TDNs.



**Distribution of OSM oversight complete inspections for the 2010 evaluation year.**

By comparison, in Evaluation Year (EY) 2009, OSM inspectors conducted a total of 251 inspections, with 113 oversight complete inspections. The EY 2010 inspection totals represent a 35% increase in the number of inspections conducted by OSM. This increase is largely the result of filling vacant staff positions, and new inspection staff becoming fully certified to conduct inspections. There are currently five authorized OSM inspectors assigned to Pennsylvania. OSM conducts joint inspections with PADEP, and independent inspections. Beginning in EY 2010, the Field Offices have been asked to conduct at least 10% of permit inspections as independent, unannounced inspections. For scheduled joint OSM/PADEP inspections, the OSM inspector contacts the PADEP inspector, assigned to the permit, several days, to a week ahead of the inspection and offers to conduct the inspection jointly. Violations noted during joint inspections, which are not corrected during the inspection, are deferred to PADEP for action and OSM follows up to assure compliance. Disagreements are addressed through the TDN process. Of the 207 oversight complete inspections, 22, or 10.6% were independent and of 163 follow up and other permit inspections, 47 (29%) were independent. Violations noted during independent inspections are transferred to PADEP for action via a TDN if not corrected by the operator while the inspection is underway. PADEP has objected to the use of independent oversight inspections, citing potential regulatory conflicts.

The 207 oversight complete inspections revealed 93 permits had violations which represents 45%

of the sites inspected. Although the number of permits inspected has significantly increased, the number of permits with violations remained the same as in EY 2009 (45%). A total of 222 violations were identified during OC inspections this year and referred to PADEP for resolution. Thus the violation rate per permit inspected remained unchanged from EY 2009 at 1.1. This evaluation year, multiple violations were observed on 58 permits. In the Bituminous Region, 56% of the permits inspected were violation free, and in the Anthracite Region, 38% of the permits inspected were violation free.

All of the 222 violations discovered during Oversight Complete inspections were deferred to DEP for enforcement action. This year, 40 of the 222 violations (18%) observed were considered to have resulted in off-site impacts, using a one to one ratio of off-site impacts to permits. This is an increase from EY 2009, when 14.7% of the permits inspected had off-site impacts. The off-site impacts included 28 violations related to “hydrologic impacts;” 2 violations related to “encroachment;” 5 violation related to “land stability;” and 5 violations are categorized as “other,” further identified as impacts to people, land, and/or structures.

During the 2009 evaluation year 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 inspection. This study was extended in 2010 and the results are summarized in the following table.

PADEP District Mining Office	OSM inspections per DMO	OSM violations noted during inspection*	DEP violations noted during inspection**
Cambria	54	56	15
Greensburg	46	33	15
Moshannon	44	61	14
Knox	29	24	7
Pottsville	34	48	10
<b>Total</b>	<b>207</b>	<b>222</b>	<b>61</b>

\*5 of the violations cited through TDNs were subsequently documented by PADEP not to exist.

\*\*PADEP violation data included the total for all inspections conducted in the past 6 months.

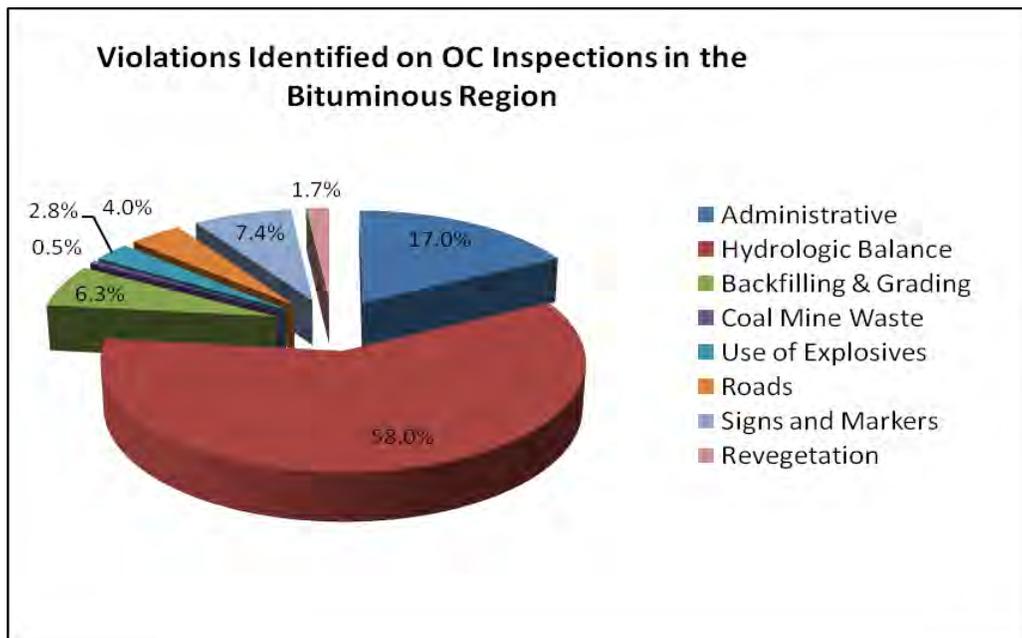
In the chart above, column two shows the total number of permits inspected by OSM and the distribution by District Office. Column three shows the total number and distribution of violations observed on the 207 permits inspected by OSM. Column four shows the total number

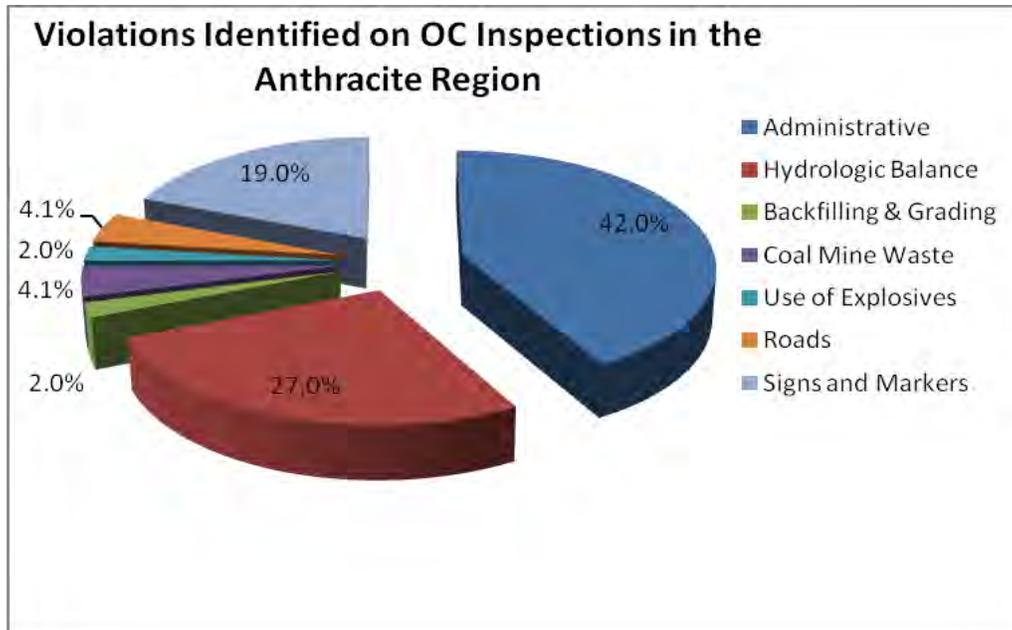
of violations cited by PADEP on the same permits, in the previous six months. The data illustrates the large difference in violation citation rates between OSM and PADEP. Further evidence of this difference is found in the total ratio of violations cited by PADEP per inspection. With 15,513 partial and complete inspections conducted in EY10 and 313 violations issued, PADEP inspectors cited .02 violations per inspection. In EY 2009, the violation rate cited was .04 violations per inspection. OSM observed and deferred violations at a rate of 1.1 violations per inspection, which is unchanged from EY 2009.

Another trend noted during EY2010 is PADEP’s actions on violations noted and deferred by OSM. In EY 2009, PADEP took immediate action on all 122 violations deferred through OSM inspections. In EY 2010, 174 violations were noted in OSM inspections conducted on Bituminous mine permits, and 48 violations were noted on Anthracite permits. PADEP agreed to take action on all Anthracite violations, and 147 of the Bituminous violations and they were deferred to PADEP. However, PADEP did not take immediate action on 27 Bituminous permit violations, resulting in the issuance of multiple Ten-Day Notices, as summarized below in this section.

In EY 2010 OSM began noting PADEP’s adherence to the approved program in decisions regarding the issuance of Notices of Violations, and Compliance Orders. During its oversight inspections, OSM noted several instances where the technical guidance did not appear to be followed in decisions regarding the issuance of an enforcement action and the type of actions used. In particular, PFD noted instances where Compliance Orders (CO) were indicated, and Notices of Violations (NOV) were issued. This issue will be discussed with PADEP in the coming Evaluation Year.

The following two graphs illustrate the distribution of violations noted during OSM’s Oversight Complete inspections.





Analysis of the data shown above supports two major conclusions. Hydrologic impacts, within the Bituminous and Anthracite regions, continue to be prevalent environmental concerns. While the percentage of the total violations that are hydrology related remains the same in the Bituminous Region (58%), the percentage of total violations that are hydrology related in the Anthracite Region has increased from 13% to 27%. Also, there is a growing trend of significant administrative violations, with the percent of total violations growing from 3% to 17% in the Bituminous region and from 19% to 42% 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 is noted in the decreasing number of inspections. The number of inspections has decreased from 18,181 in 2007 to 15,513 in 2010. The total number of permits grew from 1,767 in 2007 to 1,912 in 2009. However, in 2010, the number of permits fell to 1,685, the lowest in three years. 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 20,220 inspections on 1,685 permits. For 2010, PADEP conducted 77% of this number. While the percentage is improved from EY 2009 (73%), it is the result of a decreased number of permits. Of more concern is that the number of complete inspections required (four per year) should be 6,740 for 1,685 permits, while only 5,560 were reported.

PADEP reports that budgetary restrictions and the resulting inability to fill vacancies resulted in inspection frequency prioritization and stratification. A comparison of Table 7 (State Staffing) from EY 2009 and EY 2010 shows an overall reduction in regulatory program staff from 235 FTEs to 212 FTEs, or 10%, with a 6.5 position reduction in permit review staff, and a 3.75 position reduction in inspection staff.

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 2009 PADEP reported 612 violations. In 2010, PADEP reports that 313 violations were issued, a 42% reduction since 2007. OSM also notes that the rate of violations cited per inspection has fallen from .04% in 2009 to .02% in 2010. OSM will further investigate this issue during the 2011 Evaluation Year.

There were 14 new Ten Day Notices (TDN) issued during the evaluation year. Four TDNs were issued on the basis of citizen's complaints and 10 were issued on the basis of OSM inspections. The TDNs resulted in the deferral of 45 alleged violations to PADEP for action.

Twenty-Seven violations were cited through OSM inspection TDNs. Twenty (74%) of these were resolved by PADEP taking action to have the violations corrected and 5 (19%) were resolved by PADEP demonstrating that no violation existed. PFD determined PADEP's responses to two violations (7%) were "arbitrary, capricious or an abuse of discretion", and PADEP requested an informal review from the Regional Director. One informal review request was dropped when PADEP issued the permit in question, administratively resolving the issue. The other PFD decision is under review by the Regional Director.

Eighteen alleged violations were cited through TDNs issued on the basis of citizen's complaints. PADEP demonstrated that there was no violation on 16 (88%) of the allegations. One alleged violation is being investigated by PADEP. PFD determined PADEP's response to the other violation was "arbitrary, capricious or an abuse of discretion", and PADEP requested an informal review from the Regional Director. The Regional Director upheld PFD's determination and a Federal inspection was conducted. That inspection resulted in a decision by the Pennsylvania Historical and Museum Commission, that there was no historical significance attached to a building which the mine operator damaged in violation of a permit condition. PFD subsequently determined that there was no violation.

The TDNs are summarized below.

TDN 10-121-011-001 Hepburnia Coal Company. This TDN was issued based on an OSM oversight inspection. Two violations were noted and deferred to PADEP for action. One violation was failure to properly maintain a haul road, and the second was for a mal-functioning sump pump which was allowing sediment laden water to discharge into a nearby off permit stream. OSM found PADEP took appropriate action to cause the violations to be corrected.

TDN 10-121-411-001 Swisher Contracting, Inc. This TDN was issued based on an OSM oversight inspection. One violation was noted for failure to pass all surface drainage from an area disturbed by mining activities, through a sedimentation pond. PADEP's response documented that no violation existed, and OSM issued a good cause determination.

TDN 10-121-011-005 River Hill Coal Company. This TDN was issued based on an OSM oversight inspection. One violation was noted for failure to submit a required re-mining report. PADEP responded that the report was not required from the operator, and OSM issued a good cause determination.

TDN 10-121-019-001 Bedrock Mines LP. This TDN was issued based on an OSM oversight inspection. Two violations were noted. The first violation was issued for construction of a pond which was not authorized in the permit. PADEP's response documented that there was no violation, and OSM issued a good cause determination. The second violation was issued for failure to maintain filter fence. PADEP responded that no violation existed because the permit allowed the fence to be removed when a dirt berm had been established. OSM found this response inappropriate, and PADEP subsequently issued a notice of violation to cause the fence to be repaired/replaced. OSM will follow up on the corrective action.

TDN 10-121-011-004 M&M Construction Company. This TDN was issued on the basis of an OSM oversight inspection. Ten violations were noted for failure to treat discharges, maintain treatment facilities, failure to meet revegetation requirements, and others. In response, PADEP issued notices of violations to have all the concerns corrected and OSM determined PADEP had taken appropriate action. OSM will follow up on the corrections.

TDN 10-121-019-002 State Industries Mine 35. This TDN was issued on the basis of an OSM oversight inspection. Two violations were noted for failure to pump and treat water accumulated in the mine pit. In reviewing PADEP's response, OSM noted that appropriate action had been taken to have the violations corrected.

TDN 08-121-001-003 Alverda Enterprises, Inc.. This TDN was issued on the basis of a citizen complaint for six alleged violations regarding the reclamation of his property. Based on PADEP's response, OSM determined good cause on five of the violations because PADEP demonstrated that no violations existed. On the other violation, OSM found PADEP's response to be inappropriate. The alleged violation was that the surface mining activity had damaged a building of possible historic significance, without the prior approval of the Pennsylvania Historical and Museum Commission, in violation of a special condition in the permit. PADEP responded that the building was not damaged by mining, and was not historically significant. The Regional Director's informal review upheld PFD's determination, and a Federal inspection was conducted. OSM found the building was damaged by subsidence from the adjacent highwall. However, the PHMC found that the building was not historically significant. Therefore, because an unoccupied commercial building does not have any protection under SMCRA or Pennsylvania law or regulations, OSM closed the investigation, and advised all parties that no further action would be taken.

TDN 09-121-147-002 Sky Haven Coal Inc. This TDN was issued on the basis of a citizen complaint for 7 alleged violations regarding reclamation of his property, including improper public notification for bond release, improper disposal of non-coal wastes, and acid forming materials, and failure to meet revegetation requirements. PADEP responded that the bond release application had been denied pending resolution of some of the issues, and that the passage of time had made it impossible to verify other alleged violations. OSM found the response to be

appropriate, and will follow up on corrective actions.

TDN 10-121-011-002 CONSOL Energy Coal Company. This TDN was issued on the basis of an OSM inspection. At issue was CONSOL's removal of trees from an area, in advance of approval of the permit by PADEP. PADEP responded that timber removal, prior to permit approval, was not a mining activity, and cited the definition of "Coal refuse disposal activities", "Coal refuse disposal", and EHB's Keck decision to support its position. OSM found this response to be "arbitrary, capricious or an abuse of discretion" because PADEP's interpretation of these definitions was inconsistent with the intent of the Federal regulations, and the approved Pennsylvania coal regulatory program. OSM issued an imminent harm cessation order (IHCO) on March 31, 2010, to CONSOL, to cease timbering operations until a permit was issued. PADEP issued the permit on June 7, 2010. PADEP has advised OSM that it intends to submit a program amendment, modifying the definitions to be consistent with the Federal requirements.

TDN 09-120-149-001 Westwood Energy Properties. This TDN was issued based on a remand from IBLA of an earlier TDN decision regarding a citizen's complaint that coal combustion by-products, placed at an active mine permit, were contaminating a water supply and polluting ground water. PADEP had found, and OSM had sustained the determination that there was no violation. However, the citizen appealed the decision to IBLA, which found there was insufficient evidence to support the decision. The new TDN was issued and at the end of the evaluation year, PADEP was conducting an expanded and more detailed investigation of the allegation.

TDN 10-121-011-006 SRP Coal Company, Inc. This TDN was issued based on an OSM oversight inspection. Two violations were noted regarding failure to maintain treatment facilities and achieve required effluent limits. PADEP demonstrated that the effluent met the required water quality standards of 87.102(a), and noted that repair of the treatment facilities was the subject of a Consent Order and Agreement (CO&A). OSM determined this response demonstrated that no violation of effluent standards existed. However, in its investigation of the issue, OSM found that the treatment system was constructed under the provisions of a regulatory section (87.102(e)), which had not been submitted for incorporation in the approved regulatory program. Because PADEP must take actions, "authorized under the state program" to have violations corrected, OSM found the response to this violation to be "arbitrary, capricious or an abuse of discretion". PADEP requested that the Regional Director conduct an informal review of the Field Office's decision and, at the end of the evaluation year, this issue was unresolved. PADEP has indicated it will submit the regulatory provisions for review and incorporation in the approved state program.

TDN 121-411-002 Amfire Mining Company. This TDN was issued based on an OSM inspection. One violation was noted for failure to properly remove and regrade sediment control structures, and a spoil pile. PADEP issued an order to correct the violation, and OSM found the response was appropriate action to cause the violation to be corrected.

TDN 10-121-011-007 Fairview Coal Company. This TDN was issued based on an OSM inspection. Five violations were noted regarding mine drainage treatment facilities, and failure to properly identify operation. PADEP took action to have four violations corrected and

demonstrated one violation did not exist.

TDN 10-121-273-001 Amerikohl Mining Company. This TDN was issued based on a citizen complaint. Four violations were included in the TDN relating to property access and post mining discharges issues. PADEP's response demonstrated that no violations existed.

## **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 30 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 18 construction phase reviews, 7 final inspection phase reviews, and 5 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 continues to negotiate and implement Trust Funds and Conventional Bonds for the perpetual treatment of all Pennsylvania 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. This evaluation year is transitional for PADEP since it is converting all discharge treatment information into the Department's eFACTS (Environment, Facility, Application, Compliance Tracking System) database. eFACTS is a department-wide database that provides a holistic view of the clients and sites that DEP regulates. Once completed, this database will include information on payments and payment schedules, disbursements and reports.

There are features in the eFACTS database worth mentioning regarding discharge tracking and providing information for officials and the public. New descriptions have been added to the eFACTS database to track trusts in a more efficient manner. The partially funded trusts are now divided into two categories – “Partially Funded Current Payment Schedule” and “Partially Funded No Additional Payment.” Fully funded trusts also have two categories – “Fully Funded Adequately Funded” and “Fully Funded Inadequately Funded.” There are six trusts that fall in this category. Conventionally bonded permits with discharge treatment systems are no longer associated with a trust name but are titled “Linked to Bond.” This process to track conventionally bonded treatment systems eliminates confusion and disassociates conventionally bonded discharges from all trusts. There are similarities to the previous database reporting style. A report can be generated in the same format as with the previous database. The report is detailed by the District Office, Trust Agreement Status and Financial Status. Agreement Status titles are:

Linked to Bond, Not Started, Data Collection, Initial Calculations Completed, Negotiations Ongoing, Agreement Reached, Trust Finalized, and Trust in Default. Financial Status titles are: Not Started, Bond Requested, Partially Funded Current Payment Schedule, Partially Funded No Additional Payment, Fully Funded Adequately Funded, and Fully Funded Inadequately Funded. Offices identified in the current report are Cambria, Greensburg, Knox, Moshannon, and Pottsville. Included in the eFACTS database are pre-primacy and non-coal permits along with primacy coal mining permits. With the treatment trust database in the eFACTS format, it is now possible to generate specific criteria reports. For example, OSM oversees primacy coal mining permits. It is now possible to generate a report that excludes non-coal and pre-primacy permits.

The discharges and treatment information is currently incomplete because of the transitioning process to eFACTS. It is assumed there is at least the same number of treatment trust agreements in various stages as last year, but the current information in eFACTS is far less (80). As of last year, the treatment trust database contained 107 agreements associated with primacy coal mining related pollutional discharges and could be broken down as follows: 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

The current eFACTS database contains primacy coal mining discharge information on 80 trusts in various stages and 43 conventionally bonded permits with discharge treatment facilities encompassing 171 permits and 295 discharges. There are at least 27 trusts that need to be added to the eFACTS database as well as all the conventionally bonded and partially funded trust information for the California District Office. OSM was informed that the California District Office will update water treatment information into eFACTS as permits are renewed. If this process of entering information into eFACTS as permits are renewed is accepted, it is feasible that it will take up to five years to have a complete database with all pertinent water treatment information included. It is hoped that this method of entering discharge treatment information is reviewed and modified so a complete database can be in place in eFACTS as soon as possible.

PADEP continues to improve its discharge tracking and treatment process. Through the cooperation of the district offices and the dedication of the PADEP staff a fluid tracking system will be in place. The new eFACTS tracking database will provide an easier avenue for officials and the public to keep abreast of the discharge tracking and treatment trust information in Pennsylvania.

#### **D. Status of LC&N Permit**

LC&N was in bankruptcy operating under a Consent Order and Agreement (CO&A) initially executed in September 2002, and amended on April 26, 2006 and June 2, 2008. This is a 7,500

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.

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 established backfilling and payment schedules for the two pits and the AMD treatment system trust fund. The land reclamation bond deficit calculated under the 2010 rates is \$3,476,000.

On April 2, 2010, the Bankruptcy Court approved a motion authorizing the sale of the assets, claims, contracts and leases of LCN and set the date of May 24, 2010 as the date of an auction sale. On May 7, 2010, PADEP suspended the LC&N permit effective on May 24, 2010. BET Lehigh Real Estate (LRE) LLC and BET Associates LLC were the successful bidders for the LC&N's assets.

PADEP entered into a Consent Order and Agreement with BET LRE LLC and BET Associates IV LLC on May 27, 2010 which obligates BET to transfer the LC&N permit and assume responsibility for all backfilling obligations. BET is also obligated to fund the treatment of the Route 309 discharge immediately and until a Post Closing CO&A is signed approving the relocation and or treatment of the discharge. Although the CO&A establishes a pit reduction/bond posting schedule, BET has indicated to PADEP that it will be posting the entire required bond amount. As a part of the agreement, PADEP will re-issue to BET the 2.1 million in conversion assistance initially provided to LC&N. These actions should alleviate the concern that forfeiture of the permit would have a substantial impact on PADEP's financial ability to reclaim the site.

BET 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 sale of LC&N, there was approximately \$1,000,000 in an escrow account for treatment. BET is required to develop and submit a plan for long term treatment of the discharge and funding the treatment trust. 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.

#### **E. Coal Exploration**

In Evaluation Year (EY) 2010, a limited study was completed to evaluate compliance with Departmental regulations at Chapter 86, Subchapter E, Coal Exploration, and associated Technical guidance (563-2000-102). Regulations at 86.133 require a written notification of intent to conduct coal exploration at least 10 days prior to commencement of the activities. Removal of coal from the site requires a full surface mining permit. However, a waiver can be granted if the amount of coal to be removed is less than 250 tons, and the coal is to be used for testing and analysis. In EY 2009, PADEP reported that 453 exploration notices were issued.

The Pottsville District Office was selected for this review because of the large number of coal

exploration notices issued and the OSM inspector's familiarity with the issue. A total of 43 coal exploratory waivers were issued between February and November of 2009, and five of these were selected for evaluation. The following summarizes the findings of the evaluation.

The Coal Exploration Notice of Intent to Explore or Request for Permit Waiver, form is divided into three individual Sections entitled: I. General, II Testing, and III Performance and Designs Standards.

All of the coal exploration waivers reviewed had the required topographic maps included. However, all maps were deficient in certain requirements, including the specific location and extent of the proposed exploration activities, access roads to be used, any known mine pools, identification of 86.102 restricted mining areas.

All of the exploration notices requested the 250 tons maximum amount coal allowed by regulation for testing purposes. It is noted that 250 tons of coal equates to considerably more when refuse material is being removed for testing. One notice used 10% coal recovery to request authorization to remove 2,500 tons of refuse material. This raises a question regarding the need for such a large quantity of refuse material for testing. Another notice combined two waiver requests for a total of 500 tons of coal, thus exceeding the regulatory limit. The evaluation also noted inconsistencies in the testing facilities identified and used. Further, the Department does not require tonnage of coal removed to be reported, and therefore, cannot easily determine if the regulatory limits are exceeded. The study determined, that in two of the notices reviewed, far less coal was actually removed for testing than authorized.

All five exploration notices reviewed had an addendum attached to address the performance and design standards. The application lists eleven performance and design standards to be addressed. No addendum specially addressed all eleven standards.

A joint OSM/PADEP inspection was conducted on all five of the selected coal exploration waivers. Inspections were conducted with the three inspectors assigned to these activities. Prior to the initiation of exploration activities and after completion of those activities, the operator is required to contact the state inspector. One inspector stated that he was not contacted prior to the commencement of exploratory activities, and the other two inspectors were contacted. No documentation of commencement or completion contact is required. No exploration notice expiration dates had been reached prior to the joint inspection. Only two of the five exploration notice files contained an inspection report documenting that a site inspection had been conducted. The inspectors advised that exploration sites are periodically inspected but inspection reports are not necessarily written. Inspection frequency is dependent on the site location within the inspector's district and workload prioritization.

On three of the five joint study inspections, enforcement action was initiated by the PADEP inspector. Findings consisted of failing to compliance with the Special Conditions of the waivers and conducting unauthorized exploration activities.

Of the five coal exploration sites inspected, permit applications have been submitted to the department for two sites.

## APPENDIX A

### Acronyms used in this Report

ABS	Alternative Bonding System
AMD	Acid Mine Drainage (Relates to all mining related polluttional 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
DMO	Bureau of District Mining Operations
eFACTS	Environment Facility Application Compliance Tracking System
EHB	Environmental Hearing Board
EPA	Environmental Protection Agency
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
USFWS	United States Fish and Wildlife Service
WCAP	Watershed Cooperative Assistance Program

## APPENDIX B

### PADEP comments on Draft Report received August 20, 2010

#### OSM response is in bold

#### Comments:

Page 4, Environmental Hearing Board

The report provides synopses of two “significant” decisions. There is no explanation as to why OSM deems these cases significant. Unless an explanation is provide, a better approach would be to delete the section or include a listing of all of the EHB decisions for the year.

**The basis for selecting cases was explained.**

Page 7, Outreach by OSM

Regarding the June 28, 2010 meeting - The meeting minutes and a more detailed summary of the meeting should be provided, including a list of attendees and a description of the meeting format.

**The purpose of the meeting was further discussed in the Annual Report. Minutes and a list of individuals in attendance will not be included in the Annual Report.**

Page 8, ABS Program Amendment

The approval of the program amendment occurred on August 10 rather than August 6. Since it is obvious from the dates listed in the report regarding the program amendment submittal and the eventual OSM action, the report should explain the reason why the process took over two years despite a regulatory limit of seven months.

**Approval date was corrected. No explanation regarding the review and approval process and time required will be included.**

Page 9-10, Coal Ash

The report should point out that despite lack of guidance on the federal level, Pennsylvania moved forward and developed and implemented program guidance regarding the beneficial use of coal ash at active mine sites based on the NAS findings.

**Upon further review, PADEP was satisfied with existing language of draft report, which references NAS findings.**

Page 11, Amendments

PA-153-FOR should be updated to reflect the August 10 partial approval and should reflect the missed 7-month deadline by OSM.

**This section was removed because it duplicates the previous discussion.**

Page 12, VER Rules

States should receive 100% federal funding for the work required resulting from this change at the federal level.

**Position noted.**

Page 19, top of page, should read:

The lower 4.5 miles of the stream have been severely degraded by pre-SMCRA acid discharges from both surface and underground mines and unreclaimed mine sites located in a sub-drainage basin, called Porcupine Run. Discharges into Porcupine Run contribute over 90% of the pollution load to Dents Run, and approximately 40% of the pollution load to the Bennetts Branch of Sinnemahoning Creek.

**Correction in sentence structure made.**

Page 27, bottom of page, should read:

According to cumulative information provided by PADEP for previous reports, 329 GFCC project applications have been submitted since the program's inception.

During the evaluation year, 6 AML Enhancement Rule projects reclaiming 31.2 acres were completed. The completed projects represented approximately \$232,340 in reclamation savings to the AML program. Completed projects reclaimed barren land, eliminated highwalls and addressed water quality problems. PADEP approved 14 complete applications. During the evaluation year, PADEP received 13 new applications. 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.

**Statistical corrections made.**

Page 42, Refuse Disposal Mine Permit Study

Pennsylvania questions the use of the term "perpetual discharge." Active refuse disposal permits discharge by design, but are not "perpetual."

**Clarifying language added to distinguish interim discharges, which will cease when site reclaimed, from long term, post mining discharges.**

Page 44, Bonding overview

The comments that Pennsylvania provided on the bonding report should be included as an appendix to the annual report. The OSM Bonding Handbook calculation is held out as a standard, however the handbook approach has resulted in significant bonding shortfalls, e.g., a \$22 million bond shortfall for the Centralia mine in Washington State.

**Comments provided for draft bonding report will be appended to the final bonding report.**

Page 45, AOC Review

It should be noted that in the over 25 years of experience in Pennsylvania with bond release, AOC has not been a problem. Using the topographic map as the basis of AOC has not been a problem to date. OSM should explain the rationale for it suddenly being a problem. If OSM changes the regulatory approach to AOC, then OSM should provide 100% of the states' program costs to make the necessary program changes.

**Comments noted. No change in the annual report text was made.**

Page 47

Clarification was previously provided regarding the revision to the Coal Refuse Disposal Control Act.

**Comments were incorporated as provided.**

Page 52

Provide the rationale for the 10% independent inspection rate. Mike Terretti's March 17, 2010 letter asserting Pennsylvania's right to accompany OSM on all inspections should be mentioned here and the letter should be included as an appendix to the annual report.

**No rationale is available regarding the independent inspection percentage selected for OSM's policy. PADEP's objections to the policy were noted in the report. Mr. Terretti's March 17, 2010, letter is not appended, but is available in the public evaluation file and administrative record.**

Page 53

The guidance document Compliance/Enforcement Procedures is not currently part of the approved program. Please include some narrative providing the rationale for OSM's focus on adherence to this guidance.

**PADEP's current Compliance and Enforcement procedures technical guidance is not part of the approved program. However, the April 14, 1987, version is in the approved program. To avoid confusion, the statement in the annual report has been changed. It is our understanding that PADEP will be submitting the March 5, 2005, technical guidance for program approval. Until that time, OSM will conduct oversight of PADEP's implementation of the approved technical guidance. OSM has noted PADEP inspectors using NOV's when the abatement will take longer than 35 days, and when there is a significant potential for environmental harm (non-compliant discharges or sediment) or property damage. OSM also noted PADEP inspectors issuing instructions for abating violations, without citing the violations.**

Page 56, TDNs

It should be pointed out that 30% of the violations cited in the TDNs turned out not to be violations.

**Additional analysis has been provided in this discussion. TDNs issued on the basis of OSM inspections are analyzed separately from TDN's issued on the basis of citizen complaints.**

Page 58, SRP TDN

It should be noted that the water sample results indicated compliance with 87.102, without the need to use 87.102(e).

**The discussion indicates PADEP demonstrated "good cause" in documenting that a water quality violation did not exist at the time the sample was taken. The two Chapter 87 references were added to the discussion.**

## APPENDIX C

### **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.

**DRAFT  
 TABLE 1**

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

<b>Period</b>	<b>Surface Mines</b>	<b>Underground Mines</b>	<b>Total</b>
<b>Coal production<sup>A</sup> for entire State:</b>			
<b>Calendar Year</b>			
CY 2007	11.672	54.649	66.321
CY 2008	11.878	54.521	66.399
CY 2009	8.980	47.605	56.585

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.

<sup>A</sup>

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

**DRAFT  
TABLE 2**

**Inspectable Units  
As of June 30, 2010**

Coal mines and related facilities	Number and Status of Permits								Nbr. of Insp. Units <sup>A</sup>	Permitted Acreage <sup>B</sup> (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

**LANDS FOR WHICH THE STATE IS THE REGULATORY AUTHORITY**

Surface mines	0	884	0	302	0	34	0	1,220	1,220	0.0	0.0	0.0	2,517.0	2,517.0
Underground mines	0	136	0	21	0	7	0	164	164	0.0	0.0	0.0	96.0	96.0
Other facilities	0	259	0	21	0	20	0	300	300	0.0	0.0	0.0	429.0	429.0
<b>Total</b>	<b>0</b>	<b>1,279</b>	<b>0</b>	<b>344</b>	<b>0</b>	<b>61</b>	<b>0</b>	<b>1,684</b>	<b>1,684</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>3,042.0</b>	<b>3,042.0</b>

Total number of permits: 1,684

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

Average number of acres per inspectable unit (excluding exploration sites): 180.64

Number of exploration permits on State and private lands: 0 On Federal lands<sup>C</sup>: 0

Number of exploration notices on State and private lands: 304 On Federal lands<sup>C</sup>: 0

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

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

<sup>B</sup> 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.

<sup>C</sup> 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.

**DRAFT  
TABLE 3**

**State Permitting Activity  
As of June 30, 2010**

Type of Application	Surface mines			Underground mines			Other facilities			Totals		
	App. Rec.	Issued	Acres	App. Rec.	Issued	Acres <sup>A</sup>	App. Rec.	Issued	Acres	App. Rec.	Issued	Acres
New Permits	62	66	4,500	1	2	24	9	4	109	72	72	4,633
Renewals	211	191		12	8		41	36		264	235	
Transfers, sales, and assignments of permit rights	21	21		3	2		4	7		28	30	
Small operator assistance	0	0		0	0		0	0		0	0	
Exploration permits										0	0	
Exploration notices <sup>B</sup>											304	
Revisions (exclusive of incidental boundary revisions)		0			0			0			0	
Revisions (adding acreage but are not incidental boundary revisions)	0	0	0	0	0	0	0	0	0	0	0	0
Incidental boundary revisions	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>294</b>	<b>278</b>	<b>4,500</b>	<b>16</b>	<b>12</b>	<b>24</b>	<b>54</b>	<b>47</b>	<b>109</b>	<b>364</b>	<b>641</b>	<b>4,633</b>

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

<sup>A</sup> Includes only the number of acres of proposed surface disturbance.

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

**DRAFT  
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	
<b>TYPE OF IMPACT AND TOTAL NUMBER OF EACH TYPE</b>	Blasting	6	0	0	0	3	0	0	0	0	0	2	1	0
	Land Stability	12	0	0	0	9	2	0	1	0	0	0	0	0
	Hydrology	83	0	0	0	0	0	1	63	10	9	0	0	0
	Encroachment	7	0	0	0	4	1	0	0	2	0	0	0	0
	Other	22	0	0	0	12	3	4	1	0	0	1	1	0
	<b>Total</b>	<b>130</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>6</b>	<b>5</b>	<b>65</b>	<b>12</b>	<b>9</b>	<b>3</b>	<b>2</b>	<b>0</b>

Total number of inspectable units (excluding bond forfeiture sites): 1,623  
 Inspectable units free of off-site impacts: 1,520  
 Inspectable units with off-site impacts: 103

**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
<b>TYPE OF IMPACT AND TOTAL NUMBER OF EACH TYPE</b>	Blasting	0	0	0	0	0	0	0	0	0	0	0	0
	Land Stability	0	0	0	0	0	39	0	0	0	0	0	0
	Hydrology	0	0	0	0	0	0	0	0	22	0	0	0
	Encroachment	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
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>39</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>0</b>

Total number of inspectable units (only bond forfeiture sites): 61  
 Inspectable units free of off-site impacts: 0  
 Inspectable units with off-site impacts: 61

**DRAFT  
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	11,802		
Phase II	- Surface stability - Establishment of vegetation	7,925	0	
Phase III	- Post-mining land use/productivity restored - Successful permanent vegetation - Groundwater recharge, quality and quantity restored - Surface water quality and quantity restored	11,611	0	0
<b>Bonded Acreage <sup>A</sup></b>		<b>Acres during this evaluation year</b>		
Total number of new acres bonded during this evaluation year		4,633		
Number of acres bonded during this evaluation year that are considered remaining, if available		0		
Number of acres where bond was forfeited during this evaluation year		238		
<b>Bonded Acreage Status</b>		<b>Cumulative Acres</b>		
Total number of acres bonded as of the end of last review period (June 30, 2009) <sup>B</sup>		387,338		
Total number of acres bonded as of the end of this review period (June 30, 2010) <sup>B</sup>		333,431		
Sum of acres bonded that are between Phase I bond release and Phase II bond release as of June 30, 2010 <sup>B</sup>		0		
Sum of acres bonded that are between Phase II bond release and Phase III bond release as of June 30, 2010 <sup>B</sup>		0		
<b>Disturbed Acreage</b>		<b>Acres</b>		
Number of Acres Disturbed during this evaluation year		7,061		
Number of Acres Disturbed at the end of the evaluation year (cumulative)		0		
<sup>A</sup> Bonded acreage is considered to approximate and represent the number of acres disturbed by surface coal mining and reclamation operations. <sup>B</sup> Bonded acres in this category are those that have not received a Phase III or other final bond release (State maintains jurisdiction).				

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.

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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, 2009 (end of previous evaluation year) <sup>A</sup>	95		1,998
Sites with bonds forfeited and collected during Evaluation Year 2010 current evaluation year)	4	\$ 106,177	77
Sites with bonds forfeited and collected that were re-permitted during Evaluation Year 2010 (current evaluation year)	4		430
Sites with bonds forfeited and collected that were reclaimed during Evaluation Year 2010 (current evaluation year)	4		149
Sites with bonds forfeited and collected that were unreclaimed as of June 30, 2010 (end of current evaluation year) <sup>A</sup>	61		1,080
Sites with bonds forfeited but uncollected as of June 30, 2010 (end of current evaluation year)	12		1
<b>Surety/Other Reclamation (In Lieu of Forfeiture)</b>			
Sites being reclaimed by surety/other party as of June 30, 2009 (end of previous evaluation year) <sup>B</sup>	3		344
Sites where surety/other party agreed to do reclamation during Evaluation Year 2010 (current evaluation year)	2		104
Sites being reclaimed by surety/other party that were re-permitted during Evaluation Year 2010 (current evaluation year)	2		148
Sites with reclamation completed by surety/other party during Evaluation Year 2010 (current evaluation year) <sup>C</sup>	9		378
Sites being reclaimed by surety/other party as of June 30, 2010 (current evaluation year) <sup>B</sup>	4		178

<sup>A</sup> Includes data only for those forfeiture sites not fully reclaimed as of this date

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

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

**DRAFT  
TABLE 7**

**State Staffing**  
(Full-time equivalents at end of evaluation year)

Function	EY 2010
Regulatory Program	
Permit Review	40.50
Inspection	78.50
Other (administrative, fiscal, personnel, etc.)	93.00
Regulatory Program Total	212.00
AML Program Total	127.40
<b>Total</b>	<b>339.40</b>

**DRAFT  
 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	\$ 11,469,117	50.00 %
Other Regulatory Funding, if applicable	\$ 0	0.00 %
<b>Subtotal</b>	<b>\$ 11,469,117</b>	
Small Operator Assistance Program	\$ 0	100 %
Abandoned Mine Land Reclamation Funding <sup>A</sup>	\$ 43,807,638	100 %
<b>Totals</b>	<b>\$ 55,276,755</b>	

<sup>A</sup> Includes funding for AML Grants, the Clean Streams Initiative and the Watershed Cooperative Agreement Program.

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 TABLE 9**

**State Inspection Activity  
 During Current Evaluation Year**

<b>Inspectable Unit Status</b>	<b>Number of Inspections Conducted</b>	
	<b>Complete</b>	<b>Partial</b>
Active <sup>A</sup>	4,423	8,253
Inactive <sup>A</sup>	1,032	1,606
Abandoned <sup>A</sup>	105	94
<b>Total</b>	<b>5,560</b>	<b>9,953</b>
<b>Exploration</b>	<b>0</b>	<b>0</b>

<sup>A</sup> Use terms as defined by the approved State program.

**DRAFT  
TABLE 10**

**State Enforcement Activity  
During Current Evaluation Year**

<b>Type of Enforcement Action</b>	<b>Number of Actions<sup>A</sup></b>	<b>Number of Violations<sup>A</sup></b>
Notice of Violation	177	249
Failure-to-Abate Cessation Order	18	20
Imminent Harm Cessation Order	35	44

<sup>A</sup> Do not include those violations that were vacated.

**DRAFT  
TABLE 11**

**Lands Unsuitable Activity**

**During Current Evaluation Year**

	Number	Acreage
Number Petitions Received	1	
Number Petitions Accepted	1	
Number Petitions Rejected	0	
Number Decisions Declaring Lands Unsuitable	0	0
Number Decisions Denying Lands Unsuitable	0	0