

# ANNUAL REPORT 2012

OFFICE of SURFACE MINING  
RECLAMATION and ENFORCEMENT  
U.S. Department of the Interior





## Editor's Note:

The Fiscal Year 2012 Annual Report for the Office of Surface Mining Reclamation and Enforcement (OSMRE) is being presented in a slightly different format from previous years. While previous editions have been available in printed and digital formats, this Annual Report will for the first time be delivered primarily as an electronic document available through OSMRE's website. As in the past, limited numbers of hard copies will be printed.

In an effort to enable the reader to access the most current information on what OSMRE has accomplished in the last fiscal year, the electronic version of the 2012 Annual Report that appears on OSMRE's website ([www.osmre.gov/resources/annualReports.shtm](http://www.osmre.gov/resources/annualReports.shtm)) includes multiple hyperlinks to allow the reader to obtain additional background on a particular program or project.

While readers of the printed version will view the same complete report they have had in past years, readers of the electronic version will enjoy the opportunity to view additional content through this hyperlinked material. Readers who obtain the Annual Report in printed form can access this same background information by going to the web link above.

*COVER: A reclaimed section of the Tongue River, Sheridan County, Wyoming. The Office of Surface Mining Reclamation and Enforcement honored the Big Horn Coal Company with an Excellence in Surface Coal Mining Reclamation Award for the company's restoration of a 2,500-foot portion of the Tongue River, among other activities.*

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# MESSAGE FROM THE DIRECTOR

This report describes the progress that the Office of Surface Mining Reclamation and Enforcement made in Fiscal Year 2012.

At a ceremony in 2012 observing the bureau's 35th anniversary, I said that despite the many accomplishments of OSMRE and its partners since the enactment of the Surface Mining Control and Reclamation Act of 1977 (SMCRA), we can do better. We now know more and have better tools and science. I challenged the coal industry, the regulatory authorities who implement SMCRA, academia, and OSMRE itself to continue to improve.

The task of protecting society and the environment from the adverse effects of surface coal mining operations is not simple, and it is not finished. Reclaiming hazardous abandoned mine sites, conducting oversight to ensure SMCRA's effectiveness, and sharing technological innovations with the states and tribes are critical tasks that need to continue.

I am proud of what OSMRE employees were able to accomplish in 2012 on behalf of the Nation and our coalfield communities in particular. Our work has made a difference.



A handwritten signature in blue ink that reads "Joe Pizarchik". The signature is written in a cursive style.

Joe Pizarchik



## Mission

The mission of the Office of Surface Mining Reclamation and Enforcement (OSMRE) is to carry out the requirements of the Surface Mining Control and Reclamation Act of 1977 (SMCRA) in cooperation with states and tribes. OSMRE's primary objectives are to ensure that coal mines are operated in a manner that protects citizens and the environment during mining, that the land is restored to productive use following mining, and that the effects of past mining are mitigated by aggressively pursuing reclamation of abandoned coal mines.

## Budget and Workforce

- \$150.3 million in Fiscal Year (FY) 2012 in annual (discretionary) funds, about half of which goes to states and tribes.
- 504 full-time equivalent employees in FY 2012.
- Headquartered in Washington, D.C., with three Regional Offices.

## Abandoned Mine Land Program

[www.osmre.gov/programs/aml.shtm](http://www.osmre.gov/programs/aml.shtm)

Addresses environmental and public safety hazards on pre-SMCRA mine sites. In FY 2012, the Abandoned Mine Land (AML) Program made more than \$485 million in AML grants available to states and tribes. This funding primarily derives from a mandatory fee on every ton of coal produced in the United States.

## Regulatory Program

[www.osmre.gov/programs/rcm.shtm](http://www.osmre.gov/programs/rcm.shtm)

Implements SMCRA and sets administrative and technical standards, performs oversight of state regulatory programs, administers regulatory programs in states that have not adopted their own, and provides assistance to state regulatory programs. In FY 2012, OSMRE's Regulatory Program made available \$64.2 million in regulatory grant funding to state and tribal regulatory authorities.

## Technology Development and Transfer

[www.osmre.gov/programs/tdt.shtm](http://www.osmre.gov/programs/tdt.shtm)

Provides technical support, assistance, training, and technology transfer for OSMRE's Abandoned Mine Land and Regulatory Programs. In FY 2012, the Technology Development and Transfer Program received \$17.9 million.

# MAJOR ACCOMPLISHMENTS IN FY 2012

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## OSMRE Makes Record Amount of Abandoned Mine Land Funding Available to States and Tribes

On December 15, 2011, the Secretary of the Interior and OSMRE Director Joe Pizarchik announced nearly half a billion dollars in grants for states and tribes to eliminate health and safety hazards caused by past coal mining. The FY 2012 funding — which represented a \$90 million increase from the previous year — was projected to generate more than \$1 billion in economic activity and support thousands of jobs across the Country.

Funding for AML grants comes primarily from fees levied on each ton of coal produced. Additional funding comes from the U.S. Treasury. OSMRE distributes these grants through a congressionally mandated formula established in SMCRA. The FY 2012 grants totaled more than \$485 million, the highest amount the bureau has ever awarded. These grants help put people to work across the Country on restoration projects that bring lands back to life by cleaning up rivers, regrading steep and unstable highwalls, and sealing open mine shafts, among other things.

A 2012 Department of the Interior (Department) report estimated that the \$485 million in AML grants made available for FY 2012 provided an estimated \$720 million in added value, and delivered an *economic contribution of \$1.21 billion dollars* while providing more than 7,800 jobs.

Since 1977 through the end of FY 2012, OSMRE has provided more than \$5.85 billion in grants to states and tribes to reclaim more than 295,000 acres of hazardous high-priority abandoned mine sites and for other purposes.



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## OSMRE's Rulemaking Highlights During FY 2012

### COAL COMBUSTION RESIDUES RULE

In FY 2012, OSMRE began work on a rule that would address the placement of *coal combustion residues (CCRs)* — the wastes created by burning coal — on active and abandoned coal mine sites. This rulemaking effort is the latest after more than 10 years of study and examination to develop a rule to govern the handling of CCRs.

In 2003, Congress directed the U.S. Environmental Protection Agency (EPA) to commission an independent study of the risks associated with the placement of CCRs in active and abandoned coal mines. The National Research Council formed a committee that studied the health, safety, and environmental risks associated with the placement of CCRs in active and abandoned coal mines. Published in 2006, the study's recommendations included the establishment of enforceable Federal standards for the placement of CCRs in mines, with regulation under SMCRA being one of the rulemaking options.

In FY 2012, OSMRE conducted significant outreach, meeting with states, tribes, industry, environmental groups, and grassroots community groups on what a draft rule should include. OSMRE sought out the best practices from across the Country. OSMRE then began to develop a proposed rule to incorporate recommendations from the 2006 National Research Council study, best practices, and stakeholder input. The regulations will address the permitting and performance standards for the placement of CCRs on active mines and for reclamation projects involving AML funds that include placement of CCRs.

In support of the rulemaking, OSMRE will develop an Environmental Assessment. As recommended in the National Research Council's report, OSMRE is coordinating its rulemaking with the EPA, which is developing a separate rule that addresses the disposal of CCRs in landfills and surface impoundments.

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*LEFT: A view of the Burning Star IV coal mine reclamation site, located in southern Illinois, more than 20 years since it was first reclaimed.*

## COST RECOVERY RULE

Throughout 2012, OSMRE worked with stakeholders to determine how to more adequately and effectively recover the costs the bureau incurs in reviewing, administering, and inspecting bureau-issued mining permits under SMCRA.

Authorized by SMCRA, OSMRE last revised these fees in 1990. Currently, OSMRE collects just 2 percent of the cost of processing new permit applications. It does not collect any of the cost of processing permit amendments and renewals, or the cost to administer permits and inspect mines, which means taxpayers subsidize the remainder of the cost.

The proposed rule revision would establish cost recovery for more of the services provided to administer and handle permits, and minimize the administrative burden of billing and collecting the fees. Any change to OSMRE's fee structure will apply only to permits on lands where the bureau is the regulatory authority for coal mine operations: currently in the States of Tennessee and Washington, and on Indian lands. States administering their own coal mining regulatory programs will not be affected by the rule, but are encouraged to implement cost recovery for the services they provide to industry as well. One hundred percent of the cost to process and administer mine permits on Federal land is taxpayer funded.

OSMRE would institute cost recovery for the services it provides in reviewing permit applications, and an annual fixed cost to recover permit administration and inspection services. In addition, OSMRE would charge applicants only for those services the bureau provides when it reviews a permit action. OSMRE plans to issue a proposed rule in 2013, and the final rule at a later date.

## LIMITED LIABILITY RULE FOR NON-COAL RECLAMATION BY CERTIFIED STATES AND INDIAN TRIBES

In FY 2012, OSMRE made significant progress in addressing a potential problem for states and tribes that have certified to the Federal Government that they have completed reclamation of all known coal-related AML sites within their borders.

Under a previous interpretation of SMCRA, OSMRE had determined that certified states and tribes could not use AML funding for non-coal projects and enjoy limited liability. The rule under development would change that interpretation.

In 1990, Congress amended SMCRA to add a provision specifying that no state or tribe would be liable under Federal law for any costs or damages as a result of any action or omitted action while carrying out an approved AML reclamation plan. The amendment did not preclude liability for gross negligence or intentional misconduct.

In 2006, Congress amended SMCRA again to allow certified states to expend AML grant funds to reclaim eligible non-coal AML problems and construct public facility projects. After OSMRE issued a final rule in 2008 implementing the 2006 amendments, program officials in certified states and tribes expressed concern that the rule did not offer limited liability protection for non-coal reclamation projects. Certified states and tribes asserted that this created a disincentive for conducting non-coal reclamation projects on sites with health, safety, or environmental problems.

The proposed limited liability rule would remedy the concerns raised and allow certified states and tribes to receive limited liability protection from lawsuits brought under Federal law while carrying out an approved abandoned mine reclamation plan, including non-coal reclamation and public facility projects. OSMRE intends to issue a proposed rule in 2013, and the final rule at a later date.

## TEMPORARY CESSATION RULE

OSMRE moved forward in FY 2012 in clarifying its rules governing under what conditions a coal mine operator may temporarily cease mining and reclamation activities for over 30 days under an approved SMCRA permit. Certain mine operators stopped mining for years, but claimed the hiatus was temporary, delaying reclamation of the mined area, as required by SMCRA.

To determine whether there have been compliance problems with the provision of SMCRA allowing temporary cessation, OSMRE gathered information from the 24 states with their own coal mining regulatory programs as well as Tennessee and Washington, where OSMRE has regulatory authority.

The bureau found that as of May 2012, 382 coal mine permittees had ceased mining under OSMRE or state “temporary cessation” regulations. Of the 382 mine operations in temporary cessation, 155 had not operated for more than 5 years. More than 90 percent of those in cessation for 5 years or longer (approximately 140 sites) occurred in 10 states, where state law prevents the adoption of SMCRA regulations that are more stringent than Federal standards.

Based on obtained information — and further anecdotal evidence suggesting that many operators were using temporary cessation to escape their required reclamation obligations — OSMRE intends to update and clarify the bureau’s rules regarding temporary cessation.

Under a proposed rule, coal mine operators are not expected to experience higher costs if they do not enter temporary cessation; the act of ceasing operations is voluntary. Operators that enter into temporary cessation will likely experience a small increase in cost, primarily associated with completing an application for Temporary Cessation status. OSMRE expects to publish a proposed rule in 2015.

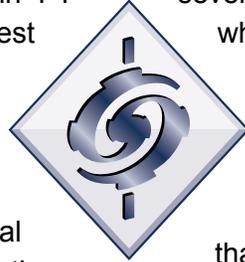
*This coal preparation plant has remained in temporary cessation status since 1998. The site is covered with coal residue, and the structure, conveyor belt, and silo pose a safety hazard. The continued delay prevents it from being returned to a productive post-mine land use.*



## OSMRE Releases New Version of Water Treatment Software

In cooperation with the Pennsylvania Department of Environmental Protection and the U.S. Geological Survey (USGS), in FY 2012 OSMRE formally released the latest version of a water treatment software package, *AMDTreat*, that provides scientists with a way to economically and dependably develop plans to treat Acid Mine Drainage (AMD), a detrimental by-product derived from mining and other sources. The software package has provided domestic and international communities with significant savings while also eliminating serious threats to local environments.

AMDTreat incorporates a new module developed by the USGS. The new module allows geochemists and hydrologists to determine how to most effectively and economically treat polluted water.



Pennsylvania is home to one location where AMDTreat has allowed the state to achieve several million dollars in savings over time while also protecting the environment from AMD polluted water.

OSMRE scientists used Ben's Creek, a highly regarded trout stream in Somerset County, Pennsylvania, that was once heavily polluted by AMD from an underground mine, as a test bed to verify AMDTreat.

The AMD greatly affected all aquatic life in the affected area. Because OSMRE used AMDTreat at the site, the State of Pennsylvania will save more than \$250,000 per year that it had previously been spending for chemical treatment. Treatment will continue in perpetuity.

AMDTreat is free to download, and used in more than 100 countries.

To view a video about the new version of AMDTreat, go to:

[www.youtube.com/watch?v=CDu0sM29Hbw](http://www.youtube.com/watch?v=CDu0sM29Hbw)

### Local Couple's Generosity Makes Water-Treatment Project Possible

In addition to the technical aspect of the AMD treatment at Ben's Creek, the site is notable for another reason: the donation of more than 13 acres of high-value land to build the treatment ponds. The land came from a married couple who felt strongly about cleaning up the water, but also providing for environmental education and stewardship in the area.

Sadly, the wife of the couple died before completion of the project, but her legacy lives on in the form of an educational pavilion at the site that hosts local classes. As one Pennsylvania official stated, it was "one person who had a vision, but AMDTreat gave us the tools to make it cost effective."



*1: A needle-like venturi spatters about 600 gallons per minute of polluted water into a pond near Ben's Creek in Pennsylvania, where OSMRE tested the new version of AMDTreat, a water treatment software package. The spattering aids in oxygenation and helps to settle the iron out of the water.*

*2: A close look at the iron-laden water near the settling pond.*

*3: The pressure to drive the venturi comes from an underground mine pool that is polluted with AMD.*

## 35th Anniversary of SMCRA

In August 2012, OSMRE observed its 35th anniversary, a commemoration of the day President Jimmy Carter signed SMCRA into law on August 3, 1977.

At a ceremony at the South Interior Building in Washington, D.C., attendees heard from Secretary of the Interior Ken Salazar, Deputy Interior Secretary David Hayes, and OSMRE Director Joe Pizarchik.



In his keynote address, Director Pizarchik called for a renewal of the “spirit of cooperation and commitment to protect our economy, our energy supply, our environment, and ultimately the people who work and live in coal country.”

OSMRE also recognized for the first time an individual who, in addition to promoting the ideals and goals of SMCRA, has also advocated for the appropriate balance between meeting the Nation’s need for energy without compromising protection of people, the environment, and the surrounding community.

The award’s name is an acronym derived from principles related to OSMRE’s mission: *Environment, Community, Humanity, and Ownership (ECHO)*.

Director Pizarchik presented the inaugural ECHO Award to Mr. David Clark, a state regulatory official and ecologist from New Mexico, for his continued work to enhance environmental protection and coal mine reclamation. Mr. Clark has served in SMCRA-related positions in Montana and New Mexico for more than two decades and has led the development of geomorphic mine reclamation, a cost effective and environmentally sound method that returns previously mined land to more closely resemble its form and function before mining occurred.

OSMRE chose the inaugural honoree after receiving nominations from bureau staff. Nominations and the final choice were based on the individual’s demonstration of one or more of the following attributes:

**Public Service:** has shown a dedication to public service

**Sustained Engagement:** has accepted difficult challenges requiring strategic, long term efforts

**Non-partisan:** has worked in a non-partisan manner

**Major Contribution:** has made a significant and/or unique contribution to carry out SMCRA

**Advocate of the Law:** dedication to improved implementation of SMCRA

**Protection of Society:** dedication to improving protection of society

**Innovative Solutions:** has a record of seeking and achieving positive solutions

**Environmental Protection:** dedication to improving protection of the environment

At the event, OSMRE also recognized the service of 11 employees who have served the Federal Government for 35 years, many of those years working at OSMRE.

*RIGHT: The ECHO Award, named to commemorate the policy reverberations that occurred when the United States changed how it approached environmental protection with the passage of SMCRA.*





*OSMRE Director Joe Pizarchik delivers a speech during the signing ceremony and signs the memorandum of agreement with Adams State University, formalizing the relationship between the bureau and the University.*

## Working with Youth: OSMRE Signs Cooperative Agreement with Adams State University

Prior to 2012, OSMRE had been working for several years with to develop a mutually beneficial relationship on youth development and opportunities. Working with the faculty at ASU, OSMRE began to develop both in-school and online courses for up to 850 students at the Hispanic Serving Institution in Alamosa, Colorado. Under a Memorandum of Agreement that Director Pizarchik and University President David Svaldi signed in August 2012, OSMRE employees will provide technical training on ASU's campus, and ASU students will have the opportunity to join OSMRE as interns to further their education.

"This agreement provides OSMRE and ASU with an opportunity for both parties," said Director Pizarchik. "ASU provides us with an enthusiastic, committed student base that is truly interested in environmental protection, and OSMRE provides ASU with the expertise that only our bureau has."



"The OSMRE internships available to ASU students will be especially valuable as paths to careers in the new energy economy," said Dr. Svaldi.

In addition, some state and Federal employees will have access to distance learning opportunities offered through the Colorado University system.

The ASU Professor of Earth Science, Dr. Robert Benson, called that a benefit for both parties.

"OSMRE is also benefiting from ASU's extensive experience in online course delivery and the brick-and-mortar facilities for delivery of OSMRE courses," said Dr. Benson.

"ASU faculty and students can network with practiced professionals at OSMRE." Over time, OSMRE and ASU hope to offer more than 40 mining-related courses to students.

# OSMRE'S ABANDONED MINE LAND PROGRAM

OSMRE is charged with the administration of SMCRA's Abandoned Mine Land (AML) Program. Title IV of SMCRA requires OSMRE to address environmental, public health, and safety hazards posed by past mining practices, including water pollution, acid mine drainage, unstable or open mining areas, landslides, and subsidence of underground coal mines.

Title IV provides the authority for OSMRE to assess a reclamation fee on coal production, and this fee provides most of the funding for the AML Program. In general, through SMCRA, Congress created the fee based on the mining method used to produce the coal as well as the mechanism to collect monies. The SMCRA also prescribes the formula by which AML funding is distributed. Under SMCRA, the AML Program will continue to provide funding to address abandoned mine problems through at least 2022.

For complete information on the funding provided to states and tribes, the laws, regulations, and policies governing the AML Fund, OSMRE's projects and initiatives under the AML Program, and more, please visit [www.osmre.gov/programs/AML.shtm](http://www.osmre.gov/programs/AML.shtm).

*Before and after at the Pondtown Creek Abandoned Mine Reclamation Project, Carbon County, Utah. The round insert photo shows the reclamation after mining.*



## 2012 AML Grant Amounts

On December 15, 2011, the Secretary of the Interior and OSMRE Director Pizarchik announced nearly half a billion dollars in grants for states and tribes to eliminate health and safety hazards caused by past coal mining. *Fiscal Year 2012 grants* totaled more than \$485 million, the highest amount ever awarded, an increase of \$90 million from the amounts available the previous fiscal year.

States and tribes may use AML funds to eliminate health, safety, and environmental problems caused by past mining practices, improve water quality by treating acid mine drainage, and other uses.

## Congress Amends the AML Funding Allocation

On July 6, 2012, President Barack Obama signed into law the Moving Ahead for Progress in the 21st Century Act (MAP-21) (Public Law 112-141), which, among other things, amends SMCRA's AML Program.

MAP-21 added the following language to Section 411 of *SMCRA*, 30 U.S.C. 1240a(h):

*“Limitation on Annual Payments – Notwithstanding any other provision of this subsection, the total annual payment to a certified state or Indian tribe under this subsection shall not be more than \$15,000,000.”*

The new provision limited future funding levels available to each state and tribe that has certified completion of coal problems to \$15 million annually. In addition, the law was further clarified when Section 411 of SMCRA was amended by Section 142 of Public Law No. 112-175, the Continuing Appropriations Resolution for 2013. See 30 U.S.C. 1240a(h)(4).

## Fiscal Year 2012 Abandoned Mine Land Grant Amounts

Alabama	\$9,439,875
Alaska	\$3,000,000
Arkansas	\$3,000,000
Colorado	\$8,655,603
Illinois	\$24,080,075
Indiana	\$16,141,131
Iowa	\$3,000,000
Kansas	\$3,000,000
Kentucky	\$46,998,225
Louisiana	\$426,215
Maryland	\$3,000,000
Mississippi	\$257,477
Missouri	\$3,000,000
Montana	\$13,402,468
New Mexico	\$5,538,041
North Dakota	\$3,921,596
Ohio	\$16,485,743
Oklahoma	\$3,000,000
Pennsylvania	\$67,152,367
Tennessee	\$3,000,000
Texas	\$5,413,781
Utah	\$4,939,010
Virginia	\$11,330,795
West Virginia	\$66,495,521
Wyoming	\$150,018,677
Crow Tribe	\$2,164,911
Hopi Tribe	\$1,435,253
Navajo Nation	\$7,216,702

## 2012 AML Reclamation Award Winners

In FY 2012, OSMRE honored state reclamation programs in Kentucky, Illinois, Montana, Utah, and Pennsylvania for outstanding examples of protecting people and the environment while reclaiming abandoned mine lands.

Each year, OSMRE recognizes states and tribes that achieve outstanding results while reclaiming mine sites abandoned before 1977, when Federal oversight of coal mining began. The *2012 AML Reclamation Awards* recognized innovations in reclamation and on-the-ground results in three categories: the best regional achievements, the best small-scale project, and a single National Award winner. Director Pizarchik presented the awards in Des Moines, Iowa, as part of the 34th Annual Conference of the National Association of Abandoned Mine Land Programs.



*The twin 800-foot Interstate 72 bridges over the Sangamon River in Illinois. AML reclamation halts subsidence threat to bridges.*

### APPALACHIAN REGIONAL AWARD

#### Lower Rock Creek Watershed Restoration Project

*McCreary County, Kentucky*

The project covered four locations in Kentucky and Tennessee. Lower Rock Creek stretches from Kentucky's Pickett State Park, through the Daniel Boone National Forest, and into the Big South Fork National River and Recreation Area. The watershed is a prime location for fishing, hunting, hiking, backpacking, and camping, and hosts thousands of people each year. A coalition of state and Federal agencies worked for more than a decade with non-profit entities to clean up damage from acid mine drainage that had rendered several miles of Lower Rock Creek devoid of aquatic life. At the end of the project, the acid in the water had been reduced by 99 percent, and fish and other wildlife had returned.

### MID-CONTINENT REGIONAL AWARD

#### I-72 Piers 3 Sag Subsidence Emergency Project

*Sangamon County, Illinois*

This project not only responded to a life-threatening emergency situation, but proved for the first time that it is possible to stop mine subsidence while it is happening. The State of Illinois discovered that two heavily traveled bridges on an interstate highway were slowly sinking because of the collapse of two underground mines about 200 feet below the surface. The problem threatened the structural integrity of both bridges and the lives of motorists using the bridges. Illinois officials contracted for the repair work, which was carried out in subzero temperatures and heavy snowfall. Coping with flooding, the constant threat of further subsidence, and the possibility of the bridges collapsing, the contractors completed grouting to stop the sinking in a little more than 4 months.

## WESTERN REGIONAL AWARD

### Spring Meadow Lake Abandoned Mine Reclamation Project

*Helena, Lewis and Clark County, Montana*

An undergraduate working on his thesis in 2003 discovered that a well-known and heavily used state park in Helena, Montana, was contaminated with extremely high levels of lead and arsenic. Spring Meadow Lake State Park hosts about 85,000 people each year to swim, fish, canoe, picnic, and play. State officials confirmed the student's findings that the park land was originally used to mill gold, silver, zinc, and manganese ore during World War I, and that the milling remains were contaminating both the water and land. The state used innovative techniques to isolate and remove the contamination, and turned the milling site into an interactive display.



*A popular reclamation site, Spring Meadow Lake State Park in Helena, was found to have high levels of lead and arsenic. The State of Montana removed the contaminants – remains from when the land was used to mill gold and other ores during World War I – allowing the park to remain a destination for fishing, canoeing, and other water sports.*

## SMALL PROJECT AWARD

### Abandoned Mine Reclamation Program

*Utah Division of Oil, Gas & Mining  
Salt Lake City, Utah*

Utah's Abandoned Mine Reclamation Program worked for more than 20 years to extinguish the Maclean underground mine fire that ignited in 1945. Putting out the 67-year old fire, which migrated underground, required the use of new mapping technologies as well as creating new chemical fire retardants while working on extremely steep slopes. With about a dozen similar underground fires burning at the time of the award, the state planned to apply the techniques and tools developed at the Maclean fire to extinguish those fires at lower cost and in less time.

## NATIONAL AWARD

### Dents Run AML/AMD Ecosystem Restoration Project

*Benezette Township, Elk County, Pennsylvania*

The 25-square mile Dents Run watershed is best known as a world-class trout stream and home to a resident population of elk in Pennsylvania. However, nine historic surface and underground coal mines dating back to the 1800s were leaching acid mine drainage so heavily into the watershed that passive treatment methods would not be effective, and active treatment would have been very expensive. The State of Pennsylvania brought together a coalition of mining companies, non-profit groups, and landowners to provide more than half of the project's funding needs. Selling marketable coal discovered onsite and using limestone mined nearby kept the net costs of the project down, and enabled the project to reclaim ten highwalls, remove more than 5,000 cubic yards of coal waste, close 23 old mine openings, and treat 14 AMD discharges. In March 2012, the state declared Dents Run as "net alkaline" for the first time in 100 years, and fish and wildlife are now able to return to the watershed.

## Tree Planting at the Flight 93 National Memorial

OSMRE employees joined with hundreds of other volunteers in April 2012 to plant tree seedlings at the National Park Service's (NPS) *Flight 93 National Memorial near Shanksville, Pennsylvania*, where the passengers and crew of United Flight 93 bravely gave their lives on September 11, 2001, thereby thwarting an attack on the Nation's capital.



*OSMRE Director Joe Pizarchik plants an American Chestnut tree with a Boy Scout volunteer.*

The NPS is building a memorial at the crash site honoring the heroes of Flight 93. To provide a windbreak for the memorial, the NPS sought OSMRE's help based on the bureau's record of developing and popularizing reforestation methods on lands previously mined for coal.

One of the site's challenges is that the land comprising the memorial is an old surface coal mine that was reclaimed in a manner that is not conducive to the growth and long-term survival of trees. To aid in increasing the survival rate of the seedlings, representatives from the Appalachian Regional Reforestation Initiative (ARRI) — a coalition of groups, including citizens, the coal industry, and Federal and state governments dedicated to restoring forests on coal mined lands in the Eastern United States — worked closely with the NPS to employ the Forestry Reclamation Approach (FRA) to prepare the land to eliminate the compaction that occurred from past reclamation practices.

In addition, a forester and a soil scientist from OSMRE designed the planting plan and worked with the NPS to select the species for planting. OSMRE employees attended the two subsequent tree plantings to ensure that the volunteers followed the provisions of the FRA.

In all, more than 500 volunteers planted over 13,000 seedlings on 20 acres. In addition to the Flight 93 National Memorial planting, ARRI and its partners held 33 similar events throughout 2012, enlisting more than 2,500 volunteers who helped to plant more than 102,000 trees.



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*1: In Spring 2012, about 400 people gathered on a cool spring morning to plant trees at the Flight 93 National Memorial site near Shanksville, Pennsylvania.*

*2: OSMRE Director Joe Pizarchik, OSMRE Appalachian Regional Director Thomas Shope, and others pose for a picture after their volunteer efforts end for the day.*

*3: ARRI volunteers receiving instruction on how to plant saplings to increase their survival rate.*

# FEATURE STORY:

## OSMRE Eliminates Potential Threats in Michigan

Between the late 1800s until the 1950s, coal mining grew into a mature industry in an area of the United States that today may seem surprising: the State of Michigan. According to state records, at least 16 mines near Saginaw brought jobs for hundreds of people, working in some cases 200 feet below ground to supply energy to nearby businesses and homes.

Since mine operators in those days bore little or no responsibility for properly reclaiming mine sites, many mines present a potential danger to the communities where they exist today, sometimes without the knowledge of those living and working above them.

Such was the case in 2011, when OSMRE's Federal Reclamation Program and the Technical Support Division collaborated to address a possible threat to school children and other citizens.

OSMRE was already aware of the potential for danger from Michigan coal mines. In 1991, the bureau was called upon to close a water- and debris-filled entrance to an old site named Uncle Henry's Mine in Blumfield Township, Michigan.

By 2011, OSMRE employees, using the *Abandoned Mine Land Inventory System (e-AMLIS)*, had identified 14 Problem Area Description sites in Michigan, including approximately 50 abandoned mine shafts. All were listed in e-AMLIS as high-priority hazards (Priority II). Michigan's old mine shafts tend to be in populated, developed areas and are notoriously difficult to locate. Many of the shafts were built through thick deposits of sandy, unconsolidated glacial materials, and kept open with linings made from timber. Historically, shafts from this period were not properly backfilled after the mines closed. In FY 2012, OSMRE made available a total of \$2.3 million to locate, assess, and reclaim as many of these shafts as possible.

*Aerial photograph of the Jerome Elementary School, Saginaw, Michigan.*



*The school's playground, located near two abandoned coal mine shafts dating to the 1930s.*





*The crack that appeared while contractors were injecting concrete into the shaft areas.*



*Contractors begin grouting the holes to ensure proper stabilization of an abandoned coal mine shaft near Jerome Elementary School.*

Numerous sites OSMRE targeted for assessment were in the town of Saginaw. One reason for concern was that the bureau believed that six mine shafts, long forgotten and not well documented, existed near two schools, a house, and a commercial area.

OSMRE's Federal Reclamation Program Division staff researched the area using mine maps, previous site studies, aerial photographs, and interviews with local people, which indicated that two abandoned mine shafts dating back to 1935 were located near Saginaw's Jerome Elementary School. Both the air shaft and main shaft, built by the Chappel-Fordney mining company, were vertical, single-compartment, timbered structures that accessed a single coal seam. A visit to the site revealed that:

- There were no surface features to indicate the presence of the shafts
- School administrators were unaware the shafts existed
- The shafts were located within a few feet of the school playground

After securing rights-of-entry from the local city council, OSMRE carried out explorations to verify the existence of old mine shafts as deep as 200 feet below the surface, and as close as 50 feet from the school. In December 2011, when classes were not in session because of the holidays, contractors drilled exploratory cores to confirm the location and condition of the shafts. Exploratory drilling was completed in December 2011.

In June 2012, after school had let out for the summer, contractors working for OSMRE began repair activities, using several drill angles to determine where voids might exist in the old mine shaft. After determining the proper location for grouting the site with concrete, the contractor began injecting the grout into shaft areas as deep as 135 feet below ground.

After a second phase of grouting and stabilization in July, a post-project review of the drilling and grouting results indicated that the maximum stabilization of the two shafts had been achieved.

# OSMRE'S REGULATORY PROGRAM

One of the purposes of SMCRA is to balance the Nation's need to protect the environment from the adverse effects of coal mining with the Nation's need for coal as an essential energy source. The law directs the bureau to establish, maintain, and update Federal standards that a state or tribe must meet in order to administer its own coal mining regulatory program. The bureau also provides states and tribes with the advice and consultation needed to assume primary responsibility — or “primacy” — for regulatory activities under SMCRA. When states assume primacy, OSMRE transitions to an oversight role, ensuring that state agencies properly implement their regulatory programs. The bureau retains the ability to take direct enforcement action where states do not implement their programs appropriately. OSMRE is the regulatory authority for Federal Program States (Tennessee and Washington) as well as on Indian lands. To date, no Indian tribes have assumed primacy, but the three coal-producing Indian tribes (Crow Tribe, Hopi Tribe, and the Navajo Nation) are actively pursuing primacy. For more information on the array of programs, initiatives, projects, and more under OSMRE's Regulatory Program, please visit [www.osmre.gov/programs/rcm.shtm](http://www.osmre.gov/programs/rcm.shtm).

## Tennessee Lands Unsuitable for Mining Petition

OSMRE continued work in 2012 on a Lands Unsuitable for Mining (LUM) petition filed by the State of Tennessee in 2010. The petition seeks to prevent surface coal mining operations within 600 feet on either side of ridgelines encompassing more than 67,000 acres in two tracts of state-managed land on the Northern Cumberland Plateau. The petition asserts that coal mining in the North Cumberland Wildlife Management Area and Emory River Tracts Conservation Easement is incompatible with the state's conservation plan and would adversely affect fragile or historic lands, resulting in significant damage to important historic, cultural, scientific, and aesthetic values and natural systems within the 269-square-mile area.

Under Section 522(c) of SMCRA, any qualifying person has the right to petition OSMRE or the relevant regulatory authority to have an area designated as unsuitable for surface coal mining operations, and OSMRE or the relevant regulatory authority has the authority to place certain lands off limits to coal mining. Because OSMRE is the regulatory authority in Tennessee, it is processing this petition.

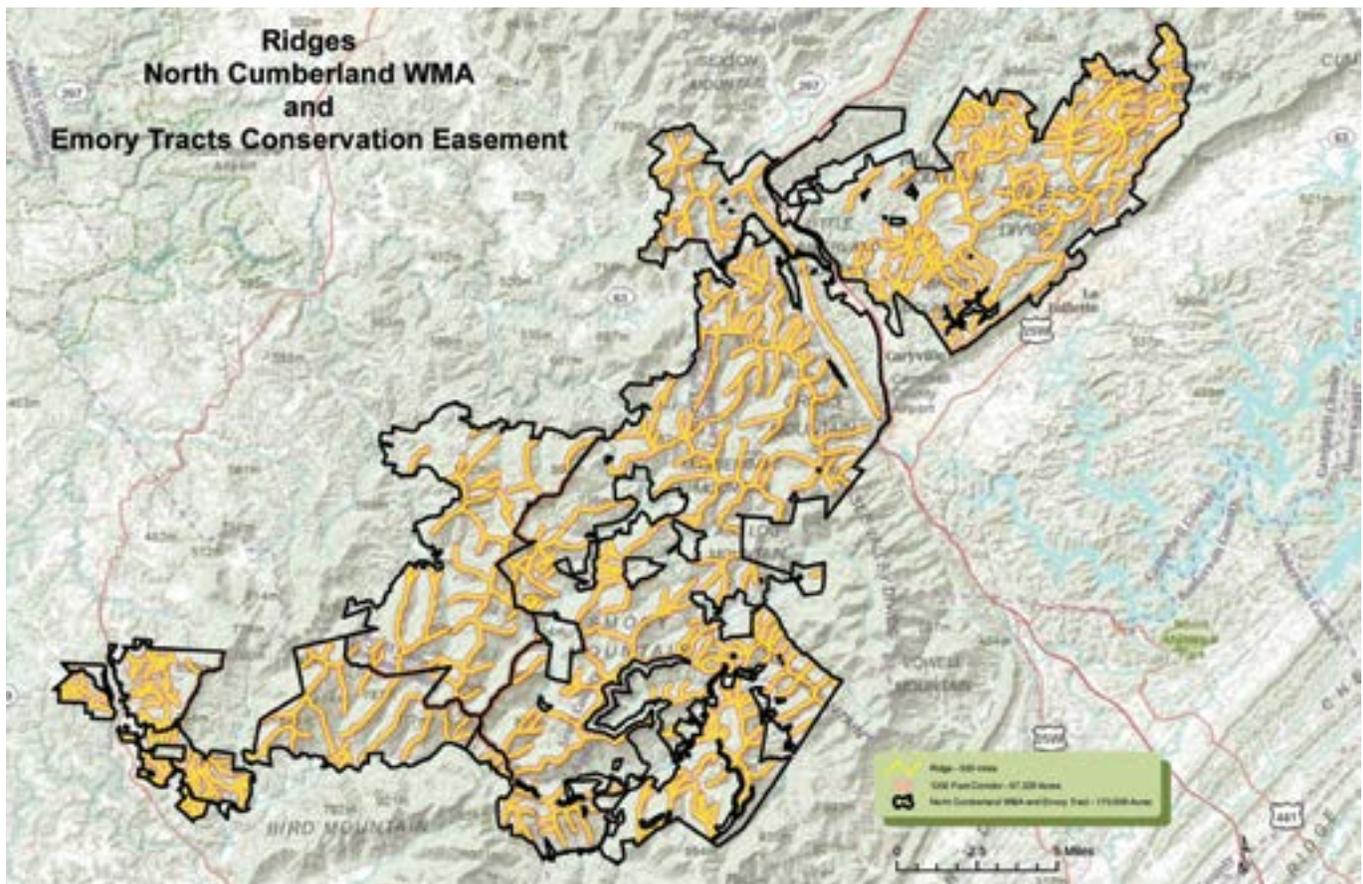
There are many competing land uses within the North Cumberland Wildlife Management Area. Recreational activities include hiking, camping, hunting, off-road vehicle use, mountain biking, rock climbing, and fishing. The land has also been used for natural resource extraction, including surface and underground coal mining, oil and gas development, and timber removal.

In connection with the petition, OSMRE has been preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act of 1970 (NEPA). This document will also contain the bureau's evaluation of the petition. The combined Petition Evaluation Document (PED)/EIS will evaluate the environmental impacts of the proposed action and a range of alternatives on the existing environment for the areas identified in the petition. Throughout FY 2012, OSMRE continued to evaluate the large, complex petition in accordance with established procedures to determine whether or not to make the designation.

Three Federal agencies — the NPS, the U.S. Fish and Wildlife Service (FWS), and the EPA — accepted OSMRE’s invitation to participate as cooperating agencies in the development of the LUM PED/EIS and have been participating fully in the document’s development. OSMRE has finalized alternatives to be evaluated in the PED/EIS and is in the process of characterizing the existing environmental conditions and uses within the areas covered by the petition. Among other things, OSMRE collected field data, prepared coal reserve estimates, and secured studies to evaluate socioeconomics, recreation, aquatic resources, watershed modeling, and soundscape affected by the petition.

The petition continues to attract the interest of a number of parties. Several environmental groups have intervened in support of OSMRE granting the designation, while mining companies, associations, and a local municipality have opposed it.

In accordance with NEPA, OSMRE and the cooperating agencies will issue the Draft PED/EIS with characterizations of the petition area’s resources, a review of the impact on coal supply and demand, an analysis of allegations, and an analysis of alternatives for public review and comment. OSMRE anticipates issuing the Draft PED/EIS by 2015.



*The State of Tennessee has asked OSMRE to declare about 67,000 acres of land in the state unsuitable for surface coal mining [Credit: State of Tennessee].*

## OSMRE Takes Action to Correct Reclamation Bond Deficiencies in Kentucky

One of SMCRA's requirements is that coal mine operators reclaim a site once mining has been completed. To ensure that this occurs, the law requires coal mine operators to establish a monetary bond. If a mine operator ceases operations or goes bankrupt, the bond ensures that money will be available to carry out reclamation.

In 2011, OSMRE determined that Kentucky's coal mining regulatory program was not requiring adequate bonds to be posted to ensure complete reclamation of mine sites. An OSMRE review had determined that 80 percent of forfeited permits in the state did not have adequate reclamation bonds when a mine operator defaulted.

A subsequent joint OSMRE and Kentucky Department of Natural Resources (KYDNR) team developed new bonding protocols. While the team's recommended changes would result in some improvements, OSMRE ultimately deemed that those modifications would be insufficient to correct the problem, and would not require the operators to post sufficient bond amounts to ensure adequate reclamation in the event of an operator's forfeiture.

On May 1, 2012, OSMRE initiated a process requiring Kentucky to correct its bonding deficiencies or face a Federal takeover of part or all of the state's coal mining program, including AML funding. As set out in 30 CFR Part 733 of OSMRE's regulations, the bureau followed a series of prescribed steps. The KYDNR responded with a plan to address the deficiencies identified by OSMRE.

Kentucky proposed three steps:

- 1] Immediately increase the base bonding amounts for mining activities
- 2] Immediately implement the higher bonding rates during the mid-term review and the renewal process and conduct future assessments to ensure bond amounts will be adequate to ensure proper reclamation in the future
- 3] Develop a new bond pool (named the "Guaranteed Reclamation Fund") to include all operators to ensure that sufficient funds will be available to adequately reclaim any forfeitures

On May 7, 2012, Kentucky implemented emergency regulations increasing bond rates as part of KYDNR's corrective plan. Signed by Kentucky Governor Steve Beshear, the emergency regulations were "effective immediately in order to take a proactive step to avoid possible loss of part of the Kentucky Program and loss of funding for the Abandoned Mine Lands program." The emergency regulations became permanent regulations in September 2012.

Once the emergency regulations became effective, KYDNR began reviewing and revising bond amounts when renewing SMCRA permits or reviewing permits at their mid-term. The KYDNR also contracted for an actuarial study to design and determine the best approach for Kentucky to develop a solvent bond pool to address future reclamation liabilities for bond forfeitures.

Throughout the summer and fall of 2012, Kentucky continued to work with OSMRE on developing and taking corrective actions as well as establishing a timetable for implementation of the new regulations.

## OSMRE and Kentucky Sign Interagency Agreement to Improve Coordination During Coal Mine Permitting Process

The process of obtaining a SMCRA permit to begin operations is complex, and it can be a source of frustration for prospective coal mine operators. In Kentucky, for example, four Federal Agencies and two State Agencies have jurisdiction over various aspects of the permitting process: the EPA, the OSMRE, the FWS, the KYDNR, the U.S. Army Corps of Engineers (USACE), and the Kentucky Division of Water.

Occasionally, determinations or rulings from agencies may conflict, causing revisions during the permit application process that can lengthen the time it takes for an operator to receive a permit. For that reason, OSMRE joined with the EPA and the USACE to find a way to streamline the permitting process, collaborating with Kentucky permitting local agencies as participants in a pilot project.

The result would be an interagency agreement designed to improve agency communications and coordination associated with all aspects of the permitting processes and compliance and enforcement associated with coal mining activities in Kentucky under the reviews required by the Clean Water Act and SMCRA.

In January 2010, an interagency permitting workgroup was tasked with improving coordination for all coal mine permits in Kentucky. Goals for the coordination group included:

- Reduce the cumulative time required for review of permit applications for SMCRA, permits under Clean Water Act Section 402 and Section 404, and Water Quality Certification under Section 401 of the Clean Water Act;
- Eliminate unnecessary re-design and re-review of mine plans by identifying constraints up front;
- Consolidate pre-permitting sampling and analysis efforts to improve sample quality and consistency while reducing time and expense to the applicant;
- Identify critical resources or other features that will further characterization (survey, documentation) or special consideration in the mine plan;
- Obtain Corps verification of the applicant's proposed jurisdictional determination prior to submittal of the SMCRA comprehensive application for Fill Placement Optimization Process fill design; and
- Ensure consistency of information provided to all agencies to avoid approval of conflicting plans.

After developing an interagency workflow document in March 2012, the workgroup completed a Local Interagency Coordinating Agreement titled, "Kentucky Pre-Application Coordination Process for Coal Facilities."

The six participating Agencies signed the agreement on June 20, 2012, marking a major milestone for interagency coordination between State and Federal partners.

## Litigation Regarding Approximate Original Contour in Oklahoma

During 2012, a mining company and the State of Oklahoma's coal mining regulatory agency challenged in court OSMRE's oversight authority in primacy states, questioning OSMRE's ability to initiate enforcement actions when a state Regulatory Authority disagrees with the interpretation of a regulation.

The Farrell-Cooper Mining Company (FCMC) filed two lawsuits after OSMRE took a series of enforcement actions in its oversight role for identified violations of SMCRA. The specific issues in the litigation include OSMRE's authority to issue Ten Day Notices (TDNs) and Federal Notices of Violation (NOVs); its ability to review state permitting decisions resulting in on-the-ground violations of SMCRA; and its ability to make determinations of Approximate Original Contour (AOC) in a primacy state. The AOC refers to SMCRA's requirement that, when mining is completed, an operator must return the land to its approximate contour present prior to mining.

In this instance, OSMRE and the Oklahoma Department of Mines (ODM) have different interpretations about what constitutes AOC. OSMRE evaluates changes to the pre-mine topographic features, pre- and post-mine slopes, and how such changes will affect post-mining land uses to determine if a mine site has achieved AOC. The photographs below — taken at one of the mine sites where OSMRE issued a NOV — show how surface coal mining can change an area's topography.

After OSMRE conducted inspections and identified AOC deficiencies at two FCMC mines, OSMRE issued two TDNs to the ODM. As the name implies, under a TDN, a state has 10 days to cause the violation to be corrected, or explain why it does not believe the violation exists. In this case, Oklahoma claimed OSMRE did not have the authority to issue such notices.

After determining the state's response to be arbitrary, OSMRE eventually issued two NOVs to FCMC, in December 2011 and May 2012.

In November 2011 and January 2012, FCMC filed complaints in the U.S. District Court, Eastern District of Oklahoma, against the Secretary and OSMRE's Director. The FCMC contends OSMRE's application of SMCRA and its implementing regulations is illegal and unconstitutional, and sought an injunction to prevent OSMRE from inspecting its mine sites and issuing Federal citations for environmental violations. The company asked the court for a declaratory judgment stating that ODM is the sole SMCRA permitting authority in Oklahoma.

In January 2012, Oklahoma filed a cross-complaint for declaratory judgment against OSMRE for using a directive reinstated in 2011 that the state alleges improperly compels ODM and FCMC to correct a "permit defect," and complaining of OSMRE's interference with the state's primacy rights and its role as the sole issuer of SMCRA permits in Oklahoma. In May 2012, the District Court dismissed FCMC's claims and ODM's cross-claim. The FCMC and ODM subsequently appealed the dismissal to the 10th Circuit Court of Appeals.

The FCMC also filed administrative appeals of the two NOVs to the Department's Office of Hearings and Appeals. Those appeals are ongoing.

*The view looking south toward Sugarloaf Mountain, before Farrell-Cooper Mining Company began operations at its Rock Island Mine in Leflore County, Oklahoma.*



*The same view, after the operator had concluded mining and reclamation operations.*





*In 2011, OSMRE staff worked with the USGS to monitor the first flight of the Raven drone, in West Virginia. The small aircraft can send back high quality photos and video.*

## OSMRE Explores Using Unmanned Aerial Vehicles in Regulatory and Reclamation Applications

Starting in FY 2012, OSMRE began investigating the potential use of Small Unmanned Aerial Vehicles, commonly known as drones, to increase the effectiveness and efficiency of examining abandoned mine lands and inspecting active mining sites from above.

In November 2011, OSMRE staff began working with the USGS to test an RQ-11 Raven drone aircraft in the field. The OSMRE's Technical Innovation and Professional Services led the development of this pilot project to fly the drones and provided the necessary funding for the aircraft to take flight.

The Raven is small and light. It has a wingspan of 55 inches and is 3 feet long, but weighs just 4 pounds and is launched by hand. Powered by a single electric motor, it can fly for more than an hour at speeds up to 54 mph. Owned by the Department and operated by USGS pilots, the aircraft can take digital still photos and video in true color as well as by using the infrared spectrum.

"We made our first test flight in Fall 2011," said OSMRE Reclamation Specialist Natalie Carter, "and we achieved some very positive results."

During the test, the Raven's true-color cameras were able to accurately take images of landslides in surrounding terrain, and its infrared camera documented an underground mine fire. Subsequent test flights will capture higher-quality images for use in determining the actual size of structures such as ponds, spillways, and sediment ditches.

One part of the drone team's cost-benefit analysis involves how quickly and easily the Raven can do things that humans on the ground cannot. "The idea of using the Raven to visit remote sites is appealing," Carter said, "because West Virginia has more than 2,000 inspectable units, many of which are away from easy road access."

The challenge in achieving cost efficiency — at least with the Raven — lies in how quickly the team can set up and move the drone's control station, where observers must keep the vehicle in sight with binoculars.

"We know that drones cannot replace on-the-ground inspections, but we are hopeful they can improve our overall effectiveness and efficiency," said Carter.

## 2012 Active Mine Reclamation Award Winners

The winners of the *2012 Excellence in Surface Coal Mining Awards* demonstrated a wide range of technical innovation, addressing agricultural productivity, protection of birds of prey, providing water for wildlife in semiarid regions, and working effectively with people in coal producing communities.

OSMRE honored five coal companies for completing reclamation of coal mine sites in an exemplary manner. The award winning projects are located in Illinois, Texas, and Wyoming.

Two mining companies are the winners of the **GOOD NEIGHBOR AWARDS**, given to operators that work closely with communities while executing reclamation plans.

*The Alcoa Incorporated's Sandow Mine in Sandow, Texas* won for integrating several nonprofit groups into its long running and extensive reclamation plans. Alcoa encouraged community participation in its tree planting and water resource development plans, formed a Community Advisory Panel to engage local citizens, introduced sustainability and redevelopment plans, and worked closely with state biologists to help manage wildlife at the 17,000-acre mine site.

*Cloud Peak Energy's Antelope, Cordero Rojo, and Spring Creek Mines* won for its contributions to three different communities near its mines in Montana and Wyoming. The three mine sites, which employ about 1,500 people, developed reclamation plans to build new shrub habitat in semi-arid climates. At the same time, the company sponsored local science fairs, provided displays at state fairs, and sponsored both non-profit service and educational support organizations.



*ABOVE: ALCOA's Sandow reclamation project included providing young Scouts with the experience of catching fish for restocking into a rehabilitated lake, planting trees, and managing beehives.*

*BELOW: Cloud Peak's Antelope, Cordero Rojo and Spring Creek mines helped build new shrub habitat in semi-arid climates, while also participating in a number of science and educational-related events.*



## 2012 Active Mine Reclamation Award Winners

### CONTINUED

Three coal mine companies won **NATIONAL AWARDS**, which go to recipients exhibiting the best reclamation practices in the United States.

*Peabody Energy's Cottage Grove Mine of Equality, Illinois* won for its innovative practice in returning a 3,500-acre mine site to highly productive farmland. In particular, the company segregated and sequestered 11 feet of rich topsoil across the site while it carried out surface mining, used GPS technology to re-spread the topsoil, used different seed selections, and prepared new seed beds to enrich and maintain the growing medium for use in agriculture. Today, the same fields are producing above-average corn yields compared to others in the county.

*The Glenrock Coal Company's Dave Johnston Mine in Glenrock, Wyoming* won for its long-term commitment to reclamation, which began in 1965 and concluded in 2010. The company also developed an innovative way to collect ephemeral water seeping from reclaimed highwalls, and use the water to provide continued support for wildlife. The mine site is now home to an electricity-generating wind farm.

*Peabody Energy's North Antelope Rochelle Mine in Wright, Wyoming* won for its commitment to protect raptor species on its 46,000-acre mine site. The company surveyed raptor populations, identified potential disturbances for nesting raptors, and developed multiple plans to mitigate those impacts. The company moved several nesting locations, built special nesting towers for raptors, and successfully maintained viable eagle, hawk, owl and kestrel populations. The mitigation technique is easily transferred to different types of mine sites.



*National Award winner Peabody Energy used innovative practices to return farmland to production near its Cottage Grove mine.*



*National Award winner Glenrock Coal won the prestigious award for its ongoing commitment to reclamation at the Dave Johnston Mine, shown here in 1958 and again in 2009. The round insert photo shows the reclamation after mining.*



*National Award winner Peabody Energy won its National Award for protecting raptor species at its North Antelope Rochelle mine. Part of the work included building new nests for raptor families, such as this nest for golden eagles.*

# TECHNOLOGY DEVELOPMENT and TRANSFER PROGRAM

As part of OSMRE's mandate under SMCRA, the bureau provides technical support, assistance, and training to state and tribal coal mining programs. The Technology Development and Transfer Program covers a range of activities that promote and popularize technological innovations that better protect the environment during mining and in reclaiming active and abandoned mines. OSMRE also provides training that ensures that states and tribes continue to administer their mining programs efficiently and effectively. In FY 2012, the Technology Development and Transfer Program received \$17.9 million in funding.

For more information on the Technology Development and Transfer Program, please visit [www.osmre.gov/programs/tdt.shtm](http://www.osmre.gov/programs/tdt.shtm).

## National Technical Training Program

One of the ways that OSMRE balances coal production with environmental protection is by providing resources for technical assistance, and training through the *National Technical Training Program (NTTP)*.

The NTTP provides training related to permit approval, bond release, reclamation, and enforcement within the technical disciplines of engineering, hydrology, blasting, agronomy, and botany, and may advance technical solutions developed during benchmarking workshops.



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## Technical Innovation and Professional Services

The *Technical Innovation and Professional Services (TIPS)* is a national service provided by OSMRE that provides off-the-shelf scientific and engineering modeling software to the state, tribal, and Federal offices that administer SMCRA.

The TIPS also delivers comprehensive instructor-led and online training courses in the use of those tools. The training is developed in-house by state, tribal, and OSMRE experts and customized to mining and reclamation applications.

The goal of TIPS is to provide state, tribal, and OSMRE personnel with a comprehensive set of analytical tools to aid in technical decision-making related to regulatory and reclamation processes. The services provided are centered around off-the-shelf scientific and engineering computer hardware and software supported by OSMRE in partnership with the states and tribes. This technical assistance has grown from a few applications available on a single specially designed shared workstation, to a suite of software on each user's desktop computer. The TIPS also provides commercial software applications to state, tribal, and OSMRE offices at considerable cost savings by sharing the commercial licenses for the software via the Internet and OSMRE Wide Area Network.

Thirty commercially available software applications cover a wide range of regulatory and AML subjects. The customer base covers over 100 state, tribal and OSMRE office locations throughout the United States — nearly 2,000 users.

The TIPS suite of engineering, scientific, database, and mapping core software aids the technical decision making associated with: (1) conducting reviews of permits, (2) performing cumulative hydrologic impact assessments, (3) quantifying potential effects of coal mining, (4) preventing acid mine drainage, (5) quantifying subsidence impacts, (6) measuring revegetation success, (7) assisting in the design of abandoned mine lands projects, and (8) providing the scientific basis for environmental assessments and environmental impact statements.

Demand for TIPS tools and support continues to increase, especially in the demand for geospatial data and mobile computing tools for field use. The TIPS also offers more training to accommodate the use of mobile computing devices by inspectors. Mobile computing allows inspectors to be more efficient, which, in turn, raises the quality and quantity of inspections. TIPS has also begun an effort to make satellite and aerial imagery available to SMCRA offices nationwide through a centralized server accessible from any state, tribal, or OSMRE office.

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*LEFT: Surface and Groundwater Hydrology, a course offered by OSMRE's National Technical Training Program, provides participants with information on the basic effects of surface coal mine operations on surface and groundwater hydrology. This course uses a combination of classroom instruction with a field exercise to enhance the learning experience.*

Some TIPS-related activities in FY 2012 include:

### **Interagency Appalachian Coal Mining Geographic Information System (GeoMine) Pilot Project**

OSMRE is partnering with SMCRA regulatory programs in Kentucky, Tennessee, Virginia, and West Virginia as well as Federal agencies involved in SMCRA, Clean Water Act, and Endangered Species Act regulation and consultation (i.e., the EPA, the FWS, and the USACE) to develop the GeoMine interactive digital map of coal mining and reclamation activities. The 2-year GeoMine Pilot Project has demonstrated the feasibility and value of sharing this mapping data between the partner agencies through the Internet. The interagency team will present its final report of the Pilot Project findings and recommendations in 2013. The team is also testing a Federal data-only Internet site for agency use.



*TIPS provides hands-on classroom training for multiple software packages that allow regulatory authorities to perform their duties more effectively.*

### **Feature Identification through Remote Sensing**

The TIPS specialists using off-the-shelf feature extraction software are enhancing the ability of SMCRA specialists to identify previously unknown abandoned mines in southwestern Virginia and to map vegetation cover on a bond forfeiture site in the mountains of Colorado. Feature extraction software allows SMCRA specialists to identify objects of interest in high-resolution satellite data and then train the software to automatically find similar features that may be hidden elsewhere in the imagery. Once potential problem areas are identified, a field specialist can efficiently investigate those areas and effectively direct mitigation measures. This method increases field inspection efficiency and cost effectiveness for SMCRA programs.

### **Satellite Imagery Database**

The TIPS remote sensing specialists are working with software developers to make satellite and aerial imagery obtained by OSMRE available to all state, tribal, and Federal offices nationwide that administer SMCRA. In 2014, TIPS staff expect to install a server and high-capacity disk storage to SMCRA desktops nationwide. TIPS is also developing specialized training classes in the use of this new imagery delivery system.

### **TIPS SOFTWARE APPLICATION TRAINING**

TIPS offers more than just software and hardware; the program also provides specialized training to use these tools in mining and reclamation. The TIPS Training Program is a collaborative effort among OSMRE, states, and tribes. Course developers and instructors are reclamation experts who use TIPS software to solve a wide range of complex permitting, enforcement and abandoned mine land problems.



*TIPS training provides users with specialized instruction that enables them to carry out their SMCRA responsibilities more effectively and efficiently in the field.*

Although most TIPS tools are off-the-shelf applications, TIPS training is unique and tailored exclusively to mining and reclamation uses.

The TIPS courses are delivered onsite at local SMCRA office locations, and in specialized training centers in OSMRE's regional offices: Pittsburgh, Pennsylvania; Alton, Illinois; and Denver, Colorado. In FY 2012, the TIPS training program received a customer satisfaction rating of 96 percent, exceeding by 3 percent OSMRE's annual goal established under the Government Performance and Results Act.

In addition to traditional training within the SMCRA community, the TIPS program enjoys a collaborative partnership with ASU, a Hispanic-serving institution and OSMRE's Minority Higher Education Program (MHEP) partner. In 2012, OSMRE signed a Memorandum of Understanding with ASU, formalizing the relationship between the two organizations (see story on page 11). The TIPS staff and ASU share their expertise in managing educational programs. Together they have identified several future ventures of interest to both parties including expanding distance learning opportunities for TIPS and ASU customers. This partnership has resulted in college accreditation for several TIPS courses, technical assistance to TIPS staff in creating distance learning courses, and delivery of TIPS courses on ASU's campus.

In FY 2012, TIPS instructors participated in one distance learning course offered through ASU on how to develop distance learning courses.

The TIPS instructors also delivered a course, "Introduction to GPS with Garmin eTrex," onsite at the ASU campus in Alamosa. In addition, the TIPS Training Program continued its collaborative efforts with the Southwestern Indian Polytechnic Institute (SIPI) in Albuquerque, New Mexico. The SIPI is a designated MHEP tribal college or university. The SIPI provides TIPS a training facility and offers students seats in a course in exchange for TIPS providing instructors and course materials. One course, "Trimble, Terrasync, & PF Office: Mobile Computing for Reclamation," took place at SIPI during FY 2012.

The TIPS offers more than 100 online courses through the TIPS Virtual Campus and ESRI, an international supplier of GIS modeling and mapping applications. The TIPS uses its *Virtual Campus*, created in 2010, and continues to educate instructors on techniques to teach in a virtual environment. During FY 2012, TIPS completed development of two distance learning courses, "ArcGIS for Permitting and Reclamation," and "Galena Slope Stability Analysis."

## Technical Assistance for Investigation and Remediation of Acid Mine Drainage

Among other aspects of its Technology Development and Transfer Program, OSMRE provides technical assistance to its state and tribal partners to enhance their ability to maintain effective SMCRA programs.

In OSMRE's Mid-Continent Region, for example, the bureau helps state and tribal AML programs investigate occurrences of coal mine-related acid mine drainage, and, when requested, provides additional activities to design systems to remediate AMD.

Certain AMD remediation projects have applied natural biologic processes in innovative, wetland-based passive treatment systems. In the case of the Enos AML Project, OSMRE has provided ongoing assistance to the Indiana Department of Natural Resources, Division of Reclamation (IDOR), which has been treating AMD discharging from a 250-acre coal refuse disposal area that predates the passage of SMCRA.

Following a 2-year hydrologic study, an IDOR/OSMRE team designed and constructed a 64-acre passive treatment system in 2005 at the site that includes:

- 1] addition of alkaline water from adjacent pre-SMCRA mine impoundments,
- 2] construction of two vertical flow ponds (VFP) for additional alkalinity enhancement, and
- 3] excavation of a series of oxidation ponds and aerobic wetlands for metal precipitation.

*An OSMRE employee investigates acid mine drainage discharging from the Enos gob pile.*



*Acid mine drainage at the Enos site prior to treatment.*

Following the winter of 2011, biological activity at one of the two VFP cells failed to respond to warmer temperatures, resulting in a lowering of the system's overall efficiency and endangering the health of the receiving stream, the South Fork of the Patoka River.

In 2012, OSMRE in concert with the Indiana Geological Survey, provided assistance to investigate operational problems at the Enos AML Project. Following a detailed hydrologic investigation, the team recommended bypassing the problem VFP and shunting the AMD directly to a large anaerobic wetland that was intended to treat storm water overflow.

This simple operational change allowed Indiana to maintain discharge-water quality without an expensive reconstruction effort. The Enos AML Project is again successfully treating a high-volume discharge (490 gallons per minute) to produce a pH of 7.5 and net alkaline water with a low dissolved iron content.

The treatment of AMD at the Enos AML Project is detailed in "Effects of abandoned mine land reclamation on ground and surface water quality: Research and case histories from Indiana (2012)" by the Indiana Geological Survey (Comer, 2012). Through this publication, OSMRE was able to transfer the techniques and technologies used at several sites in the Illinois Basin to other state and tribal AML programs, further enhancing the reclamation skills of staff working in those programs.

## Technical Studies Program

OSMRE is committed to the use of sound science in both its AML and regulatory programs. In order to implement this commitment, OSMRE funds a variety of technical studies each year that address priorities within these programs. These studies generally fit into two categories: Applied Science projects and Underground Mine Map projects.

The goal of Applied Science projects is to develop and demonstrate improved technologies to address public safety and environmental issues related to the mining of coal and reclamation of the lands affected by mining. The goal of Underground Mine Map projects is to encourage efforts to collect, preserve, and convert into digital format maps of underground mines and other relevant geologic, hydrologic and biologic data that provide valuable information regarding: miner safety, mine pool evaluation, mine subsidence investigation, and protection of the public and the environment from the adverse effects of underground coal mining.

Accomplishments in FY 2012 Applied Science and Underground Mine Map projects are described on the next page.

## APPLIED SCIENCE

Applied Science projects support studies by universities and other research institutions in the areas of coal mine reclamation, geomorphic reclamation practices, stream protection, acid mine drainage, and other topics relevant to environmentally responsible mining and reclamation. The projects are conducted as cooperative agreements between researchers and OSMRE to maintain a strong connection between sound science and the practical applications needed to carry out SMCRA on the ground.

Since the program was initiated in 2005, OSMRE has awarded over \$8.13 million to support 69 Applied Science projects. At the end of FY 2012, 48 of these projects were complete, with eight having been completed during 2012 (*completed final reports of Applied Science projects* appear on OSMRE's website). In FY 2012, OSMRE provided funding to six new projects totaling \$1,147,939, while the researchers provided \$768,383 (a 40 percent cost share) in matching funds.

### Applied Science Project Funding for FY 2012

Issue	Title	Institution	OSMRE Funding
<i>Ground Water Quality &amp; Restoration</i>	<i>Underground Coal Gasification: Water-Quality Hazards and Risk Mitigation Strategies</i>	<i>Lawrence Livermore National Laboratory</i>	<b>\$200,000</b>
<i>Acid Mine Drainage Mitigation</i>	<i>Low Cost, Green Technology to Improve Water Quality in Mining-Impacted Ecosystems</i>	<i>Southern Illinois University</i>	<b>\$199,946</b>
<i>Public Safety/Coal Refuse</i>	<i>Blasting Effects on Coal Refuse Impoundment Structures</i>	<i>University of Kentucky</i>	<b>\$200,000</b>
<i>Public Safety/Coal Refuse</i>	<i>Geotechnical Properties and Flow Behavior of Coal Refuse under Static and Impact Loading</i>	<i>Case Western Reserve University</i>	<b>\$199,460</b>
<i>Geomorphic Reclamation</i>	<i>Assessing Geomorphic Reclamation in Valley Fill Design for West Virginia</i>	<i>West Virginia University</i>	<b>\$148,858</b>
<i>Geomorphic Reclamation</i>	<i>Evaluation of Geomorphic Reclamation Performance and Models in the Southwestern United States</i>	<i>University of New Mexico</i>	<b>\$199,675</b>

## Examples of Applied Science projects completed in FY 2012

### Reforestation of Steep Reclaimed Slopes in Appalachia: Forest Establishment and Function

On the steep slopes of Appalachia, herbaceous ground covers are seeded during reclamation of coal mines, but these can hinder establishment of planted tree seedlings. This project identified two tree-compatible ground cover species and documented the effect of ground covers on soil moisture and on tree seedling establishment. The results will help reclamation experts select appropriate ground covers for sites where forestry is the post-reclamation goal.

### Hardwood Reforestation on Post-Mined Land Under Varying Soil Replacement Strategies in the Eastern Interior Region

Short-term effects (i.e., 2 years) of two soil replacement strategies were shown to influence seedling survival and growth. At the end of the second growing season, seedling survival was significantly higher in the loosely dumped soil replacement treatment (53 percent) compared to the standard grading treatment (42 percent). Overall, the loosely dumped soil replacement treatment was a favorable alternative for reforestation in comparison to the standard grading treatment. The conventional standard grading treatment, on the other hand, presented a number of negative factors including soil compaction, limited water availability, and lower total porosity.

## UNDERGROUND MINE MAP

The *Underground Mine Mapping Initiative* seeks to enhance the capabilities of the states, tribes, and OSMRE to make underground coal mine maps available to the Nation. The initiative supports the identification, acquisition, preservation, scanning, and digital rendering of historic mine maps. It also supports developing standard practices and, where necessary, acquiring hardware, software, and personnel resources needed to properly archive mine maps. When maps are scanned and catalogued by each state, copies are sent to OSMRE's *National Mine Map Repository (NMMR)* in Pittsburgh, Pennsylvania. OSMRE archives maps and reciprocally provides copies to the states for their collections. In this fashion, the NMMR provides map information from a central



location to homeowners and other interested parties, and serves as a backup location for the states to ensure long term protection of these valuable historic records.

Since the program began, OSMRE has funded 70 projects for a total expenditure of more than \$2.1 million. In 2012, OSMRE did not distribute a solicitation for Underground Mine Mapping projects due to budget constraints. During 2011, OSMRE funded 21 underground mine map projects submitted by 15 different state entities. The work associated with these projects took place during 2012. Five of these projects will result in the state entities completing all remaining digital underground mine mapping efforts and serving this information to the general public via the Internet.

# FISCAL YEAR 2012 TABLES

## Table Highlights

The AML Program has reclaimed almost 326,445 acres of hazardous high-priority (Priority 1 and 2) coal-related problems.

Safety and environmental hazards have been eliminated on 402,360 acres, including all three coal priority categories and non-coal problems in 32 states and on the lands of four tribes, plus the Council of Energy Resource Tribes, a non-profit corporation.

Since 1977, OSMRE has provided \$5.85 billion in grants to its partners in 25 states and three Indian tribes to clean up dangerous abandoned mine sites.

OSMRE has provided \$1.62 billion in grants to the states and tribes to assist in funding the regulation of active coal mines.

Since implementation of the Watershed Cooperative Agreements Program in FY 1999, OSMRE has awarded 253 cooperative agreements and amendments to existing cooperative agreements totaling \$21.3 million.



## 2012 OSMRE FAST FACTS

**1,935** OSMRE mine inspection visits.

**\$258.42 million** in AML fees collected on coal produced in FY 2011.

**4,926** state and tribal notices of violations.

**87%** active coal mining sites free of offsite impacts.

**\$253.99 million** contributed to miners' health benefits fund.

**44,985** acres released from Phase III Performance Bonds.

**28,432 (FULL)** and **48,953 (PARTIAL)** state and tribal mine inspections.

**17,821** Federal, private, and tribal land and surface water acres reclaimed or m-igated.

**973** students trained in NTTTP courses.

**474** students trained in TIPS courses.

**227** watershed interns taking part in OSMRE/VISTA Program.

**16** watershed cooperative agreements funded.

## OSMRE/DOI Strategic Plan Measures

Fiscal Year 2012		
Measure	Target	Results
Mission Area 1: Provide Natural and Cultural Resource Protection and Experiences		
Number of Federal, private and tribal land and surface water acres reclaimed or mitigated from the effects of natural resource degradation from past mining. (Calculated equivalent acres)	11,000	17,821 <sup>1</sup>
Mission Area 2: Sustainably Manage Energy, Water, and Natural Resources		
Percent of active coal mining sites that are free of off-site impacts	88%	87.3% <sup>2</sup>
Percent of mined acreage reclaimed	75%	75.1% <sup>3</sup>
OSMRE's Contribution to DOI's Overall Objective on Safety, Security, and Preparedness		
Level of Emergency Preparedness (I-READ Index)	89%	91.7% <sup>4</sup>

**<sup>1</sup> Number of Federal, private and tribal land and surface water acres reclaimed or mitigated from the effects of natural resource degradation from past mining. (Calculated equivalent acres)**

Information calculated from projects reported with completion dates of 10/1/11-9/30/12 and entered in the Abandoned Mine Land Inventory System (AMLIS). States and Tribes select sites from those contained in AMLIS. Sites identified as a Priority 1 or 2 (High Priority) are those hazardous to the public and/or environment.

Target Exceeded: For 2012, the Abandoned Mine Land Inventory System reported 17,821 acres reclaimed for Priority 1, 2 and associated 3 projects. This is 62% above the target of 11,000. Although the number of completed AML projects was nearly unchanged from 2011, the incidence of mitigated impacts from polluted water rose sharply in the Appalachian Region from 53 to 114 occurrences per completed project, yielding a total of 12,503 mitigated GPRA acres from polluted waters. The majority of projects (80%) are restoration of polluted residential/recreational water, dangerous highwalls, impoundments, spoil areas, and other water problems. The remaining 20% are a mixture of P1 and P2 problems.

Steps to Improve: Continue to monitor completed problem areas in the inventory.

**<sup>2</sup> Percent of active coal mining sites that are free of off-site impacts**

The results represent the total number of inspectable units free of off-site impacts over the total number of inspectable units. The intent of this performance measure is to manage conventional energy development through successful implementation of the Surface Mining Control and Reclamation Act.

## OSMRE/DOI Strategic Plan Measures [continued]

**Target Not Met:** The 2012 actual of 87.3% indicates that 6,749 of the 7,731 sites were free of off-site impacts. This measure covers the mining activities with required inspections in 31 States and Tribes. Of States and Tribes, 21 met the national target of 88% in 2012 while 10 were below this target. OSMRE continues to be very active in working with States to reduce the number of off-site impacts, such as performing studies on blasting, improving the State's guidance and policies on blasting, increasing training to operators, making recommendations when events occur, and performing complete inspections after an off-site impact occurs to look for additional or potential problems.

**Steps to Improve:** The States and OSMRE did make progress in 2012 by increasing the number of sites free of off-site impacts from 86% in 2011 to 87.3% in 2012. We plan to continue to work with individual States to analyze the cause of each impact and reduce the number of off-site impacts.

### <sup>3</sup> Percent of mined acreage reclaimed

This performance measure reports an overall general assessment, i.e. evaluates on a national basis the ongoing process of land being returned to its intended use over time. The numerator is the cumulative sum of all acreage previously released that has been processed through Phases I, II, and III bond release. The denominator is the sum of all acreage that was previously released acreage and current bonded acres, as reported in accordance with Directive REG-8, Table 6, and which is considered a proxy for current mined acreage. State programs provide data on a July 1, 2011 – June 30, 2012 timeframe, to accommodate the accelerated publishing requirements. Federal data is on the Federal fiscal year.

**Target Met:** The actual of 75.1% [numerator 4,989,588 and denominator 6,603,770] means that nearly 25% of mined acres remain un-reclaimed.

**Review of Target:** After reviewing the data being collected for this measure, an adjusted acreage baseline was developed to capture all past released acres. A baseline target of 75% was calculated using the revised data and will be the goal for the future.

### <sup>4</sup> Level of Emergency Preparedness (I-READ Index)

**Target Exceeded:** This measure is a self assessment in which OSMRE evaluates its readiness on four major areas: Overall Emergency Management, Continuity of Operations, Training and Exercises, and Disaster Response. Each area is evaluated on a scale provided by DOI.

**Data Sources: Abandoned Mine Land Inventory System and Inspection and Enforcement Tracking System, and FY2012 Data Validation and Verification submissions.**

TABLE 1

AML Fee Collections and Distributions								
Abandoned Mine Land Funding for FY 2012 (Cash Basis) <sup>1</sup>								
State/Tribe	AML Collections <sup>2</sup>	State Share Distribution	Historic Coal Distribution	Minimum Program Distribution	Prior Balance Replacement Funds Distribution <sup>3</sup>	Certified In Lieu Distribution <sup>4</sup>	Total Mandatory Distribution <sup>5</sup>	Emergency Distribution <sup>5</sup>
Alabama	\$4,032,986	\$2,016,493	\$4,510,156	\$0	\$2,913,226	\$0	\$9,439,875	\$0
Alaska	\$715,837	\$357,919	\$48,667	\$2,270,178	\$323,236	\$0	\$3,000,000	\$0
Arkansas	\$14,547	\$7,274	\$374,981	\$2,608,470	\$9,275	\$0	\$3,000,000	\$0
Colorado	\$4,393,997	\$2,196,999	\$2,198,020	\$0	\$4,260,584	\$0	\$8,655,603	\$0
Illinois	\$5,789,491	\$2,894,746	\$16,708,531	\$0	\$4,476,798	\$0	\$24,080,075	\$0
Indiana	\$8,268,970	\$4,134,485	\$5,439,774	\$0	\$6,566,872	\$0	\$16,141,131	\$0
Iowa	\$0	\$0	\$1,320,678	\$1,675,520	\$3,802	\$0	\$3,000,000	\$50,000
Kansas	\$17,259	\$8,629	\$1,070,621	\$1,855,925	\$64,825	\$0	\$3,000,000	\$381,000
Kentucky	\$22,208,729	\$11,104,365	\$16,375,418	\$0	\$19,518,442	\$0	\$46,998,225	\$0
Louisiana	\$359,607	\$0	\$0	\$0	\$246,411	\$179,804	\$426,215	\$0
Maryland	\$779,602	\$389,801	\$1,061,122	\$915,550	\$633,527	\$0	\$3,000,000	\$0
Mississippi	\$247,872	\$123,936	\$0	\$0	\$133,541	\$0	\$257,477	\$0
Missouri	\$147,270	\$73,635	\$1,292,702	\$1,473,912	\$159,751	\$0	\$3,000,000	\$0
Montana	\$10,666,765	\$0	\$0	\$0	\$8,069,086	\$5,333,382	\$13,402,468	\$0
New Mexico	\$3,988,341	\$1,994,171	\$534,367	\$0	\$3,009,503	\$0	\$5,538,041	\$0
North Dakota	\$2,497,622	\$1,248,811	\$684,038	\$0	\$1,988,747	\$0	\$3,921,596	\$0
Ohio	\$4,996,586	\$2,498,293	\$10,242,545	\$0	\$3,744,905	\$0	\$16,485,743	\$0
Oklahoma	\$277,064	\$138,532	\$770,031	\$1,749,435	\$342,002	\$0	\$3,000,000	\$120,000
Pennsylvania	\$8,152,795	\$4,076,397	\$54,010,261	\$0	\$9,065,709	\$0	\$67,152,367	\$0
Tennessee	\$399,483	\$199,742	\$1,891,821	\$908,437	\$0	\$0	\$3,000,000	\$0
Texas	\$4,156,466	\$0	\$0	\$0	\$3,335,548	\$2,078,233	\$5,413,781	\$0
Utah	\$2,613,080	\$1,306,540	\$1,272,274	\$0	\$2,360,196	\$0	\$4,939,010	\$0
Virginia	\$4,095,214	\$2,047,607	\$5,026,129	\$0	\$4,257,059	\$0	\$11,330,795	\$0
Washington	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
West Virginia	\$28,094,556	\$14,047,278	\$31,040,820	\$0	\$21,407,423	\$0	\$66,495,521	\$0
Wyoming	\$134,635,836	\$0	\$0	\$0	\$82,700,759	\$67,317,918	\$150,018,677	\$0
Crow Tribe	\$1,693,405	\$0	\$0	\$0	\$1,318,208	\$846,703	\$2,164,911	\$0
Hopi Tribe	\$1,111,458	\$0	\$0	\$0	\$879,524	\$555,729	\$1,435,253	\$0
Navajo Tribe	\$4,068,417	\$0	\$0	\$0	\$5,182,493	\$2,034,209	\$7,216,702	\$0
<b>TOTAL</b>	<b>\$258,423,256</b>	<b>\$50,865,653</b>	<b>\$155,872,956</b>	<b>\$13,457,427</b>	<b>\$186,971,452</b>	<b>\$78,345,978</b>	<b>\$485,513,466</b>	<b>\$551,000</b>

<sup>1</sup> Cash Basis refers to revenue when it is received. AML Fee Collections are reported using cash-basis criteria. AML revenue in OSMRE's financial statements may include other amounts.

<sup>2</sup> This column represents AML fees actually collected 12/01/10 – 11/30/11. These amounts are the basis for the FY 2012 Distribution.

<sup>3</sup> The Prior Balance Replacement Distribution is distributed by the U.S. Treasury for the unappropriated state and tribal share balances disbursed over seven years. FY 2008 was the first year for this distribution.

<sup>4</sup> Certified In Lieu Distribution is distributed by the U.S. Treasury for the state share balance to certified states. FY 2009 was the first year for this distribution.

<sup>5</sup> Total Mandatory Distribution does not include AML State Emergency Program funds which are appropriated and not part of the mandatory distribution process.

Total figures have been adjusted for rounding.

Data Sources: Financial Business Management System and OSMRE's Grant Distribution

TABLE 2

<b>Abandoned Mine Reclamation Fund Status</b>		
<b>Cash Basis (Includes Investments)</b>		
<b>(Dollars in Thousands)</b>	<b>FY 2012</b>	<b>FY 2011</b>
Balance, Start of Year	\$2,715,185	\$2,632,238
Fees, debts, and interest collected	\$249,845	\$261,570
Interest earned on investments	\$54,789	\$54,881
<b>TOTAL EARNINGS</b>	<b>\$304,634</b>	<b>\$316,451</b>
Less:		
Disbursements/Recission	\$212,197	\$176,258
Transfers to the Combined Benefit Fund	\$48,430	\$57,246
<b>TOTAL DISBURSEMENTS &amp; TRANSFERS</b>	<b>\$260,627</b>	<b>\$233,504</b>
<b>BALANCE, END OF YEAR</b>	<b>\$2,759,192</b>	<b>\$2,715,185</b>

Total figures above have been adjusted for rounding

Note: The information presented in this table is on a cash basis and therefore will not reconcile to accrual-based financial data presented elsewhere in this report.

**Data Source: Financial Business Management System**

TABLE 3

Abandoned Mine Land Grants to States and Indian Tribes for FY 2012									
State/Tribe	Administration <sup>1</sup>	Project Costs <sup>2</sup>	Emergency <sup>3</sup>	AMD Set-Aside <sup>4</sup>	Subsidence Insurance	Non-Reclamation Activity Costs <sup>5</sup>	2012 Total	2011 Total	Program Staff (FTE) 2012 <sup>6</sup>
Alabama	\$943,794	\$8,810,859	\$0	\$0	\$0	\$0	\$9,754,653	\$10,937,413	23
Alaska	\$229,231	\$3,024,594	\$0	\$0	\$0	\$0	\$3,253,825	\$2,433,025	4
Arkansas	\$613,637	\$2,405,287	\$0	\$0	\$0	\$0	\$3,018,924	\$2,550,243	7
Colorado	\$1,716,272	\$10,536,990	\$0	\$0	\$0	\$0	\$12,253,262	\$8,679,262	19
Illinois	\$2,001,515	\$18,742,169	\$0	\$5,880,983	\$0	\$0	\$26,624,667	\$25,075,630	29
Indiana	\$1,348,428	\$17,066,962	\$0	\$2,872,278	\$0	\$0	\$21,287,668	\$15,343,038	24
Iowa	\$301,243	\$2,787,961	\$50,000	\$0	\$0	\$0	\$3,139,204	\$2,588,988	6
Kansas	\$415,906	\$2,593,267	\$380,529	\$0	\$0	\$0	\$3,389,702	\$2,771,457	8
Kentucky	\$2,446,012	\$36,213,988	\$0	\$8,240,000	\$0	\$0	\$46,900,000	\$38,744,905	98
Louisiana	\$156,150	\$1,103,891	\$0	\$0	\$0	\$0	\$1,260,041	\$935,549	1
Maryland	\$618,773	\$2,244,433	\$0	\$500,000	\$0	\$0	\$3,363,206	\$3,114,173	8
Mississippi	\$137,123	\$878,151	\$0	\$0	\$0	\$0	\$1,015,274	\$768,734	1
Missouri	\$418,223	\$2,655,064	\$0	\$0	\$0	\$0	\$3,073,287	\$4,149,495	10
Montana	\$834,187	\$12,643,932	\$0	\$0	\$0	\$0	\$13,478,119	\$12,441,741	13
New Mexico	\$1,924,206	\$4,809,682	\$0	\$0	\$0	\$0	\$6,733,888	\$4,880,409	14
North Dakota	\$441,212	\$3,568,616	\$0	\$0	\$0	\$0	\$4,009,828	\$3,561,112	5
Ohio	\$3,039,870	\$9,623,622	\$0	\$3,822,251	\$0	\$0	\$16,485,743	\$14,033,377	60
Oklahoma	\$403,750	\$2,604,444	\$120,000	\$0	\$0	\$0	\$3,128,194	\$2,688,414	11
Pennsylvania	\$1,553,904	\$48,172,563	\$0	\$24,650,581	\$0	\$0	\$74,377,048	\$61,347,255	151
Tennessee	\$10,000	\$2,777,250	\$0	\$627,468	\$0	\$0	\$3,414,718	\$2,600,437	1
Texas	\$159,534	\$12,365,609	\$0	\$0	\$0	\$0	\$12,525,143	\$8,743,093	6
Utah	\$800,000	\$5,454,263	\$0	\$0	\$0	\$0	\$6,254,263	\$5,195,722	10
Virginia	\$1,504,404	\$9,421,099	\$0	\$1,400,000	\$0	\$0	\$12,325,503	\$9,608,906	24
West Virginia	\$8,646,385	\$47,926,083	\$0	\$13,500,000	\$0	\$0	\$70,072,468	\$54,355,534	61
Wyoming	\$1,484,047	\$66,131,301	\$0	\$0	\$0	\$83,406,724	\$151,022,072	\$136,009,598	11
Crow Tribe	\$729,000	\$1,435,911	\$0	\$0	\$0	\$0	\$2,164,911	\$2,036,054	8
Hopi Tribe	\$1,349,291	\$1,482,453	\$0	\$0	\$0	\$0	\$2,831,744	\$1,283,737	3
Navajo Tribe	\$1,176,268	\$343,779	\$0	\$0	\$0	\$6,040,434	\$7,560,481	\$8,800,396	22
<b>TOTAL</b>	<b>\$35,402,365</b>	<b>\$337,824,225</b>	<b>\$550,529</b>	<b>\$61,493,561</b>	<b>\$0</b>	<b>\$89,447,158</b>	<b>\$524,717,838</b>	<b>\$445,677,695</b>	<b>638</b>

Funding for these grants is derived from the FY 2012 Distribution and funds recovered or carried over from previous years. Downward adjustments of prior-year awards are not included in the totals. Therefore, the total does not match the FY 2012 mandatory distribution that appears in Table 1.

The figures above have been adjusted for rounding.

<sup>1</sup> "Administration" includes costs for program support (personnel, budgeting, procurement, etc.), AML inventory management, and program policy development. Also, indirect costs associated with the administration of the program may be included.

<sup>2</sup> "Project Costs" include non-water supply, water supply, and non-coal project costs. There were no new obligations for clean streams in FY12; however, \$3,476.68 of prior year money was deobligated.

<sup>3</sup> "Emergency" includes emergency project, administrative, and indirect costs.

<sup>4</sup> "AMD Set-Aside" funds are held in a trust account to be used for Acid Mine Drainage abatement and treatment.

<sup>5</sup> "Non-Reclamation Activity Costs" are expenditures for which certified states may use Treasury funds.

<sup>6</sup> Program Staff levels in Full-Time Equivalents (FTE): State statistics are based on 2012 State program evaluation year (July 1, 2011 to June 30, 2012); Federal statistics (for Federal Program States and Indian Tribes) are based on 2012 Federal fiscal year (October 1, 2011 to September 30, 2012).

Data Source for Program Staff levels referenced in footnote 6 above: 2012 Data for States and Tribes (DST)

TABLE 4

Federal Reclamation Program Projects			
FY 2012 Obligations			
State or Tribe	Emergency	High Priority	Total 1978-2012 <sup>1</sup>
Alabama	\$0	\$0	\$13,934,015
Alaska	\$0	\$0	\$194,638
Arkansas	\$0	\$0	\$84,904
California	\$0	\$0	\$2,637,565
Colorado	\$0	\$0	\$2,320,650
Georgia	\$0	\$0	\$4,742,252
Idaho	\$0	\$0	\$0
Illinois	\$0	\$0	\$5,376,749
Indiana	\$0	\$0	\$4,032,023
Iowa	\$0	\$0	\$1,438,442
Kansas	\$0	\$0	\$5,094,172
Kentucky	\$110	\$0	\$145,769,419
Maryland	\$0	\$0	\$3,409,630
Michigan	\$0	\$1,864,114	\$5,535,360
Missouri	\$0	\$0	\$8,015,909
Montana	\$0	\$0	\$729,058
New Mexico	\$0	\$0	\$2,366,041
North Carolina	\$0	\$0	\$205,407
North Dakota	\$0	\$0	\$1,723,933
Ohio	\$0	\$0	\$18,295,299
Oklahoma	\$0	\$0	\$1,232,159
Oregon	\$0	\$0	\$247,885
Pennsylvania	\$16,240	\$0	\$135,507,004
Rhode Island	\$0	\$0	\$567,259
S Dakota	\$0	\$0	\$226,368
Tennessee	\$0	\$0	\$27,944,129
Texas	\$0	\$0	\$289,849
Utah	\$0	\$0	\$123,791
Virginia	\$0	\$0	\$10,139,469
Washington	\$96,796	\$240,639	\$11,219,554
West Virginia	\$0	\$0	\$29,023,226
Wyoming	\$0	\$0	\$1,067,101
Cherokee Nation	\$0	\$370,303	\$390,618
Cheyenne River Sioux Tribe	\$0	\$0	\$2,803,165
Crow Tribe	\$0	\$0	\$1,097,895
Fort Berthold Tribe	\$0	\$0	\$69,972
Fort Peck Tribe	\$0	\$0	\$147,991
Hopi Tribe	\$0	\$0	\$1,263,409
Jicarilla Apache Tribe	\$0	\$0	\$59,998
Navajo Tribe	\$0	\$0	\$2,222,792
Northern Cheyenne Tribe	\$0	\$0	\$591,834
Southern Ute Tribe	\$0	\$0	\$94,206
Rocky Boy Tribe	\$0	\$0	\$60,188
Uintah/Ouray Tribe	\$0	\$0	\$138,738
Ute Mountain Tribe	\$0	\$0	\$14,300
White Mountain Apache Tribe	\$0	\$0	\$1,838
Wind River Tribe	\$0	\$0	\$73,267
Zuni Tribe	\$0	\$0	\$125,009
Undistributed <sup>2</sup>	\$0	\$0	(\$782)
<b>TOTAL</b>	<b>\$113,146</b>	<b>\$2,475,055</b>	<b>\$452,647,698</b>

<sup>1</sup> 1978-2012 Totals include prior-year contract adjustments

<sup>2</sup> "Undistributed" funds were awarded by OSMRE in previous fiscal years and subsequently returned to the Department of the Interior.

Figures shown above have been adjusted for rounding.

**Data Source: Financial Business Management System**

TABLE 5A

1978-2012 ABANDONED MINE LAND RECLAMATION ACCOMPLISHMENTS																									
Priority 1 and 2 (Protection of Public Health and Safety)																		Elevated Priority 3 Projects <sup>1</sup>							
State/Indian Lands	Clogged Streams	Clogged Stream Lands	Dangerous Highwalls	Dangerous Impoundments	Dangerous Piles & Embankments	Dangerous Slides	Dangerous Cases	Hazardous Equipment & Facilities	Hazardous Water Bodies	Industrial/Residential Waste	Portals	Polluted Water: Agriculture & Industrial	Polluted Water: Human Consumption	Subsidence	Surface Burning	Underground Mine Fires	Vertical Openings	Bench	Gobs	Highwall	Mine Opening	Pits	Slump	Spoil Area	Water Problems
Alabama	1	198	316,888	1	1,476	21	0	470	886	25	1,081	8	15	45	140	0	413	0	0	0	0	0	0	0	0
Alaska	0	0	11,340	4	4	0	0	1,628	2	4	45	0	0	1	47	0	67	0	0	0	0	0	0	0	0
Arkansas	1	0	75,133	1	842	0	0	2	90	39	28	1	0	18	4	0	117	0	0	0	0	0	0	0	0
California	0	0	0	0	0	0	0	0	0	0	34	0	0	1	0	0	42	0	0	0	0	0	0	0	0
CERT Tribes <sup>2</sup>	0	0	7,050	0	473	0	0	6	30	9	72	0	0	34	0	0	17	0	0	0	0	0	0	0	0
Colorado	0	0	52,007	0	56	0	1	14	0	10	3,323	3	0	87	30	226	4,475	0	0	0	0	0	0	0	0
Crow Tribe	0	1	2,267	1	58	23	0	32	1	0	15	3	0	16	0	0	5	0	0	0	0	0	0	0	0
Georgia	0	0	13,200	2	0	0	0	0	0	0	112	0	1	0	0	0	11	0	0	0	0	0	0	0	0
Hopi Tribe	0	0	11,662	0	0	0	0	8	0	0	9	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Idaho	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Illinois	23	1,578	74,947	8	501	4	27	425	16	79	209	29	2	200	120	0	134,493	0	12	0	0	13	0	1	50
Indiana	14	82	151,232	8	615	10	5	99	7	32	71	110	6	297	15	0	507	0	0	0	0	0	0	8	0
Iowa	13	987	99,600	3	881	0	0	5	31	379	1	12	3	28	0	0	26	0	0	0	0	0	0	0	0
Kansas	1	19	177,440	2	111	8	0	2	1	29	0	3	0	33	9	0	1,941	0	0	0	0	0	0	0	0
Kentucky	47	8,194	36,723	124	551	2,391	1	265	49	27	2,372	6	13,398	54	227	63	216	0	0	0	0	0	0	0	0
Maryland	6	70	37,930	3	7,023	70	0	26	20	35	51	86	87	15	1	2	8	0	0	0	0	0	0	0	0
Michigan	0	0	990	0	0	0	0	7	2	0	0	0	1	0	8	0	58	0	0	0	0	0	0	0	0
Missouri	11	1,528	81,952	6	736	0	0	28	13	72	37	44	15	8	19	7	230	5	0	1	0	0	167	0	
Montana	23	101	25,560	3	181	1	1	267	1	502	1,113	19	212	570	305	88	623	0	0	0	0	0	0	0	0
Navajo Nation	0	1	109,586	4	666	7	0	5	0	6	871	19	0	12	3	0	381	0	0	0	0	0	0	0	0
New Mexico	2	21	285	0	16	0	0	17	0	0	604	4	1	58	35	32	1,129	0	0	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
North Dakota	0	0	118,849	4	317	35	0	14	18	2	13	6	0	1,440	18	0	91	0	0	0	0	0	0	0	0
Ohio	38	5,589	75,649	11	102	494	4	67	16	34	414	53	333	197	172	3	273	0	0	0	0	0	0	0	0
Oklahoma	15	1	267,290	0	0	0	0	16	228	26	192	6	3	25	4	0	143	0	0	0	0	0	0	0	0
Oregon	0	0	0	0	0	0	0	3	0	0	16	0	0	0	0	0	5	0	0	0	0	0	0	0	0
Pennsylvania	145	310	1,073,568	16	860	107	0	389	133	42	344	28	534	2,530	188	1,198	674	0	0	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0
South Dakota	0	0	135	0	0	0	0	4	0	0	5	0	0	1	0	0	1	0	0	0	0	0	0	0	0
Tennessee	2	147	66,678	3	533	47	0	31	90	18	192	7	71	6	28	0	11	0	4,352	0	9	0	99	1	
Texas	0	0	71,682	0	1,649	0	0	0	20	0	67	0	0	10	0	0	375	0	0	0	0	0	0	0	0
Utah	14	9	3,425	1	151	3	19	183	0	2	3,693	3	0	185	43	21	1,832	3	0	0	0	0	0	0	0
Virginia	75	882	31,186	64	255	397	1	254	2	2	1,151	0	6,596	15	56	0	117	0	0	0	0	0	0	0	0
Washington	0	0	0	0	3	0	0	7	0	0	30	0	0	12	15	0	97	0	0	0	0	0	0	0	0
West Virginia	62	172	251,612	1,201	5,131	631	5	676	8	45	2,688	81	20,137	499	498	28	194	4	13	2,416	1	0	1	0	20
Wyoming	114	1,753	585,780	140	2,859	25	0	226	416	29	675	3	0	1,217	18	74	744	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>606</b>	<b>21,643</b>	<b>3,831,604</b>	<b>1,610</b>	<b>26,047</b>	<b>4,273</b>	<b>64</b>	<b>5,175</b>	<b>2,080</b>	<b>1,446</b>	<b>19,528</b>	<b>534</b>	<b>41,415</b>	<b>7,619</b>	<b>2,001</b>	<b>1,742</b>	<b>149,323</b>	<b>4</b>	<b>33</b>	<b>6,768</b>	<b>2</b>	<b>22</b>	<b>1</b>	<b>275</b>	<b>71</b>

<sup>1</sup> Denotes Priority 3 AML problems (restoration of land and water resources and the environment) that were treated as higher priorities because of associations with Priority 1 or 2 problems areas.

<sup>2</sup> CERT is the Council of Energy Resources Tribes: Blackfeet, Cheyenne River Sioux, Fort Berthold (Mandan, Hidatsa, Arikara), Fort Peck (Assiniboine and Sioux), Northern Cheyenne, Jicarilla Apache, Laguna Pueblo, Rocky Boys (Chippewa and Cree), San Carlos Apache, Southern Ute, Ute Mountain Ute, White Mountain Apache, and Wind River (Arapaho and Shoshone).

Table includes AML projects funded through Coal Interim Site Funding, Clean Streams Initiatives, Coal Insolvent Surety Site Funding, Federal Reclamation Program Funding, Non-Coal, Pre-SMCRRA Grants Funding, State Acid Mine Drainage Set-Aside, State Emergencies, State Future Reclamation Set-Aside Funding, and Watershed Cooperative Agreements projects.

Statistics include State, but not OSMRE, emergency AML project accomplishments.

Data Source: Abandoned Mine Land Inventory System

TABLE 5B

1978-2012 ABANDONED MINE LAND RECLAMATION ACCOMPLISHMENTS												
Priority 3 Coal and Non-Coal Problems (Environmental Restoration)												
State/Indian Lands	Bench	Equipment/Facility	Gobs	Haul Road	Highwalls	Industrial/Residential Waste	Mine Openings	Pits	Slump	Slurry	Spoil Area	Water Problems
Alabama	23	8	241	2	32,435	15	50	0	9	5	9,384	379
Alaska	0	2	2	0	0	0	0	3	25	0	51	0
Arkansas	0	0	0	0	0	0	15	8	0	0	193	165
California	0	0	2	0	0	0	0	0	0	0	0	50
CERT Tribes <sup>1</sup>	0	3	4	0	1,500	0	1	7	0	0	80	0
Colorado	3	7	162	0	2,028	6	18	131	0	0	833	1
Crow	6	0	37	12	2,245	0	2	38	4	0	29	0
Georgia	3	0	3	0	1,400	0	0	5	0	0	7	0
Hopi Tribe	0	0	25	15	51	0	0	10	0	0	10	0
Illinois	1	171	2,649	210	11,530	6	73	620	2	1,166	1,894	2,856
Indiana	0	237	1,746	245	15,576	114	32	381	81	1,118	2,761	7,112,004
Iowa	0	0	1	6	5,722	2	2	40	0	0	511	5
Kansas	0	1	89	0	3,200	0	0	23	0	10	316	0
Kentucky	562	61	233	0	2,240	0	71	4	5	66	822	60
Maryland	10	2	50	2	5,685	3	20	22	1	0	263	380
Michigan	0	1	20	1	0	1	0	12	0	0	10	0
Missouri	2	9	146	1	20,324	7	0	96	0	69	1,349	86
Montana	1	58	162	1	1,170	105	230	34	19	0	870	2,741
Navajo Nation	41	2	141	203	890	1	79	148	0	0	265	3
New Mexico	3	29	88	12	0	0	29	2	0	2	335	0
North Dakota	0	0	0	0	0	0	0	0	0	0	0	0
Ohio	2	3	202	0	9,620	0	19	19	0	0	425	100
Oklahoma	0	0	0	0	0	0	0	0	0	0	0	0
Oregon	0	0	0	0	0	0	1	0	0	0	0	0
Pennsylvania	0	32	198	0	9,358	0	42	295	52	4	6,732	6,864
Tennessee	76	15	67	8	17,126	3	3	149	4	0	919	360
Texas	0	0	8	0	1,825	0	0	0	0	0	618	0
Utah	4	64	252	3	550	7	0	8	16	1	55	20
Virginia	0	25	21	1	13,000	1	125	0	1	0	12	120
West Virginia	6	6	96	11	42,685	2	5	5	1	2	318	622
Wyoming	0	27	45	388	220	0	320	7,261	228	199	8,478	76
<b>TOTAL</b>	<b>742</b>	<b>762</b>	<b>6,688</b>	<b>1,120</b>	<b>200,380</b>	<b>272</b>	<b>1,137</b>	<b>9,321</b>	<b>447</b>	<b>2,641</b>	<b>37,538</b>	<b>7,126,892</b>

<sup>1</sup> CERT is the Council of Energy Resources Tribes: Blackfeet, Cheyenne River Sioux, Fort Berthold (Mandan, Hidatsa, Arikara), Fort Peck (Assiniboine and Sioux), Northern Cheyenne, Jicarilla Apache, Laguna Pueblo, Rocky Boys (Chippewa and Cree), San Carlos Apache, Southern Ute, Ute Mountain Ute, White Mountain Apache, and Wind River (Arapaho and Shoshone).

Table includes AML projects funded by the Federal Reclamation Program, Non-Coal project funding, and Pre-SMCRA Grants.

TABLE 6

Final Rules Published in FY 2012			
Title	Citations	Date Effective	Summary of the Rule
During FY 2012, OSMRE did not publish any Permanent Program final rules.			

During FY 2012, OSMRE published in the Federal Register 26 proposed and 7 final rules for State programs.

Data Source: OSMRE Program Support Directorate

TABLE 7

Significant Court Decisions in FY 2012		
Court Decisions	Citation	Decision Text
Center for Biological Diversity, et al. v. Pizarchik, et al.	858 F. Supp. 2d 1221 (D. Colo. 2012)	Plaintiffs allege that OSMRE violated Section 7(a)(2) of the Endangered Species Act by failing to consult with the U.S. Fish and Wildlife Service prior to approving a five-year renewal of BHP Navajo Coal Company's permit to conduct surface mining operations at the Navajo Mine in New Mexico. In June 2011, the Navajo Nation moved to intervene for the limited purpose of moving to dismiss the case for failure to join a required party. By order of March 14, 2012, the court granted the Navajo Nation's motion to dismiss. The court dismissed plaintiffs' amended complaint without prejudice and entered judgment in favor of the government. The court held that the Navajo Nation was a required party for purposes of Rule 19(a) of the Federal Rules of Civil Procedure since joinder was not feasible due to the Nation's sovereign immunity, the Nation had substantial economic interest in the continued operation of the mine, and disposing of the action in its absence may impair the Nation's ability to protect that interest. On May 14, 2012, plaintiffs appealed the district court's order to the U.S. Court of Appeals for the 10th Circuit. The parties are currently exploring settlement of this matter through the 10th Circuit Mediator.
Farrell-Cooper Mining Co. v. U.S. Dep't of the Interior, et al.	No. 11-428-FHS, 2012 U.S. Dist. LEXIS 64145 (E.D. Okla. May 8, 2012)	Plaintiff, Farrell-Cooper Mining Co., brought this action against OSMRE and the Oklahoma Department of Mines (ODM). Plaintiff challenges OSMRE's actions to enforce the provisions of SMCRA that require all coal removal operations to return land affected by mining to its "approximate original contour." Among other things, Farrell-Cooper is seeking a declaratory judgment that ODM, rather than OSMRE, is the sole SMCRA permitting authority in Oklahoma, making it illegal for OSMRE to collaterally attack Farrell-Cooper's permit by citing a violation for something that is allegedly allowed by the ODM-approved permit. ODM filed a cross-complaint challenging OSMRE's authority to require correction of a so-called "permit defect." ODM also complains that OSMRE is interfering with its primacy rights and with its role as the sole issuer of SMCRA permits in Oklahoma. On May 8, 2012, the court granted Federal defendants' motion to dismiss. The court found that it did not have jurisdiction over the action, and plaintiff's claim should be brought in the U.S. District Court for the District of Columbia. Farrell-Cooper and ODM have appealed that decision.
Ohio River Valley Env'tl. Coal., et al. v. Salazar, et al.	No. 11-1049, 2012 U.S. App. LEXIS 536 (4th Cir. Jan. 10, 2012)	Plaintiffs alleged that OSMRE's decisions to approve West Virginia's new definition of the term "material damage to the hydrologic balance" and to approve the repeal of the definition of "cumulative impact", which included a different meaning for the term "material damage", violated SMCRA and the Administrative Procedure Act. In a January 3, 2011, opinion, the district court held that OSMRE's decision that the amendments were no less stringent than SMCRA and no less effective than the Federal regulations was based upon an analysis that made a "rational connection between the facts found and the choice made." The court reached the same conclusion with respect to OSMRE's finding that the amendments do not supersede, amend, modify, or repeal the Clean Water Act. Finally, the court found that OSMRE's decision to approve the amendments did not constitute a clear error in judgment. On January 10, 2012, the United States Court of Appeals for the Fourth Circuit issued a per curiam opinion affirming the district court's ruling. The Fourth Circuit found that the district court properly determined that the Secretary of the Interior "has provided an adequate basis for his approval" and that "West Virginia's material damage definition does not supersede, amend, modify, or repeal the [Clean Water Act]."

TABLE 8

FY 2012 <sup>1</sup> Federal Oversight of State Programs						
State	Oversight Inspections and Site Visits <sup>2</sup>	Ten-Day Notices for Observed Violations <sup>3</sup>	Ten-Day Notices for Citizen Complaints <sup>4</sup>	Notices of Violations (NOVs) <sup>5</sup>	Failure-To-Abate Cessation Orders (FTACOs) <sup>6</sup>	Imminent Harm Cessation Orders (IHCOs) <sup>7</sup>
Alabama	54	0	1	0	0	0
Alaska	4	0	2	0	0	0
Arkansas	3	0	0	0	0	0
Colorado	18	0	0	0	0	0
Illinois	62	0	3	0	0	0
Indiana	38	5	0	0	0	0
Iowa	0	0	0	0	0	0
Kansas	3	0	0	0	0	0
Kentucky	563	2	12	1	0	1
Louisiana	6	0	0	0	0	0
Maryland	29	0	0	0	0	0
Mississippi	2	0	0	0	0	0
Missouri	28	1	0	0	0	0
Montana	3	0	0	0	0	0
New Mexico	4	0	0	0	0	0
North Dakota	7	0	0	0	0	0
Ohio	175	1	2	0	0	0
Oklahoma	14	7	0	2	0	0
Pennsylvania	311	3	8	1	1	0
Texas	9	0	0	0	0	0
Utah	15	0	0	0	0	0
Virginia	114	1	1	0	0	0
West Virginia	453	11	4	2	0	0
Wyoming	20	0	1	0	0	0
<b>TOTAL</b>	<b>1,935</b>	<b>31</b>	<b>34</b>	<b>6</b>	<b>1</b>	<b>1</b>

<sup>1</sup> Table displays violations cited by OSMRE in States with approved regulatory programs during the 2012 State Program Evaluation Year (July 1, 2011, to June 30, 2012) -- the timeframe used by OSMRE for measuring performance in all state regulatory program areas. This data may differ from oversight data in some other OSMRE documents where results were based on the Federal fiscal year (October 1, 2011, to September 30, 2012). Violation data excludes vacated Notices of Violations and Cessation Orders.

<sup>2</sup> "Oversight Inspections and Site Visits" include partial and complete OSMRE inspections; inspections conducted solely by OSMRE, or jointly with the State Regulatory Authority; site visits by OSMRE to provide technical assistance; and any other Federal inspection or site visit entered into OSMRE's Data for States and Tribes (DST) System. They do not include OSMRE inspections of operations under exploration permits; inspections related to notices of intent to sue; or actions to address delinquent reporting or non-payment of Federal Abandoned Mine Land fees.

<sup>3</sup> OSMRE issues a "Ten-Day Notice for an Observed Violation" to the State Regulatory Authority when OSMRE observes a violation during a Federal inspection. The State has ten days to issue a Notice of Violation to compel the coal mine operator to abate the violation or to respond to OSMRE explaining why issuance of a Notice of Violation would not be appropriate.

<sup>4</sup> OSMRE issues a "Ten-Day Notice for a Citizen Complaint" to the State Regulatory Authority when a citizen requests an inspection of a suspected violation. The State has ten days to issue a Notice of Violation to compel the coal mine operator to abate the violation or to respond to OSMRE explaining why issuance of a Notice of Violation would not be appropriate.

<sup>5</sup> OSMRE issues a Federal "Notice of Violation" to a coal mine operator when performance standards or permit conditions are not being met, and after the State Regulatory Authority has not resolved an issue raised by OSMRE in a Ten-Day Notice.

<sup>6</sup> OSMRE issues a "Failure to Abate Cessation Order" when a violation has not been abated within the established abatement period.

<sup>7</sup> OSMRE issues an "Imminent Harm Cessation Order" to cease surface coal mining and reclamation operations if an OSMRE inspector finds, on the basis of any Federal inspection, that there is an imminent danger to the health or safety of the public or the threat of significant, imminent environmental harm to land, air, or water resources.

TABLE 9

FY 2012 Regulatory Program Statistics														
State/Tribe	Regulatory Staffing	New Permits	New Acreage Permitted <sup>1</sup>	Total Acreage Permitted	Inspectable Units	Complete Inspections	Partial Inspections	Notices of Violation	Failure-To-Abate CO's	Imminent Harm CO's	Bond Forfeitures	Acreage of Phase I Bond Released	Acreage of Phase II Bond Released	Acreage of Phase III Bond Released
Alabama	28	7	3,721	85,931	200	2,864	257	150	22	8	2	1,812	2,867	3,056
Alaska	5	1	3,247	12,211	11	33	81	5	0	0	0	0	0	0
Arkansas	4	0	1	1,340	7	28	65	10	0	0	1	0	0	0
Colorado	24	2	5,631	171,050	40	145	276	8	0	0	0	0	758	366
Crow Tribe	5	0	0	9,787	2	8	16	0	0	0	0	0	0	0
Georgia	0	0	0	141	6	0	0	0	0	0	0	0	0	0
Hopi Tribe	4	0	0	6,137	1	2	0	0	0	0	0	0	0	0
Illinois	29	4	2,302	59,857	83	373	589	59	1	0	2	386	529	385
Indiana	39	4	12,157	209,398	91	481	753	55	4	0	0	3,055	1,835	2,983
Iowa	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Kansas	3	0	0	3,391	9	39	79	1	0	0	0	280	73	73
Kentucky	301	77	74,954	1,995,073	2,356	7,693	14,795	2,716	371	21	15	13,592	4,879	12,648
Louisiana	1	1	1,761	43,634	3	12	21	1	0	0	0	59	64	64
Maryland	12	2	403	6,055	69	244	572	9	0	0	0	7	83	128
Mississippi	3	1	2,299	8,103	2	6	12	0	0	0	0	0	0	0
Missouri	5	0	0	4,403	12	55	93	2	0	0	0	11	83	69
Montana	17	0	1,258	68,627	13	60	89	4	0	0	0	913	53	0
Navajo Nation	10	0	830	88,700	16	44	24	4	1	1	0	766	3,238	0
New Mexico	8	0	0	85,349	10	32	64	0	0	0	0	0	0	967
North Dakota	10	0	16,924	118,428	24	99	526	0	0	0	0	2,294	2,743	2,743
Ohio	64	11	3,656	88,271	246	1,011	2,204	105	0	2	0	2,289	1,766	2,558
Oklahoma	21	2	902	22,068	57	221	293	64	2	0	0	0	0	1,115
Pennsylvania	211	71	3,074	346,078	1,649	4,972	7,628	658	7	65	1	2,579	3,328	4,479
Tennessee	33	3	1,603	30,954	303	498	885	120	20	2	3	2,802	971	1,463
Texas	35	3	20,796	314,901	38	145	308	12	0	0	0	5,022	1,449	2,092
Utah	17	0	34	3,277	36	127	210	7	0	0	0	0	1	1
Ute Mountain Ute	0	0	0	175	1	4	8	0	0	0	0	0	0	0
Virginia	69	5	2,432	79,729	469	1,629	2,657	156	3	5	0	80	319	190
Washington	5	0	0	14,747	2	7	19	0	0	0	0	0	0	0
West Virginia	236	53	9,922	352,125	2,096	7,453	16,214	775	58	11	5	3,943	2,891	7,842
Wyoming	21	1	11,519	443,490	36	147	215	5	0	0	0	2,565	1,763	1,763
<b>TOTAL</b>	<b>1,220</b>	<b>248</b>	<b>179,426</b>	<b>4,673,430</b>	<b>7,888</b>	<b>28,432</b>	<b>48,953</b>	<b>4,926</b>	<b>489</b>	<b>115</b>	<b>29</b>	<b>42,455</b>	<b>29,693</b>	<b>44,985</b>

<sup>1</sup> New acreage includes acreage for new permits, incidental boundary revisions, and any other permit revisions that add acreage.

State statistics based on 2012 State Program evaluation year (July 1, 2011 to June 30, 2012); Federal statistics, for Federal Program States and Indian Tribes, based on 2011 Federal fiscal year (October 1, 2011 to September 30, 2012).

**Data Source: 2012 Data for States and Tribes (DST)**

TABLE 10

Regulatory Grant Funding FY 2012 Obligations			
State/Tribe	FY 2012 Federal Funding	FY 2011 Federal Funding	Cumulative Federal Funding Through FY 2012 <sup>1</sup>
Alabama	\$1,290,034	\$1,563,300	\$36,925,423
Alaska	\$345,482	\$325,688	\$7,765,150
Arkansas	\$148,676	\$149,832	\$4,898,792
Colorado	\$2,381,220	\$3,457,867	\$50,068,830
Illinois	\$3,036,989	\$2,870,350	\$76,386,763
Indiana	\$2,001,250	\$2,089,877	\$49,820,040
Iowa	\$36,523	\$72,739	\$3,527,920
Kansas	\$115,468	\$113,933	\$3,787,388
Kentucky	\$12,760,211	\$12,431,861	\$377,496,344
Louisiana	\$175,639	\$168,126	\$4,977,348
Maryland	\$684,583	\$719,133	\$17,635,514
Michigan	\$0	\$0	\$135,458
Mississippi	\$195,600	\$218,655	\$2,362,734
Missouri	\$213,266	\$234,847	\$10,273,765
Montana	\$1,565,815	\$1,590,731	\$28,192,884
New Mexico	\$850,000	\$850,000	\$20,146,230
North Dakota	\$868,402	\$821,512	\$17,122,070
Ohio	\$800,000	\$1,600,000	\$78,199,402
Oklahoma	\$1,137,364	\$1,137,364	\$27,554,547
Pennsylvania	\$11,582,292	\$10,833,432	\$318,032,985
Rhode Island	\$0	\$0	\$158,453
Tennessee	\$0	\$0	\$5,340,085
Texas	\$1,929,305	\$1,953,557	\$37,109,452
Utah	\$2,073,878	\$1,975,472	\$45,258,239
Virginia	\$3,525,866	\$3,400,089	\$99,036,895
Washington	\$0	\$0	\$4,893
West Virginia	\$12,388,627	\$12,006,793	\$227,715,620
Wyoming	\$2,154,311	\$2,300,571	\$53,352,487
Crow Tribe	\$416,371	\$407,600	\$2,630,204
Hopi Tribe	\$420,568	\$425,452	\$3,991,792
Navajo Tribe	\$1,165,000	\$1,165,000	\$9,781,835
N. Cheyenne Tribe	\$0	\$0	\$86,888
<b>TOTAL</b>	<b>\$64,262,740</b>	<b>\$64,883,781</b>	<b>\$1,619,776,430</b>

<sup>1</sup> Regulatory grants are used to fund OSMRE regulatory activities. These may include the Applicant/Violator System, Technical Innovation and Professional Services, Kentucky Settlement, and other Title V cooperative agreements. Cumulative figures are net of all prior-year adjustments.

Figures shown above have been adjusted for rounding.

**Data Source: Financial Business Management System**

TABLE 11

Appropriations (in thousands)		
	2011	2012
<b>Discretionary Appropriations</b>		
Regulation & Technology		
Environmental Restoration <sup>1</sup>	\$688	\$204
Environmental Protection	\$94,578	\$91,832
Technology Dev. & Transfer	\$15,455	\$14,455
Financial Management	\$513	\$505
Executive Dir. & Admin	\$16,219	\$15,921
<b>Subtotal</b>	<b>\$127,453</b>	<b>\$122,917</b>
Abandoned Mine Reclamation		
Environmental Restoration	\$15,015	\$9,480
Technology Dev. & Transfer	\$5,751	\$3,544
Financial Management	\$6,443	\$6,396
Executive Dir. & Admin	\$8,308	\$7,979
<b>Subtotal</b>	<b>\$35,517</b>	<b>\$27,399</b>
<b>Total Discretionary Appropriations</b>	<b>\$162,970</b>	<b>\$150,316</b>
<b>Mandatory Appropriations</b>		
Payments to States in Lieu of Coal Fee Receipts (Treasury Funds)	\$245,425	\$265,300
Grants to States and Tribes (AML Fund)	\$150,133	\$220,196
Transfer to United Mine Workers Fund	\$273,310	\$253,991
<b>Total Mandatory Appropriations</b>	<b>\$668,868</b>	<b>\$739,487</b>
<b>Total OSMRE</b>	<b>\$831,838</b>	<b>\$889,803</b>

<sup>1</sup> Amounts include actual Civil Penalty collections of \$527,000 for 2011 and \$203,677 for 2012.

**Data Source:** Fiscal Year 2012 Congressional appropriations

TABLE 12

FY 2012 Watershed Cooperative Agreements		
State	Project Name	Grant Amount
	Sponsor Organization	
Iowa	Harris AML	\$100,000
	<i>Pathfinders RC&amp;D</i>	
	Lewis	\$100,000
	<i>Pathfinders RC&amp;D</i>	
	Goff AML (Phase III)	\$100,000
	<i>Pathfinders RC&amp;D</i>	
	Shafer	\$86,706
	<i>Pathfinders RC&amp;D</i>	
	Oldham	\$100,000
	<i>Pathfinders RC&amp;D</i>	
	Lane	\$100,000
	<i>Pathfinders RC&amp;D</i>	
	Janssen	\$100,000
<i>Pathfinders RC&amp;D</i>		
Ohio	Long Hollow Doser	\$100,000
	<i>Rural Action, Inc.</i>	
	Big 49 Limestone Leach Bed Project	\$60,398
	<i>Rural Action, Inc.</i>	
	Drake Wetland Restoration Project	\$28,440
	<i>Rural Action, Inc.</i>	
	Lake Morrow WCAP Project	\$100,000
<i>Ohio Valley RC&amp;D</i>		
Pennsylvania	Whiskey Run #9	\$100,000
	<i>Blackleggs Creek Watershed Association</i>	
	Kettle Creek Swamp Area Phase II	\$46,928
	<i>Trout Unlimited</i>	
	Jennings Environmental Center VFP	\$15,000
<i>Stream Restoration, Inc.</i>		
West Virginia	Pase Phase II Site	\$100,000
	<i>Friends of the Cheat</i>	
	Reed AMD Remediation Project	\$82,500
	<i>Friends of Decker Creek Watershed</i>	
<b>TOTAL</b>		<b>\$1,319,972</b>

Data Source: OSMRE Regional Offices

TABLE 13

Watershed Assistance: OSMRE/VISTAs and Interns																		
State	2012		2011		2010		2009		2008	2007	2006	2005	2004	2003	2002	2001	2000	1999
	Year-Long Positions	Short-Term Positions																
Alabama	4		2			1					1	1	1	1	1		3	
Alaska			1	2														
Arizona		1		2														
California				5														
Colorado	39	9	35	13	38	19	27	19	1		1							
D.C.	2	11	1	17	1	13												
Florida				2														
Illinois	1				1	1												
Indiana				1		2								1	1		1	1
Iowa						4			1									
Kentucky	9		7	1	8	1	5				1					1	2	
Maryland		11	1		4	2	2	1	1	1	1	2	2	1	2	2	1	
Missouri				2		1												
Montana		1		2														
New Mexico	11	5	7	2	3	11	2											
New York				2														
North Carolina				3														
Ohio	2	3	3	3	4	1	3	1	1	2		2	1	5	4	3	2	1
Oklahoma									1	1		1						
Pennsylvania	8	11	18	1	18	6	11	3	5	3	6	5	7	9	8	12	5	3
South Carolina				2														
Tennessee	14		6	1	4	3	2	1	5	3	5	4	3	1	3	1	3	1
Texas	2		2	1														
Virginia	11	11	10	5	11	2	6	3	1		2	1	1	3	3	2	1	
West Virginia	41	20	22	8	30	11	19	11	6	5	5	6	8	6	9	11	6	4
<b>TOTAL</b>	<b>144</b>	<b>83</b>	<b>115</b>	<b>75</b>	<b>122</b>	<b>78</b>	<b>77</b>	<b>39</b>	<b>22</b>	<b>15</b>	<b>22</b>	<b>22</b>	<b>23</b>	<b>27</b>	<b>31</b>	<b>32</b>	<b>24</b>	<b>10</b>

OSMRE/VISTA positions are supported by a partnership among OSMRE, Volunteers in Service to America (VISTA), and community watershed organizations providing local sponsorship and supervision. Beginning with the FY 2009 data, Watershed Assistance positions are reported in two categories: year-long and short-term. Year-long positions include OSMRE/VISTAs, OSMRE Regulatory AmeriCorps Members and the Kettering-OSMRE/VISTA Public Administration Fellows. Short-term positions include Summer Program Members and OSMRE Interns.

Data Source: OSMRE Program Files

TABLE 14

<b>Abandoned Mine Land Inventory Projects Costs</b>		
<b>FY 2012</b>		
Completed	<b>2.8 billion</b>	<b>22 percent</b>
Funded	<b>0.5 billion</b>	<b>4 percent</b>
Unfunded	<b>9.3 billion</b>	<b>74 percent</b>
<b>TOTAL</b>	<b>12.6 billion</b>	<b>100 percent</b>

**Data Source: Abandoned Mine Land Inventory System**

TABLE 15

NTP 2012 Courses and Enrollment		
Course Name	Number of Sessions	Students
Acid-forming Materials: Fundamentals & Applications	2	45
Acid-forming Materials: Soils & Overburden	1	20
AML Design Workshop: Dangerous Highwalls	1	11
AML Design Workshop: Dangerous Openings	1	13
AML Design Workshop: Landslides	1	10
AML Design Workshop: Subsidence	1	19
AML Drilling & Grouting	1	14
AML Reclamation Projects	1	15
Applied Engineering Principles	1	24
Basic Inspection Workbook <sup>1</sup>	0	19
Blasting and Inspection	1	30
Bonding Workshop: Administrative & Legal	1	20
Bonding Workshop: Cost Estimation	1	23
Coalfield Communications: How to Get it Right!	2	43
Effective Writing	5	106
Enforcement Procedures	1	20
Erosion and Sediment Control	1	20
Evidence Preparation & Testimony	1	26
Excess Spoil Handling and Disposal	1	18
Expert Witness	1	13
Forensic Hydrologic Investigation	1	20
Geology and Geochemistry of Acid-forming Materials	1	28
Historic and Archeological Resources	1	25
Instructor Training	1	18
Mine Gas Safety & Investigations Workshop	2	29
National Environmental Policy Act (NEPA) Procedures	1	27
Orientation	1	31
Passive Treatment	1	27
Permit Findings Workshop	1	14
Principles of Inspection	1	29
Quantitative Hydrogeology	1	32
Rosgen Applied Fluvial Geomorphology	1	44
SMCRA: Principles & Field Procedures	1	26
Soils and Revegetation	1	20
Subsidence	1	18
Surface and Groundwater Hydrology	1	33
Underground Mine Mapping	1	9
Underground Mining Technology	1	18
Wetlands Awareness	1	16
<b>TOTAL</b>	<b>45</b>	<b>973</b>

<sup>1</sup> Self Study

**Data Source: National Technical Training Program**

# OSMRE OFFICES

## WESTERN REGIONAL OFFICE

1999 Broadway, Suite 3320  
Denver, CO 80202  
(303) 293-5000

[www.wrcc.osmre.gov](http://www.wrcc.osmre.gov)

## MID-CONTINENT REGIONAL OFFICE

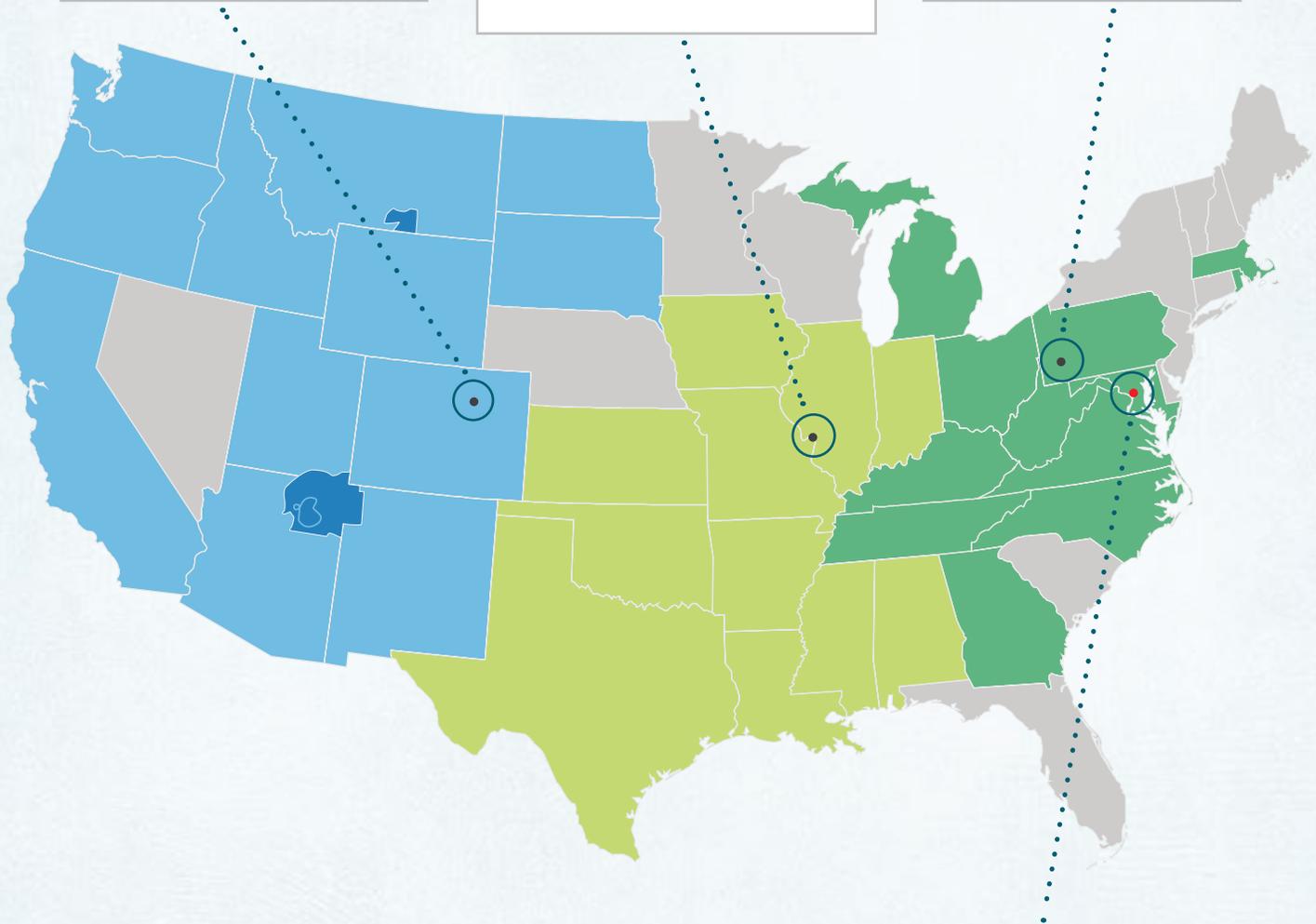
William L. Beatty Federal Bldg.  
501 Belle Street, Room 216  
Alton, IL 62002  
(618) 463-6460

[www.mcrcc.osmre.gov](http://www.mcrcc.osmre.gov)

## APPALACHIAN REGIONAL OFFICE

Three Parkway Center  
Pittsburgh, PA 15220  
(412) 937-2828

[www.arcc.osmre.gov](http://www.arcc.osmre.gov)



## HEADQUARTERS

1951 Constitution Avenue, NW  
Washington, DC 20240  
(202) 208-2565

[www.osmre.gov](http://www.osmre.gov)

Additional **Western**  
Regional Offices

**Denver Field Division**

(Alaska, Colorado, Utah)

1999 Broadway, Suite 3320  
Denver, CO 80202

**OLYMPIA AREA OFFICE**  
(Washington)

Evergreen Plaza Bldg.  
711 South Capitol Way, Suite 703  
Olympia, WA 98501  
(360) 753-9538

**ALBUQUERQUE AREA OFFICE**  
(Arizona, California, New Mexico,  
Navajo Tribe, Hopi Tribe, Ute Tribe)

435 Montano Road, NE  
Albuquerque, NM 87107  
(505) 761-8986

**FARMINGTON AREA OFFICE**

501 Airport Drive, Suite 117  
Farmington, NM 87401  
(505) 326-5291

**Casper Field Office**

(Idaho, Montana, North Dakota,  
South Dakota, Wyoming, Crow  
Tribe, Northern Cheyenne Tribe,  
Cheyenne River Sioux Tribe)

150 East B Street, Room 1018  
Casper, WY 82601-1018  
(301) 261-6550

Additional **Mid-Continent**  
Regional Offices

**Alton Field Division**

(Illinois, Indiana, Iowa,  
Missouri)

William L. Beatty Federal Bldg.  
501 Belle Street, Room 216  
Alton, IL 62002  
(618) 463-6460

**INDIANAPOLIS AREA OFFICE**

Milton-Capehart Federal Bldg.  
575 North Pennsylvania Street,  
Room 236  
Indianapolis, IN 46204  
(317) 226-6700

**Birmingham Field Office**

(Alabama, Louisiana,  
Mississippi)

Barber Business Park  
135 Gemini Circle, Suite 215  
Homewood, AL 35209  
(205) 290-7282

**Tulsa Field Office**

(Arkansas, Kansas, Oklahoma,  
Texas)

1645 South 101st East Avenue,  
Suite 145  
Tulsa, OK 74135-6548  
(918) 581-6430

Additional **Appalachian**  
Regional Offices

**Pittsburgh Field Division**

(Maryland, Massachusetts, Mich-  
igan, Ohio, Pennsylvania, Rhode  
Island)

Three Parkway Center  
Pittsburgh, PA 15220  
(412) 937-2828

**COLUMBUS AREA OFFICE**

4605 Morse Road, Room 102  
Columbus, OH 43230  
(614) 416-2238

**HARRISBURG AREA OFFICE**

Harrisburg Transportation Center  
415 Market Street, Suite 3C  
Harrisburg, PA 17101  
(717) 782-4849

**JOHNSTOWN AREA OFFICE**

Richland Professional Bldg.  
334 Bloomfield St., Suite 104  
Johnstown, PA 15904  
(814) 533-4223

**Charleston Field Office**

(West Virginia)

1027 Virginia Street, East  
Charleston, WV 25301  
(304) 347-7162

**BECKLEY AREA OFFICE**

313 Harper Park Dr.  
Beckley, WV 25801  
(304) 255-5265

**MORGANTOWN AREA OFFICE**

604 Cheat Road, Suite 150  
Morgantown, WV 26508  
(304) 291-4004

**Lexington Field Office**

(Kentucky)

2675 Regency Road  
Lexington, KY 40503-2922  
(859) 260-3902

**LONDON AREA OFFICE**

421 West Highway 80  
P.O. Box 1048  
London, KY 40741  
(606) 878-6440

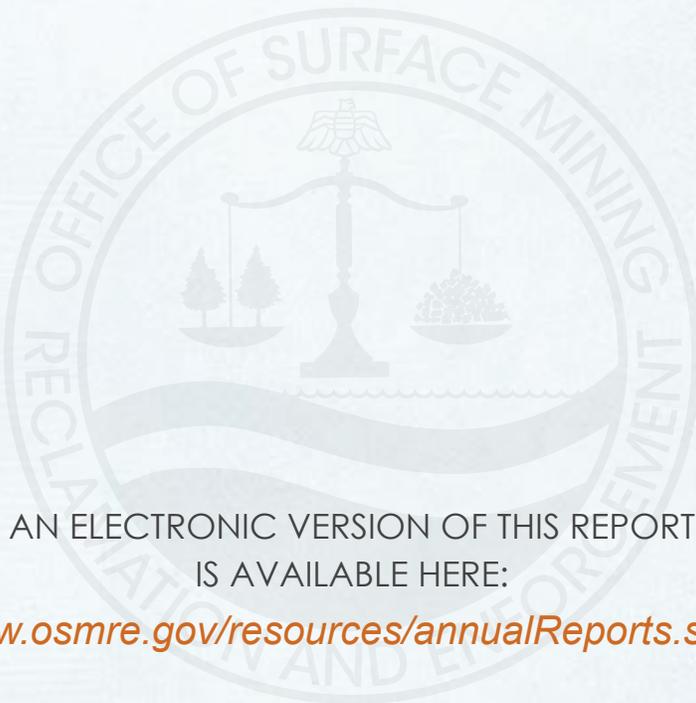
**Knoxville Field Office**

(Georgia, North Carolina,  
Tennessee, Virginia)

710 Locust Street, 2nd Floor  
Knoxville, TN 37902  
(865) 545-4103  
Fax: (865) 545-4111

**FIELD OVERSIGHT BRANCH**

1947 Neeley Road, Suite 201  
Compartment 116  
Big Stone Gap, VA 24219  
(276) 523-4303



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1951 Constitution Avenue, NW  
Washington, DC 20240

202-208-2565

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