



ANNUAL REPORT 2009

OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

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COVER PHOTOS

Left:

A dragline excavator — a piece of heavy equipment commonly used in surface mining — in operation.

Middle:

Restored wetland at the Caballo Mine in Wyoming, winner of one of OSM's 2009 Excellence in Surface Coal Mining Reclamation Awards.

Right:

Testing for evidence of PCBs at Suntrana Tipple Reclamation Project, Healey Creek Valley, Alaska.

Message from the Acting Director



Fiscal Year 2009 was a year of change for the Office of Surface Mining Reclamation and Enforcement (OSM). The Obama Administration brought with it the charge of better protecting the environment and the public from environmental hazards associated with surface coal mining operations. OSM thus embarked on, among other things, the writing of new rules on stream protection and improving its oversight of state and tribal regulatory programs.

Other highlights in Fiscal Year 2009 include our Abandoned Mine Land grant program's distribution of more than \$298 million to state and tribal agencies, an increase of more than \$24 million from the previous year. These locally spent dollars maintained or created hundreds of well-paying jobs across the country. At the same time, our regulatory grants to states and tribes also increased to more than \$68 million — up more than \$8 million from Fiscal Year 2008 — helping states to better implement their regulatory programs under the Surface Mining Control and Reclamation Act of 1977.

In June 2009, Interior Secretary Ken Salazar signed an interagency Memorandum of Understanding (MOU) with the U.S. Environmental Protection Agency and the U.S. Department of the Army, committing to better coordination among Federal efforts to reduce the environmental impact of surface coal mining in the Appalachian region.

As part of that MOU, OSM announced new oversight initiatives in November 2009. Among other things, the initiatives described how OSM would increase the number of inspections and review more state-issued mining permits. OSM also announced it would promulgate a rule designed to improve stream protection during mining.

We plan to continue the momentum generated in 2009 as we build on our past successes and find new ways to better protect the environment from the adverse effects of coal mining and assist the states and tribes to better implement the Surface Mining Act while striking the balance between meeting America's energy needs and protecting the environment.

A handwritten signature in blue ink that reads "Glenda H. Owens".

Glenda Owens, Acting Director,
Fiscal Year 2009
Office of Surface Mining Reclamation and
Enforcement
U.S. Department of the Interior
Washington, D.C.

OSM At A Glance

Mission

Our mission is to carry out the requirements of the Surface Mining Control and Reclamation Act (SMCRA) in cooperation with states and tribes. Our primary objectives are to ensure that coal mines are operated in a manner that protects citizens and the environment during mining and assures that the land is restored to beneficial use following mining, and to mitigate the effects of past mining by aggressively pursuing reclamation of abandoned coal mines.

Budget and Workforce

\$164 million Fiscal Year 2009 in annual (discretionary) funds. This includes \$68 million in Fiscal Year 2009 regulatory grant funding to state and tribal regulatory authorities.

\$298 million in Fiscal Year 2009 Abandoned Mine Land grant funding to states and tribes, derived in part from a mandatory fee on every ton of coal produced in the U.S.

\$124 million in Fiscal Year 2009 payments to the United Mine Workers of America Combined Benefit Fund.

521 full-time equivalent employees.

Abandoned Mine Land Program

Addresses environmental and public safety hazards in pre-SMCRA mine sites.

Regulatory Program

Implements SMCRA and sets administrative and technical standards, performs oversight of state regulatory programs, and provides assistance to state regulatory programs.

Technology Development and Transfer

Provides technical support for the AML and Regulatory Programs.

Headquartered in Washington, D.C., with three Regional Offices.

Website: www.osmre.gov



Area reclaimed by Luminant Mining Company, LLC, winner of one of the Office of Surface Mining Reclamation and Enforcement's mine reclamation awards in 2009. The Texas-based company received the prestigious OSM Director's Award for advancing the science of coal-mine reclamation.

What We Do

OSM's authority to regulate surface coal mining and reclamation activities in the United States is derived from the Surface Mining Control and Reclamation Act of 1977 (SMCRA, or "the Act").

Title IV of SMCRA requires OSM 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, which is the collapse of underground coal mines.

The Abandoned Mine Land (AML) Program derives the majority of its funds from current mine operators, which pay a fee for each ton of coal they produce. SMCRA sets a formula for determining this fee based on the type of coal mined, and the resulting monies are deposited into the AML Fund. When a state or tribe has addressed all of its AML-related issues, it can apply for certification from the Secretary of the Interior. Four states and three tribes have achieved certification, but most coal-producing states and tribes continue to address abandoned coal mine-related problems.

In Fiscal Year 2009, OSM distributed a total of \$298 million to 28 states and tribes. This amount represented an increase of \$24 million from the previous year. The states and tribes typically use these funds to reclaim abandoned mine sites that pre-date the passage of SMCRA. In the three decades of the AML program, OSM has provided nearly \$7 billion to reclaim more than 220,000 acres of abandoned mine lands.

Under Title V, OSM sets Federal standards for states and tribes to establish their own surface coal mining programs. The bureau also provides the states and tribes with the advice and consultation needed for the state to take primary responsibility for its state regulatory activities, which is known as "primacy."

In addition, OSM conducts oversight over the state regulatory agencies which have primacy. The bureau retains the responsibility to ensure state and tribal agencies adequately enforce their own programs. OSM can take action against a state if the state does not implement, enforce or sufficiently maintain its regulatory program.

To date, no tribes have achieved primacy, though OSM is currently working with the Crow Tribe, Hopi Tribe, and Navajo Nation to enable them to achieve primacy in the future.

States that have assumed primacy are eligible to receive up to half of their regulatory and enforcement operating budget from OSM, provided the state matches that amount to cover the full cost of the regulatory program.

In order to achieve primacy, a state or tribe must:

- establish a program that meets the minimum requirements of SMCRA and its implementing regulations
- ensure it hires and maintains enough staff to administer, inspect, and regulate coal mining and reclamation in the state
- coordinate with other Federal agencies to process and issue permits, and



A typical dragline operation, used at surface mines nationwide.

- obtain approval of the program from the Secretary of the Interior

The major advantage of primacy is that a state or tribe can tailor its surface mining regulatory program to address regional environmental conditions. For example, the geology, biology, and climate of Appalachia differ from that of the mountains and high plains found in the West. Primacy gives coal-producing states the flexibility to address such differences in their regulatory programs. Allowing states to administer their own programs also means SMCRA is considerably less expensive to implement than if the programs were carried out by the Federal government.

Under Title V, states and tribes that assume primacy must recognize and perform five major functions to regulate mining and protect the environment, including:

- develop and enforce performance standards on mining operations and subsequent reclamation activities
- issue detailed mining permits to companies that specify the mining activity and how the site will be reclaimed (these permits include baseline environmental standards both for pre- and post-mining activities, and the description of pre- and post-mining use of the land)
- determine the amounts of and issue bonds from mining operators to ensure post-mining reclamation activities are carried out in accordance with the permit terms (state or tribal authorities can only release performance bonds after operators meet all standards, reclaim the site, and achieve the required post-mining land use)
- perform on-site mine inspections to ensure compliance with the mining permit, and when appropriate, enforce the regulations through a series of violation notices
- create and maintain the ability to designate lands unsuitable for mining

Five Major OSM Accomplishments in Fiscal Year 2009

OSM Issues Final Rule for the Abandoned Mine Land Program

November 2008

After more than six years of review, public comment and revision, OSM published a final rule on the Abandoned Mine Land program, which included several changes designed to align current regulations with amendments Congress made to SMCRA in 2006.

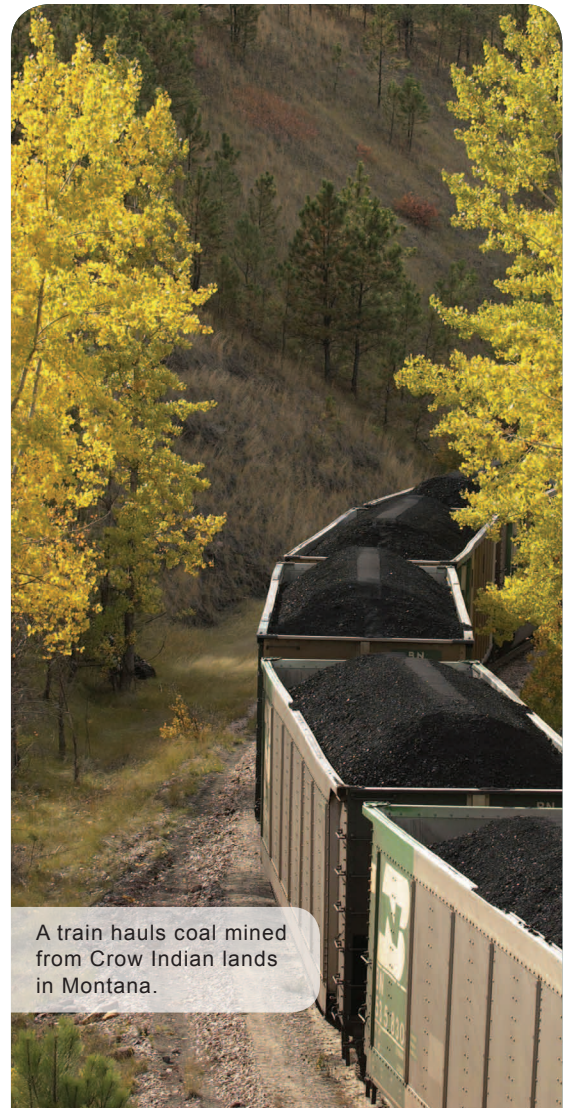
The amendments were signed into law on December 20, 2006, and significantly changed the AML program, including dramatically increasing the funds available for reclaiming abandoned coal mines. After an initial phase-in period, about 83 percent of fees collected annually are allocated for AML mine reclamation.

Publishing the rule brought OSM's regulations into line with the changes enacted by the 2006 amendments to the bureau's organic act. The rule set the course for how OSM will collect fees that improve water quality and provide other benefits by funding important reclamation activities.

In the amendments, Congress mandated a reduction in the fee that the coal industry pays on each ton of coal that it mines. This fee is used to abate and remediate the environmental impact of historic coal mining. The fee rates are reduced by 10 percent from the levels established in 1977 for the period from October 1, 2007, through September 30, 2012, and reduced again by another 10 percent from the 1977 lev-

els for the period from October 1, 2012, through September 30, 2021.

The rule implements the statutorily required reduction of the fee rates and extends OSM's authority to collect reclamation fees through September 30, 2021. The changes also affect the activities that state and tribal reclamation programs may perform and the funding they can use. Finally, the changes reauthorized incentives for the re-mining of certain lands and waters adversely affected by past mining.



A train hauls coal mined from Crow Indian lands in Montana.



OSM Approves Permit for Coal Mine on Montana's Crow Indian Reservation

August 2009

OSM issued a permit to Westmoreland Resources, Inc., of Colorado Springs, Colorado, which extended an existing coal mine operation onto the Crow Indian Reservation in southern Montana. The decision allowed, for the first time, mining within the boundaries of the Crow Reservation.

The permit for the Absaloka South Extension Mine authorized the recovery of approximately 64 million tons of coal, which extended the reach and operational life of the existing Absaloka Coal Mine near Hardin, Montana. The mine has historically produced major revenues for the Crow Tribe through the generation of coal royalties and the employment of about 120 members of the Crow Tribe.

Approval of the permit ensures continued royalty payments to the Crow Tribe and allows 13 more years of employment for a substantial number of tribal members. About 70 percent of the mine personnel are members of the Crow Tribe, and these jobs provide a source of stability for local communities.

Since the Absaloka mine began operations in 1972, the Crow Tribe owned most of the coal, but the mining had thus far been outside of the reservation boundary. The existing mine is located adjacent to the Crow Reservation on lands known as the "Crow Ceded Area." In the early 20th century, this

area was ceded to the U.S. Government and opened for settlement, but Congress subsequently restored all undisposed land within the ceded area, along with all coal rights, to the Crow Tribe.

In early 2009, Westmoreland Resources submitted a proposal to expand the existing permit area within the Crow Ceded Area and mine coal on the Crow Reservation itself. OSM and the Montana Department of Environmental Quality jointly issued the appropriate permits.

OSM, Commonwealth of Pennsylvania, and CONSOL Energy Fund Pennsylvania Mine Mapping Initiative

January 2009

A collaborative effort among OSM, the Commonwealth of Pennsylvania, the University of Pittsburgh, and CONSOL Energy has made thousands of historic maps of closed or abandoned underground coal mines in Pennsylvania available to the public, and expanded OSM's extensive archive of mine maps.

The collective fund of \$400,000 from the collaborators paved the way to scanning and then posting more than 8,000 historical underground mine maps covering much of the coalfields in southwestern Pennsylvania. The maps are maintained in a publicly accessible geographic information system, OSM's National Mine Map Repository.

The National Mine Map Repository provided staff and equipment in collaboration with the Pennsylvania Department of Environmental Protection and the University of Pittsburgh to create digital copies of the maps, some of which date to the 1850s. CONSOL Energy first donated the maps to the University's library system in 2000.

Since 2005, OSM has provided over \$1 million to 32 underground mine map-archiving projects in 15 coal-producing states. OSM has also worked with states and other Federal agencies to acquire mine maps and make them available to the public. These maps are a valuable resource to stakeholders seeking information about past mine operations.

OSM and The American Chestnut Foundation Sign Historic Partnership Agreement

October 2008

OSM and The American Chestnut Foundation signed a groundbreaking agreement joining both entities in an effort to use former coal mine lands for new American chestnut tree plantings. The five-year agreement is designed to bring back a classic American tree while providing for an innovative approach to coal mine reclamation.

The partnership concept grew from a 2008 Arbor Day project in which the coal industry worked with the Foundation to bring together company employees, university scientists, and young students to plant nearly 12,000 chestnut trees on a reclaimed mine site.

The native range of the American chestnut and the Appalachian coal fields are in near-perfect alignment, which means surface mines can serve as very effective vectors of dispersal where chestnut trees can be an effective part of reclamation work. Reclaimed surface mines have been shown to produce superior tree growth and rapid reestablishment of forests, as mine operators have learned how to control competition to tree seedlings from herbaceous vegetation and create loose rooting mediums.

For each American chestnut seed that is planted on a surface mine, up to 600 other native, high-value hardwood trees, such as red oak, sugar maple, yellow-poplar, black walnut, and white oak, may also be included in the planting mix.

Reintroducing the American chestnut tree in the reforestation effort significantly improves the survival and growth rate of the other high-value hardwood trees and also enhances ancillary environmental benefits of properly reclaimed forests, such as increased carbon sequestration, wildlife habitat, reduced runoff, erosion, sedimentation, and downstream flooding.

Then-President and CEO of The American Chestnut Foundation Marshal Case said that the return of the chestnut will provide a boost to an economy that was decimated by the loss of the American chestnut in the early part of the 20th century.

"Our partnership with OSM comes down to three simple things: people, wildlife and science," said Case. "The American



chestnut is truly a tree of hope for each of these.”

The American Chestnut Foundation is a nonprofit 501 (c)(3) organization with more than 6,000 members nationwide and chapters in 17 states. It is headquartered in Bennington, Vermont, and has research facilities in Meadowview, Virginia, and a regional office in Asheville, North Carolina.

OSM Employee Receives Service to America Medal

September 2009

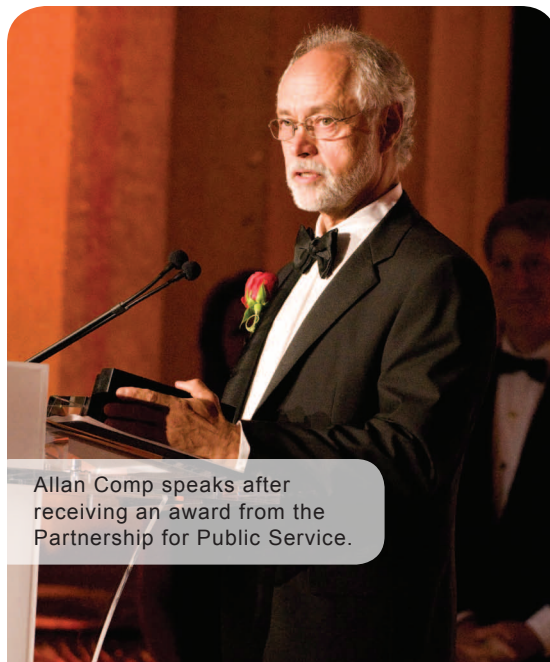
The Partnership for Public Service, a nonprofit organization, awarded one of its 2009 Service to America Medals to OSM's Dr. T. Allan Comp for his work with volunteers who address environmental and economic issues in coal-producing states.

Comp founded and coordinates the Appalachian Coal Country Watershed Team (ACCWT) and the Western Hardrock Watershed Team (WHWT), which are part of a joint initiative between OSM and Volunteers in Service to America (VISTA). The ACCWT serves communities in Alabama, Kentucky, Maryland, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia, while the WHWT operates in Colorado and New Mexico.

Each team member works in a host community to recruit volunteers to monitor water quality, educate the public about coal country watershed issues, and perform other watershed reclamation efforts. Since ACCWT began its work in 2002, OSM/VISTA workers have recruited volunteers who have logged more than 122,000 volunteer hours. The WHWT, founded in 2007, has enlisted volunteers who have logged more than 4,000 hours.

The Partnership for Public Service awards eight medals based on recipients' significant contributions to the country. Honorees are peer nominated and selected for their commitment and innovation as well as the impact of their work in addressing the needs of the Nation.

Dr. Comp's award, the Environment Medal, was given in recognition of his coordination of efforts to address mining-related environmental problems in Appalachian and Western watersheds.



Allan Comp speaks after receiving an award from the Partnership for Public Service.

The Stream Buffer Zone Rule, 2008-2009

One of OSM's biggest (and ultimately, one of the most controversial) accomplishments in Fiscal Year 2009 was the finalization of a new Stream Buffer Zone rule, which was published in the Federal Register on December 12, 2008, and became effective on January 12, 2009.

The product of nearly five years of intense work, the new rule attempted to remedy a conflict between two Federal court decisions and the apparent intent of SMCRA. The 2008 version of the rule aimed to clarify how, in certain cases, coal mine operators could place the excess rock and soil from mountaintop mining near and in valley stream beds.

The controversy first arose when a Federal district court in West Virginia issued a 1999 ruling that prohibited any valley fill material in streams, which was subsequently reversed in a higher court on procedural grounds. In 2002, the same district court issued a similar ruling, saying SMCRA did not authorize placing any overburden in streams, but the higher court again reversed the decision, that time on statutory grounds.

In response to the litigation, OSM offered a new version of the Stream Buffer Zone rule in January 2004, and a revision of that

proposed draft in August 2007. By November 2008, the agency had solicited and received more than 43,000 public comments on the proposal, held four public hearings, and developed a detailed Environment Impact Statement (EIS) that offered a range of alternatives for the rule.

Agency officials said that, after careful consideration, they chose the most environmentally protective alternative for the final rule. The 2008 rule required operators to return as much of the overburden as possible to the mine excavation, avoid using any fill material in and around streams, identify a range of reasonable alternatives to placing overburden in a stream, and only then, with all other options exhausted, could they place any fill material in a stream bed.

In December 2008 and January 2009, environmental and citizens groups filed suit against OSM in the District court, claiming the agency violated several Federal statutes while writing the new Stream Buffer Zone rule. Specifically, the lawsuit claimed OSM violated SMCRA, the National Environmental Policy Act, the Clean Water Act, the Administrative Procedure Act, and the Endangered Species Act.

Secretary of the Interior Ken Salazar subsequently determined OSM had violated

the Endangered Species Act by failing to consult with the U.S. Fish and Wildlife Service to evaluate the rule's possible effects, and asked the court to vacate the 2008 version of the Stream Buffer Zone rule, which would allow the agency to revert to the 1983 version.

The court denied the Secretary's request, saying OSM must follow the rulemaking structure in the Administrative Procedure Act, meaning OSM would have to once again go through the entire rulemaking process to repeal or amend the 2008 rule.

In June 2009, the Department of the Interior signed an historic Memorandum of Understanding with the Army Corps of Engineers and the Environmental Protection Agency. The MOU provided for better cooperation and coordination among the agencies to protect the people and the environment in Appalachia. It included provisions for increased oversight of permitting and enforcement for all coal mining operations, including mountaintop mining. OSM also formally committed to consider rewriting the Stream Buffer Zone rule and the Approximate Original Contour requirements.

In mid-November (now FY 2010), the Secretary of the Interior and OSM's Director announced their decision to publish an Ad-

vance Notice of Proposed Rulemaking on stream protection, in order to begin gathering comprehensive public input on the future rule. Simultaneously, the agency solicited public comments on the agency's intent to increase oversight of coal mine permitting and surface coal mining and reclamation and operations.

When the comment period closed in January 2010, OSM had collected more than 34,000 comments on the advance notice of proposed rulemaking and the increased oversight measures.

By October 2010, OSM had increased the pace and frequency of both its announced and unannounced mine inspections in Appalachian coalfields. Significantly, OSM's Director committed to developing and writing a proposed stream protection rule under an ambitious schedule that included developing a new EIS, and adopting an innovative approach to ensure transparency and public involvement, as well as industry and citizen input prior to drafting and publishing the proposed rule.

The concept of gathering advance comments and analysis is designed to develop a reasonable and scientifically sound rulemaking.

Reclaiming Abandoned Mine Lands

The Abandoned Mine Land Reclamation Program is one of OSM's primary responsibilities under SMCRA and OSM's largest program. Over the past 33 years, the AML program has collected more than \$9 billion in coal production fees and invested over \$6.5 billion in grants to states and tribes to reclaim the lands and waters damaged by coal mining before it began to be regulated under SMCRA in 1977.

The AML program addresses hazards and environmental problems associated with abandoned mine lands, including subsidence of land affecting homes and communities, open entrances to abandoned mines, dangerous highwalls, surface and ground water pollution, damage from landslides, and toxic fumes and unstable land resulting from coal mine fires and burning coal refuse.

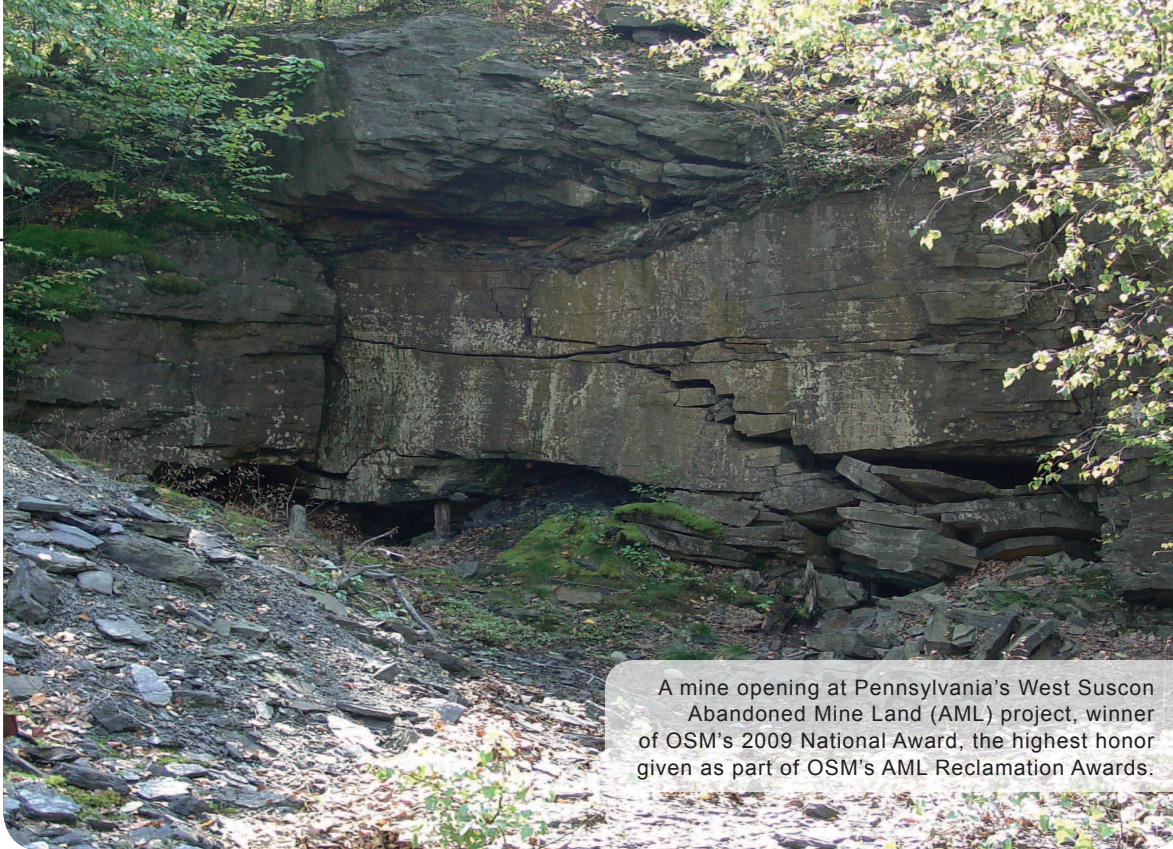
The AML program also seeks to assist community improvement and watershed groups in their efforts to address local

challenges within their communities. As part of its Watershed Assistance efforts, OSM created a partnership with Volunteers in Service to America (VISTA) to bring college-educated OSM/VISTA workers to local communities that experience the adverse impacts of pre-SMCRA mining. These OSM/VISTAs work in the communities for a year, on a full-time basis. OSM also assists in supporting a Summer Internship program, placing college students for eight or ten weeks with sponsoring community watershed improvement groups (photo below).

Despite the AML program's long and successful history, the dangers associated with unreclaimed coal mines are still present. Many states have inventories of problems that will exceed the funding available to them. For instance, Kentucky, Pennsylvania and West Virginia have so many AML-related problems that each of them could spend all of the AML funds collected and still not complete their projects.



In West Virginia, participants in OSM's partnership with Volunteers in Service to America sample a stream for the presence of aquatic insects, useful indicators of water quality.



A mine opening at Pennsylvania's West Suscon Abandoned Mine Land (AML) project, winner of OSM's 2009 National Award, the highest honor given as part of OSM's AML Reclamation Awards.

The identification of AML-related problems continues to increase. OSM and its state and tribal partners are aware of problems in mined areas that are not listed in the AML inventory because they do not currently present a danger to life or property. However, as new subsidence events occur or people move closer to abandoned mines, these sites will become reclamation priorities.

What follows are just a few examples of the bureau's work in 2009 to continue its ongoing effort to clean up pre-SMCRA mine sites, and to address emergencies related to mine reclamation.

2009 AML Reclamation Award Winners

In 1992, OSM began recognizing outstanding examples of abandoned mine reclamation work and innovation in reclamation techniques. The annual AML Reclamation Awards are given for all types of reclamation work, including coal, non-coal and emergency programs that

are fully or partially funded and completed by approved state or tribal programs. The awards are given after a panel of state reclamation program directors and OSM managers vote to determine the winners.

The National Award

Pennsylvania Department of Environmental Protection, Bureau of Abandoned Mine Reclamation

West Suscon Abandoned Mine Reclamation, Jenkins Township, Luzerne County, Pennsylvania

Scarred with features such as dangerous highwalls, open mine shafts, and acid mine drainage that degraded local water quality, the West Suscon project was a typical example of an abandoned coal mine (photo above). Challenges at this site in northeastern Pennsylvania included eliminating health and safety problems associated with the highwalls, controlling drainage, and preventing access to the abandoned underground mine openings while protecting the area's bat population. Operators graded the entire area so that it would

blend in with the surrounding landscape and be developed in the future. The area is now the site of an office park with several commercial tenants.

Small Project Awards

Small project awards are reserved for states and tribes receiving less than \$6 million annually in AML funding and for projects under \$1 million.

Iowa Abandoned Mine Land Program,
Mines and Minerals Bureau

*Waal West Reclamation Project, Section II,
Mahaska County, Iowa*

This abandoned mine site was last mined in the 1960s, with mostly barren spoil piles and sparse vegetation left behind. It con-

sisted of a sediment-clogged stream, a hazardous water body, and industrial and residential waste. The State of Iowa, local government, and private citizens succeeded in establishing a wetland and enhancing an existing wetland. An embankment created on the downstream end of the existing wetland allows water to be retained in the area for a longer time, thereby improving the quality of the entire wetland area and pond.

Alaska Department of Natural Resources,
AML Program

*Suntrana Tipple AML Project, Healy Creek
Valley, Alaska*

The Suntrana Tipple project (photo below) site was littered with power transformers,



Testing for evidence of PCBs at
Suntrana Tipple Reclamation Project,
Healy Creek Valley, Alaska.



Water sampling and analysis at the Belden Acid Mine Drainage reclamation project in Carroll County, Ohio.

partially filled diesel storage tanks, and buildings containing trash and hazardous materials. Flash floods, high winds, and other factors created special risks and unknown expense factors for the contractors working at the site. Alaska DNR demolished all of the onsite buildings and mitigated the contaminants found on the site, including hydrocarbons and polychlorinated biphenyls. The Alaska Department of Environmental Conservation subsequently issued a clearance for this site.

The Appalachian Regional Award

Ohio Department of Natural Resources,
Division of Mineral Resources
Management

*Belden AMD Reclamation Project, Carroll
County, Ohio*

The Belden site (photo above) is one of eight stream reaches along Huff Run that the Ohio Department of Natural Resources has identified for eventual reclamation. The current project has restored about 4,000 feet of surface waters affecting two streams in the Huff Run watershed, primarily to benefits aquatic insects and na-

tive fish such as darters and catfish, which once occurred throughout the watershed. The early results are promising: the discharge of iron and aluminum measured at the project's retention pond has decreased from seven pounds per day to less than a pound per day, which should ultimately reduce the water treatment costs that local municipalities face each year.

The Mid-Continent Regional Award

Railroad Commission of Texas, Surface Mining and Reclamation Division

Mabel New-Superior AML Reclamation Project, Live Oak County, Texas

The Mabel New-Superior open-pit uranium mine site was last operated in the 1960's, and it left behind more than 11,000 linear feet of highwalls. In addition, abandoned spoil and low-quality ore adjacent to the pits presented a radiation hazard. To remedy the situation, contractors eliminated the dangerous highwalls, graded the site to a stable topography, and buried the radioactive materials in the pit bottom. As a result, post-reclamation radiation readings are lower than estimated pre-clean-up readings in about 70 percent of the project area.

The Western Regional Award

Colorado Division of Reclamation, Mining and Safety, Inactive Reclamation Program

Millsap Creek Tailings Reclamation Project, Teller County, Colorado

By the late 1990's, 45 acres of sandy refuse material from an abandoned gold mine had washed down Millsap Creek in central Colorado, causing severe sedimentation into a tributary of the Arkansas River. The

State of Colorado partnered with the Bureau of Land Management, local government, private landowners, and industry to finance and then reclaim the Millsap Creek Tailings. Reclamation work included excavation and re-grading 320,000 cubic yards of tailings, hauling and spreading 60,000 cubic yards of cover soils and rock to stabilize the site, and mulching, seeding, and revegetating the reclaimed area.

2009 AML Grant Amounts

On December 15, 2008, OSM announced it would provide \$298 million in Fiscal Year 2009 grants to states and tribes to restore abandoned mine lands, treat water quality problems associated with past mining, and, in some cases, put to other uses. The grants increased about \$24 million from the amounts available in Fiscal Year 2008.

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.

The 2006 amendments to SMCRA provide that, in addition to the funds distributed to eligible states and tribes based on AML fee collections from coal production in Fiscal Year 2008, each state and tribe will receive the equivalent of one-seventh of its unappropriated state or tribal share balance from Treasury funds.

The amendments also direct Treasury funds to certified states and Indian tribes, or those that no longer have coal reclamation projects to address, that are no longer eligible for funds from AML fee collections.

Fiscal Year 2009 Abandoned Mine Land Grant Amounts

Certified States/Tribes

Louisiana	\$ 289,586
Montana	\$ 9,547,050
Texas	\$ 3,781,470
Wyoming	\$100,783,068
Crow Tribe	\$ 1,580,977
Hopi Tribe	\$ 968,045
Navajo Nation	\$ 5,851,308

Uncertified States/Tribes

Alabama	\$ 5,471,464
Alaska	\$ 1,723,541
Arkansas	\$ 1,569,094
Colorado	\$ 6,485,403
Illinois	\$ 11,356,792
Indiana	\$ 10,546,634
Iowa	\$ 1,724,386
Kansas	\$ 1,725,188
Kentucky	\$ 31,184,323
Maryland	\$ 2,085,185
Mississippi	\$ 210,739
Missouri	\$ 1,807,121
New Mexico	\$ 3,823,848
North Dakota	\$ 2,937,279
Ohio	\$ 8,376,067
Oklahoma	\$ 1,850,042
Pennsylvania	\$ 29,975,292
Tennessee	\$ 1,896,843
Utah	\$ 3,620,533
Virginia	\$ 7,022,985
West Virginia	\$ 39,878,051

These Treasury funds are based upon the amount of fees collected within state or tribal boundaries during Fiscal Year 2008. The amount of AML funding distributed in Fiscal Year '09 is depicted to the left.

Deluge on Mother's Day, OSM's AML Program Responds in Troubled Times

For many locations, 2009 proved to be a drought year, but not in the Appalachian region, and especially not in the Ashland, Kentucky, area. The unusually wet weather in winter and early spring 2009 triggered dozens of emergency-related mine reclamation complaints, putting a strain on OSM's Ashland office, which had about 40 percent fewer workers available due to retirements, attrition, and other staff changes.

The Ashland office is responsible for handling emergency AML complaints in Kentucky. Normally, it receives a few hundred AML complaints each year, and after evaluating them to see if they fit the criteria, it will handle an average of 65 to 70 complaints in a fiscal year. Of those, about 18 to 20 are attributed to severe weather in a typical year. As OSM staff would discover, 2009 was not a typical year.

On May 9th and 10th, Mother's Day weekend, a series of thunderstorms raged in the Ashland area. Those storms dumped more than four inches of rain in a very short time, compounding a difficult situation because of the already saturated ground. To make matters even worse, for the next two weeks after that, a "train" of similar storms passed over eastern Kentucky, washing



A landslide from the Mother's Day thunderstorms that occurred in and around Ashland, Kentucky. OSM staff responded swiftly to a record number of claims, saving dozens of homes and businesses.

out rivers, streams, and creeks, and taking out roads and bridges, leaving many rural communities cut off and isolated.

The storms prompted Governor Steve Beshear to declare most of southeastern Kentucky a disaster area.

When the storms passed, and citizens surveyed what was left, it was up to OSM to respond to one of the biggest calls to action the Ashland office had ever seen – and to handle it quickly.

The Ashland office received 42 storm-related complaints in less than three weeks after the first storm, 40 of which focused on mine drainage, flooding and large landslides that threatened homes, businesses, churches and public roads. OSM's AML program has a stated goal of visiting and evaluating a potential AML claim within 48 hours of its receipt, and then to quickly design, contract and implement the remedy to protect public health, safety and welfare.

However, receiving so many complaints at one time put that goal beyond the ability of the office to handle alone.

OSM's managers called for help and received it in short order. OSM offices in other Appalachian states sent additional staff who worked nights and weekends to address the situation.

In the end, OSM declared 30 of the 42 complaints as AML emergency sites, with all 30 projects addressed and completed within 60 days. Because of OSM's quick response, dozens of homes and businesses were saved from damage or destruction.

As a result of the Mother's Day deluge, the Ashland office handled the fourth-largest number of AML annual complaints in its history. It successfully evaluated those storm-related problems and abated them faster than many people thought possible.

Airport Mine Fire, Allegheny County, Pennsylvania

Imagine for a moment the chaos that would ensue if the 47th busiest airport in America came to a grinding halt, or even if the pace and tempo of the 200 flights each day was restricted for one day.

Many passengers would miss connecting flights, and subsequent business or personal meetings. If the problem continued for a year, nearly nine million passengers and almost 170,000 takeoffs and landings would suffer an impact of some type.

Without some much-needed help from OSM and the Pennsylvania Department of Environmental Protection, Pittsburgh International Airport would have suffered such

a degree of disruption. With nearly nine million passengers and almost 170,000 takeoffs and landings each year, the airport is a major transportation hub.

The airport's midrange radar tower is about one mile south of the terminal, sitting on top of an abandoned mine site. On June 3, 2008, the airport authority contacted OSM, saying the old mine site was on fire and that the authority was unable to suppress the flames. The fire presented a major problem because it was burning near the radar tower.

From June through December 2008, OSM staffers used a variety of computer applications and both GPS and geospatial imaging systems to explore and map the



A panoramic view of the area affected by the Airport Mine Fire. Note the depth of the trench in the upper left hand corner, (inset) as compared to the OSM staffer standing above.

area. They discovered a four-acre area rich with blocks of coal buried in the spoil of the original mine, and determined a large fire was indeed burning.

After performing more engineering studies on the area, the Abandoned Mine Reclamation team decided to isolate the underground fire by digging a 475-foot trench. They backfilled the trench with clay, extinguished or capped the fire where possible, and left the trench open to prevent the remaining underground fire from migrating to the tower area.

The major portion of the work was completed in October 2009, and the Pennsylvania Department of Environmental protection has taken over the role of monitoring the flames while planning to eventually put the fire out. Overall, the project cost about \$370,000 to complete.

Thanks to the swift intervention of OSM and the Commonwealth of Pennsylvania, Pittsburgh International Airport was able to avoid a disaster that would have had a major impact on the Nation.

OSM's Mid-Continent Region Responds to One of the Largest AML Emergencies in Oklahoma State History

Oklahoma was once home to a thriving, booming coal mining industry, but in the four decades since the boom, people living there have learned the hard way about the dangers of mine subsidence. It is a widespread problem that not only affects

homeowners, but even people trying to travel on the roads.

In 2009, a mine subsidence incident that grew quickly would have stopped traffic if OSM's Mid-Continent Region, the Oklahoma Department of Transportation, and the Oklahoma Conservation Commission had not intervened.

U.S. Highway 270 in Alderson, Oklahoma, had experienced minor problems with mine subsidence beginning in 2006. By late 2009, the state had patched nearly 1,100 feet of asphalt due to minor cave-ins. The problem eventually grew to the point where it forced the State of Oklahoma and OSM to declare an emergency, likely the largest single AML emergency project in state history.

No one knew the full extent of the problem until OSM staff members collaborated with the state Department of Transportation to drill exploratory holes into the areas beneath the highway surface. From there, OSM staff used a state-of-the-art borehole camera system that provides both black and white and color high-resolution photos and video of what lies beneath, even to a depth of 1,000 feet.

The Oklahoma Conservation Commission took the information from the borehole cameras to identify the depth and extent of the voids under the highway. What they discovered were holes as much as 23 feet deep from a mine dating back to the early 1900s. These voids can become dangerous when the mine support structures wear

out and collapse, causing the upper levels to sink as well.

From there, the Oklahoma Conservation Commission contracted with a local company to pump a concrete grout mixture into the voids to prevent more subsidence. The total cost for the project was more than \$800,000. To place this in context, most emergency subsidence projects in Oklahoma cost between \$8,000 and \$12,000.

Today, more than 11,000 drivers each day pass over that section of U.S. Highway 270, and most drivers have no idea what

was needed to ensure their safety. For OSM, it also shows how well the Federal program works with state and local governments to abate problems associated with pre-SMCRA mining.



Oklahoma workers used the borehole camera provided by OSM to determine the depth and extent of the subsidence before making the necessary repairs.

Regulating Active Coal Mines

SMCRA balances the need to protect the environment from the adverse effects of surface coal mining operations with the Nation's need for coal as an essential energy source. It ensures that coal mining operations are conducted in an environmentally responsible manner and that the land is adequately reclaimed during and following the mining process.

The oversight function that OSM performs consists of a few basic components. These include establishing and aiding in promoting the primacy of state and tribal oversight agencies, oversight of the resulting state or tribal regulatory agencies, on-site inspections of coal mining operations (both independent of state or tribal authorities and in cooperation with those authorities), and finally, if necessary, holding the regulatory authorities and the coal operators accountable if they fall short of the established program requirements during and after mining.

OSM also partners with states and Indian tribes to regulate mining on Federal lands and to support states' regulatory programs with grants and technical assistance.

The examples that follow represent some of OSM's accomplishments in Fiscal Year 2009 in the regulatory arena.

2009 Active Mine Reclamation Award Winners

Each year since 1986, OSM has recognized the efforts of coal mine operators to reclaim their active mine sites to uses to benefit the environment and the public. OSM recognized eight coal mining compa-

nies in 2009 for their excellence in active mine reclamation work.

National Award

National Awards are presented to coal mining companies that achieve the most exemplary mining and reclamation in the country. A coal mining operation may be nominated for achievement in a specific aspect of reclamation, or for overall performance in meeting goals of the Surface Mining Law.

[Peabody Energy, Black Beauty Coal Company, Viking Mine, Daviess County, Indiana](#)

Viking Mine's Corning Pit offered a reforested area designed to create wildlife habitat, sequester carbon, promote biodiversity and provide for a future timber supply.

[Spring Creek Coal, LLC, Spring Creek Mine, Decker, Montana](#)

Spring Creek Mine identified a wide diversity of vegetation types in the pre-mine vegetation and soil surveys, then successfully incorporated the same type of diversity into the post-mining landscape.

[San Juan Coal Company, La Plata Mine, La Plata, New Mexico](#)

San Juan Coal Company's reclamation efforts used the highest technology regrading method available to control erosion and sedimentation, and to achieve enhancement of wildlife habitat and related environmental resources.

[Peabody Energy, Caballo Mine, Campbell County, Wyoming](#)

Caballo Mine's stream channel reclamation and construction of associated pools

Restored wetland at the Caballo Mine in Wyoming, winner of one of OSM's 2009 Excellence in Surface Coal Mining Reclamation Awards.

of the North Tisdale Creek Wetlands Reservoir has effectively re-established riparian vegetation and wetland conditions.

Good Neighbor Award

Good Neighbor Awards are presented to companies for successfully working with surrounding landowners and communities while completing mining and reclamation.

Bronze Award

**Coulterville Coal Company, LLC,
Gateway Mine, Randolph County,
Illinois**

Gateway Mine recruited employees from surrounding southern Illinois communities to participate in technical training and education programs for local students, provide

mine tours and open houses for the local community and its schools, participated in Arbor Day projects, and donated steel to build a local high school.

Silver Award

**Patriot Coal Company, LP, Patriot
Surface Mine, Henderson County,
Kentucky**

Patriot Coal assumed the reclamation liability on a permit in western Kentucky left behind by the mine's former owners and reclaimed a 32-acre final pit impoundment, achieved hay productivity, and proposed merging a portion of the area into a local county park system.

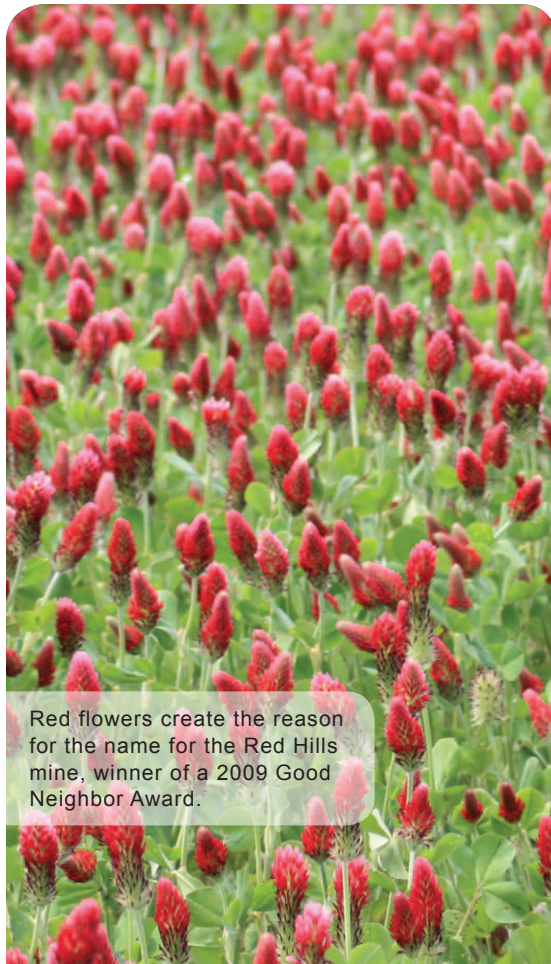
Gold Award

**North American Coal Corporation,
Red Hills Mine, Choctaw County,
Mississippi**

Red Hills Mine presented hands-on technology training to rural teachers, built a public overlook, gave tours, and provided presentations to help address negative stereotypes associated with surface mining. The mine also employed exemplary reforestation techniques to provide property owners with new stands of loblolly pine trees.

Director's Award

Each year, one coal mining operation in the country is selected to receive the Director's Award for outstanding achievement in a specific area of reclamation. In 2009, the Director's Award recognized the project that advanced the science of reclamation.



Red flowers create the reason for the name for the Red Hills mine, winner of a 2009 Good Neighbor Award.



Luminant Mining Company was cited for its continuous funding of academic studies of the company's environmental footprint.

Luminant Mining Company, LLC, Fairfield, Texas

The Luminant Mining Company's Environmental Research Program received the Director's Award for its funding of graduate studies of the company's environmental footprint. University graduate students are offered the use of research facilities and living quarters near one of Luminant's power plant and mine facilities. By the end of 2008, Luminant had provided more than \$4.6 million in funding, and the program has produced more than 120 completed independent student theses and dissertations. Specific, on-the-ground results include increasing prime farmland soils at Luminant's Big Brown facility from about 5 percent to more than 58 percent.

Topical Studies

In addition to conducting inspections, OSM carries out other oversight responsibilities. One example is the series of scientific

studies the bureau carries out to increase both its ability to regulate the industry and enhance environmental protection. These are called topical studies, and they often lead to on-the-ground procedural changes.

Typically, the reviews are conducted by multiple experts, with the cooperation or participation of the State so that any recommendations or improvements are well understood and can be implemented in a reasonable time frame. In addition, the oversight reports do not limit findings to compliance with the program or regulations, but often include suggested discretionary actions that will improve the program. The efforts sometime span multiple years involving not only the identification of a problem but also the offer of technical assistance to the State regulatory authority if the state asks for OSM's help and advice to improve the regulatory program.

Some recent examples of oversight topical studies include:

West Virginia Storm Water Run Off Analysis (SWROA)

A SWROA is a specific analysis that the state of West Virginia added to its program in Fiscal Year 2009 to address concerns about potential excessive water runoff from mining operations during large storms. Under the protocol, a coal mine operator must submit a detailed analysis using hydrologic and hydraulic modeling to predict surface water runoff peak flows from the permitted area before mining, during mining and after reclamation is complete. The mining and reclamation must be planned in such a way that the worst-case peak flow during and after mining does not exceed peak flow for the pre-mining operation.

When OSM conducted its topical study on the proposal, a team of OSM engineers reviewed five permits for both field conditions and the models used to predict the discharges. The team found the SWROA concept and emphasis on storm water management resulted in improved surface mine drainage designs and more timely construction. The SWROA focused on more creative and safer water detention and better valley fill and construction practices. However, the report also noted that the current methods do not guarantee evaluation of the worst-case scenario, and other problems with the modeling were noted. The engineers also suggested the State consider changing its rules to require that the models used in predictions be verified in the field.

The West Virginia Department of Environmental Protection (WVDEP) agreed to work with OSM to provide additional train-

ing on modeling parameters for its staff and host a workshop for West Virginia operators. WVDEP and OSM also agreed to monitor violation history on a yearly basis to determine if there are offsite impacts related to excessive peak discharges, which would merit further changes to the SWROA process.

OSM completed several other topical studies in Fiscal Year 2009. They include:

- Flyrock (West Virginia)
- Blackwater Discharges (West Virginia)
- Permitting techniques to prevent post mining discharges (Pennsylvania)
- Fill and pond certification procedures (Virginia)
- Review of durable rock fills (Virginia)
- Offsite impacts related to maintenance of sediment control structures/ditches (Virginia)

Geomorphic Reclamation

A new look is emerging on lands that at one time were coal mines. The change in the landscape is new and different because it appears very similar to the surrounding hills and valleys (photo right).

Before mining began, lands in the Navajo Nation in the Four Corners region were primarily used by wildlife and by livestock such as sheep, goats, cattle, and horses. The people used traditional Navajo herding practices.

By law, coal operators are required to restore their mines to their approximate original contour so that local people can use

the lands after mining and reclamation is completed in a manner similar to that used before mining occurred.

The language used in SMCRA more specifically mandates that an operator restore a mined area to the point where it closely resembles the land before mining. OSM's Approximate Original Contour regulations state that reclamation must create a gently rolling contour with no highwalls remaining. However, while most of the engineering approaches that mining companies have historically employed achieved stable landscapes, many of those projects tend to have an artificial, flat appearance.

The traditional engineered design approach usually creates large areas that look similar to the landscape in a farm field, or a city park, or a construction fill site, often exhibiting long straight lines, and flat, uniformly sized and spaced structures on the landscape.

In the past few years, OSM's Western Region has encouraged mining companies on Indian lands to begin developing and implementing reclamation plans that result in a more natural appearance using a technique called geomorphic design.

Geomorphic design focuses on rebuilding the land in such a way that it more closely resembles the undisturbed landscape before mining. The technique divides the reclaimed landscape into several smaller drainages and sub-watersheds, instead of limiting the reclaimed drains to a few large centralized rock-armored structures common to previous reclamation work.



Incorporating that primary change in drainage design as well as related considerations such as grade and watershed size, allows the creation of a reclaimed setting that significantly enhances long-term landscape stability. The geomorphic model is also relatively maintenance free for the land users, benefits native plant diversity and wildlife species, and is more aesthetically pleasing to the eye because the finished product more readily blends in with the surrounding landscape.

Creating a naturally functioning reclaimed landscape that blends readily with the

adjacent undisturbed area is meaningful to the Navajo people living nearby, and the effort of returning the land to a more natural appearance increases the acceptance of mining projects within the reservation boundaries.

The McKinley North Mine operated by Chevron Mining Inc. is an example of one of the more recent geomorphic reclamation projects OSM has helped develop.

Chevron submitted plans to geomorphically reclaim four mine areas and OSM approved two sites. OSM engineers and hydrologists held several regular meetings to discuss how to go about incorporating geomorphic reclamation into the company's postmining plan while also making sure the company continued to observe and obey the applicable regulatory requirements.

The company then began working in the field to implement the plan.

As a result of the successful creation and construction of the geomorphic design elements, OSM has begun working with BHP Navajo Coal Company at its Navajo Mine on a 42-acre site that also embraces the new approach. The company has already completed final reclamation on one site while continuing work on others, all incorporating the geomorphic reclamation techniques.

It appears the momentum is growing toward such reclamation plans. Late in Fiscal Year 2009, OSM engineers and hydrologists met with Peabody Western Coal Company to discuss using the geomorphic model in reclaiming at the company's Kay-



Irrigation lines in an area being reclaimed using geomorphic reclamation. Water is supplied to native plant species to ensure their survival in the region's semi-arid climate.

enta mine complex in northeastern Arizona. The company indicated it was interested in possibly moving away from the previous reclamation approach.

In an effort to continue the shift toward geomorphic reclamation, OSM's Western Region has developed draft guidelines to provide mining companies broad direction on the concept, and continues to encourage those companies to adopt the idea as much as possible.

The First Five Years of the Appalachian Regional Reforestation Initiative

Clutching a 10-pound, spear-like, tree planting bar, 19-year-old Berea College student Abigale Embry raised her arms over her head and suddenly thrust the metal tip of the heavy tool into the compacted mine soil at the Dollar Branch abandoned mine site in Harlan County, Kentucky.

“We’re planting trees to restore the forest on this mine site and to provide food and habitat for a diverse range of wildlife,” said Embry.

Throughout the spring of 2009, hundreds of college students from as far away as Vermont, Kansas, and Florida, came to the old mine site deep in the mountains of Eastern Kentucky to volunteer to plant hardwood tree seedlings under an innovative mined land reforestation initiative called the Appalachian Regional Reforestation Initiative, or ARRI.

“These young people are doing excellent work. It’s worth every penny of what we’re putting into it,” Kentucky Department for Natural Resources Commissioner and ARRI partner Carl Campbell said, as he packed hardwood tree seedlings into tree-planting bags for students from Berea College, Eastern Kentucky University, and the University of the Cumberlands.

The tree-planting effort at the Harlan County abandoned surface mine is just one of dozens of projects conducted by ARRI, which is a cooperative effort among the states within OSM’s Appalachian Region and the Office of Surface Mining to

encourage restoration of high-quality forests on reclaimed coal mines in the eastern United States.

ARRI’s goals are to communicate and encourage mine reforestation practices that: (1) plant more high-value hardwood trees on reclaimed coal mined lands in Appalachia; (2) increase the survival rates and growth rates of planted trees; and, (3) expedite the establishment of forest habitat through natural succession.

Prior to ARRI’s creation, most mine sites did not use reforestation techniques to help stabilize the mine soils, clean the air and water, and provide for wood resources, wildlife habitat and jobs. A major focus of ARRI is to address the significant forest fragmentation in Appalachia created over the past 30 years. During the past two spring tree-planting seasons, over 2,500 ARRI volunteers worked to plant 177,500 trees on 22 different former mining sites in six Appalachian states. The volunteers represented a wide spectrum of diverse interests and included representatives from government, industry, conservation, environmental, and faith-based groups, as well as grade school, high school, and college students.

One of ARRI’s most active partners is the Appalachian Coal Country Watershed Team (ACCWT), which hosts volunteer tree-planting events on mined land throughout the region. This joint effort strives to improve watersheds through the reforestation of former mine sites previously reclaimed without benefit of using the Forestry Reclamation Approach (FRA). The partnership successfully enhanced



College student at ARRI Arbor Day Tree Planting Event in Kentucky.

reclaimed mine sites through the supplemental planting of native hardwood species to promote healthy forest habitats, an effort that is helping to influence the way reclamation progresses on active mines in the future.

Using the FRA, ARRI's other main focus is to advocate the establishment of healthy productive forests on active or current mining sites.

As of 2009, ARRI had signed agreements with more than 200 diverse groups and nearly 1,000 individuals to help support the mission of reforestation in Appalachia. In just five years since ARRI's start in 2004, the partnerships have planted more than 60 million, high-value hardwood trees on 87,000 acres of newly reclaimed mined land in the Appalachian region.

Another active ARRI partner is The American Chestnut Foundation (TACF).

TACF's main objective is to reestablish the chestnut tree, valued for its wood and as a food source, within its original range in the Appalachian Mountains. The TACF/ARRI partnership allows TACF to use ARRI's reclamation sites for establishing experimental plots, demonstration sites, and as "springboards" for the majestic tree to be established back into the forests of its native range. (For more information on TACF, see entry on page 8).

Eastern Kentucky University professor Tammy Horn is another ARRI advocate.

Horn's vision involves planting nectar-producing trees using the FRA to establish "bee yards," and to capture the honey flows. She sees unreclaimed mine sites as a golden opportunity not only to bring trees and bees to Appalachian mine sites, but jobs as well.

"What we're trying to do is set up long-term economic development," said Horn.

Horn is working in cooperation with the International Coal Group (ICG), a West Virginia mining company, to create a series of bee yards on old mine sites reclaimed with the FRA, and she has placed more than 50 hives on reclaimed Kentucky sites.

The coal company has embraced the idea.

"Actually, it turned out that it was pretty simple for us to make the sites FRA compliant and bee yard ready," said Don Gibson, International Coal's director of Permitting and Regulatory Affairs.

Over time, Horn believes, with the right mix of plant life, even more mountains can provide products and income for her project called the "Coal Country Beeworks." The Beeworks is a collaborative effort among Tennessee beekeepers Elaine and Edwin Holcombe, Kentucky beekeeper Allen Meyers, Horn, and Eastern Kentucky University. It represents a chance for local people to develop marketing skills and incomes from selling products like honey and beeswax.

"We were already planting a variety of grasses and tree species, and ICG is a participant in the Appalachian Regional Reforestation Initiative, so we were already putting a lot of native hardwood species out on the ground," said ICG's Gibson.

The sites cost the company very little, just the price of maintaining the roads to the areas and constructing fences to protect the pollen-carriers.

If the project goes beyond Kentucky, Horn believes it could turn into a major economic driver.

Information on the Coal Country Beeworks is used with permission from West Virginia Public Broadcasting

Technology Development and Transfer

One of the purposes of the Surface Mining Law is to help states develop and carry out their own approved surface coal mining programs. OSM achieves this in part by using sound science to provide technical assistance and training to its state and tribal partners to enhance their ability to maintain effective programs.

OSM's Technology Development and Transfer program covers a range of activities that promote and popularize technological innovations that lead to better protection of the environment during mining as well as in reclaiming active and abandoned mines. The program also provides training that ensures that states, tribes, and OSM's other partners continue to administer their surface mining programs efficiently and effectively.

The principles that underlie OSM's Technology Development and Transfer program are straightforward: Increase the technical knowledge of the reclamation of active and abandoned coal mines; Develop and enhance working relationships among the bureau's partners in Federal, state, and tribal governments as well as in industry and academia, and; Leverage the funding that OSM provides through partnerships.

OSM's delivery of specialized training courses is a perfect example of these principles in action. Through the bureau's National Technical Training Program and Technical Innovation and Professional Services, OSM has acquired a reputation for offering high-quality training that helps OSM's partners administer their surface coal mining programs.

Established in 1985, NTTP is an ongoing educational program designed to increase the technical competence and professionalism of state, tribal, and OSM regulatory and reclamation staff. The program's instructors write the curriculum and then present courses in a variety of highly technical fields. They also provide practical professional development to aid in OSM's public oversight mission. OSM's technical training also provides participants with a common understanding of the regulations, advances in science and technology, and how to apply them, while also interacting with OSM's stakeholders: the public, the industry, and other governmental agencies.

Similarly, OSM's Technical Innovation and Professional Services (TIPS) provides specialized hardware, scientific software, customized software training, and technical assistance to its user community. As with the NTTP, TIPS helps strengthen the capabilities of states, tribes, and OSM staff to enforce SMCRA through high-quality technical expertise and assistance, scientific information, and training.

What follows are some of the accomplishments that OSM's Technology Development and Transfer program achieved during Fiscal Year 2009.

National Technical Training Program's Fiscal Year 2009 Program Accomplishments

In Fiscal Year 2009, the NTTP trained 1,053 students in 41 technical, legal, and programmatic subjects ranging from how to take and preserve water samples to how

to communicate better with coalfield citizens.

In addition to regularly scheduled courses, the program also conducted special in-house sessions, including an AML Reclamation course for Montana and four courses for Kentucky (Erosion and Sediment Control, Excess Spoil-Handling and Disposal, Underground Mining, and Effective Writing). All aspects of the program, from identification of needs through course development and presentation, are cooperative efforts of State, Tribal, and OSM offices. In keeping with this, 187 instructors from 43 state, tribal, and OSM offices participated in course instruction, development, and revisions to course content.

One of the most demanding tasks facing the NTTP staff is anticipating what will be needed in future years to train OSM employees in the face of changing technologies and evolving best practices, as well

as changes in policies that ensure the best reclamation. To remain on the cutting edge, NTTP staff must consider what that environment might look like 18 months to two years into the future, as the development of a class generally occurs in three phases: the emergence of an educational need, the development of curriculum and related materials, and then, the execution of classroom training.

In 2009, NTTP began developing a new and comprehensive “SMCRA Principles and Field Processes” course, which will provide OSM staff members with fewer than two years’ experience with an historical perspective on SMCRA and an understanding of why their jobs are critical to meeting SMCRA’s mission.

The two-week long course places an emphasis on the necessary skills used in every OSM area of interest, including how to use maps, electronic equipment (such



Use of a borehole camera in the field. OSM's Technology Development and Transfer program has supplied this equipment to sites around the United States for a variety of uses.

as GPS applications), range finders, clinometers, and scale rules. Students also spend significant time on water sampling, the proper use of chain-of-custody techniques, measurements, site observation, photography, note-taking, and studying how to respond to complaints. Instructors also teach students field essentials such as engineering design, blasting, enforcement procedures and AML management basics.

In 2009, NTTP also partnered with the Interstate Mining Compact Commission, an organization representing states that have assumed regulatory responsibility for their surface coal mining programs, to begin developing content for a benchmark course on the use of electronic permitting. Streamlined permit applications and increased use of electronic systems to handle permits benefit the coal-mining industry, citizens, and government entities alike.

In 2009, NTTP also began developing the curriculum for a course entitled “Acid-Forming Materials: Soils and Overburden.” The advanced-level course hones the technical skills of staff members who examine sites that contain acid-forming materials. The course addresses the materials’ geology, mineralogy, and weathering, and the impact of acid-forming materials on reclamation planning, the mitigation of mine soils, and plant systems.

NTTP conducted courses in 25 locations across the Nation in Fiscal Year 2009 in an effort to maximize student exposure to mining conditions most similar to those they work with, and to minimize travel costs. Roughly proportional to the size

of SMCRA programs in OSM’s Regions, 70 percent of the students who attended NTTP courses came from the Appalachian Region; 11 percent from the Mid-Continent Region; 17 percent from the Western Region; and the remaining 2 percent from OSM Headquarters.

Overall, the NTTP program achieved an effectiveness rating of 95 percent, exceeding the Government Performance and Results Act goal by 2 percent.

Technical Innovation and Professional Services

The Technical Innovation and Professional Services (TIPS) Training Program is a collaborative effort among OSM, states, and tribes. The tools that TIPS provides to state, tribal, and Federal offices ensure that all agencies with Surface Mining Act responsibilities are using the same advanced software and hardware tools to conduct the business required by the Act. TIPS does not just offer software and hardware, however. The program also provides specialized training to use those tools in mining and reclamation. The program maintains specialized training centers in OSM’s Regional Offices: Denver, Colorado; Alton, Illinois; and Pittsburgh, Pennsylvania.

Although most of TIPS’ tools are off-the-shelf applications, TIPS training is tailored exclusively to mining and reclamation uses; this kind of training cannot be found anywhere else. As part of an ongoing effort to improve the TIPS program, program staff regularly survey students who have taken a TIPS class. In 2009, the TIPS training

program received a customer satisfaction rating of 96 percent, exceeding the annual GPRA goal by 3 percent. Forty instructor-led classes were held in 2009 with 502 students completing class sessions. Additionally, 48 students attended training courses sponsored by TIPS, bringing the 2009 total to 550 students trained.

In addition to instructor-led courses, the training program makes 122 e-learning courses available to TIPS customers through DOI Learn, a learning-management system offered by the Interior Department, and ESRI, which is the world leader in GIS modeling and mapping. E-learning provides flexibility and convenience to its users, who can use it to train at their own pace from the comfort of their offices or homes. Forty-six students registered for e-learning courses during 2009, with 41 students completing their course work.

The TIPS program also works in cooperation with OSM's NTTP, complementing training the NTTP provides in SMCRA fundamentals and scientific principles with the training necessary for the use of TIPS technology.

The TIPS website (www.tips.osmre.gov) provides information about TIPS and NTTP, including current training classes, descriptions of TIPS software, access to digital data files for public-domain TIPS software, and a comprehensive link to nationwide geospatial data sources.

The following examples represent some of the TIPS Program's accomplishments in 2009.

TIPS Training Partners with Minority Hiring Employment Program to Reach New Students

The TIPS Training Program continued its collaborative efforts with Southwestern Indian Polytechnic Institute (SIPI), a designated MHEP Tribal College or University, in Albuquerque, NM. SIPI provides TIPS the training facility and student seats in the class in exchange for TIPS providing instructors and course materials. The TIPS program has also initiated a collaborative relationship with MHEP Adams State College (ASC), an Hispanic Serving Institution, in Alamosa, CO. TIPS staff, along with ASC, have already begun to share their expertise in many new ventures to include shared classrooms as well as online training. This partnership has already resulted in agreement for college accreditation for TIPS courses, and a partnership to distribute TIPS courses online through Adams State College's E-learning campus.

On-site Training On Target

For the last four years, the "Introduction to GPS with Garmin eTrex Vista HCx" class has been the most requested TIPS training class with nearly 300 students successfully completing the class during this time. TIPS instructors from the Commonwealth of Pennsylvania developed a tailored Garmin class for all Pennsylvania inspectors and proceeded to deliver the course on-site throughout the state. Overall, 10 classes were delivered to over 130 inspectors in Pennsylvania. The inspectors are now required to use GPS on a daily basis to document disturbed and reclaimed acreages for full-cost bonding, and often

use them to document locations of high-walls, water samples, and complaints. These data are then imported into TIPS-provided software for map generation or GIS assimilation. The end result of their efforts is that no inspector is left behind on the GPS/GIS technology ladder.

Pennsylvania's creative leadership provided learning opportunities for State field staff to work in cooperation with industry and state management to make permitting and operational decisions and their training efforts illustrate to other states the benefit TIPS products. Opportunistically, instructors from Pennsylvania recruit new TIPS instructors through delivery of their on-site classes to further the GIS/GPS effort in the organization and give employees a local point of contact to go to for information and/or resolution of problems.

Coal Mining Geospatial Data Standards

This project is to establish American Society for Testing and Materials Coal Mining Spatial Data Standards for the regulatory and AML programs. Coal mining permit applications submitted by industry and approved by state regulatory authorities contain a large amount of data used to describe planned mining operations. Some of this data is presented on maps in a spatial context displaying the areas to be mined and reclaimed. Some features on these maps, such as the permit boundary or bonded area for example, can be digitally extracted from the maps and managed in a spatial information system to allow regulatory personnel to accurately track the progress of mining and reclama-

tion status at the mine site. GIS technology supports the sharing of this data electronically for use by multiple software applications among many users. To ensure data accuracy and reliability among the various applications and users, especially when comparing data from multiple state programs, standardization in defining the features being shared is essential.

OSM's Applied Science Program: Developing and Delivering High-Quality Technical Information and Science to Partners in Reclamation

Each year, OSM's Applied Science program selects and funds applied science proposals that have the potential to improve on-the-ground reclamation and find answers to environmental concerns associated with coal mining. The Nation needs these continuing efforts to better protect identified endangered species, improve reforestation and revegetation, protect prime farmland, improve technologies to mitigate acid mine drainage, and improve methods for locating underground mines. The Applied Science program is also positioned to help find solutions to other problems that may threaten the public or the environment during and after surface coal mining.

In Fiscal Year 2009, OSM's Applied Sciences program completed nine projects (see text box on page 39) that focused on bringing better information, technology, and tools to the states and tribes, the coal-mining industry, and to non-profit watershed and community groups. The follow-

ing three projects highlight some of these on-the-ground technological advances.

Predicting Contaminant Leaching Potentials for Central Appalachian Overburden and Coal Refuse Materials

The goal was to predict and study the pattern and concentrations of the total dissolved solids (TDS), which is high-salt and/or high pH-producing material, released from common overburden and coarse/fine coal waste in central Appalachia. This is the first project that has studied the pattern of TDS that leaches from mine spoils, coal refuse and overburden and quantified them in such detail. The researchers measured each component of the TDS and how much of each element of concern (including arsenic and selenium) was to potentially drain from the mine spoils, coal refuse and/or the overburden.

Through detailed TDS and overburden analysis, the researchers were able to link the type of overburden and coal waste to the type of pH and TDS it will produce. The techniques of this study have given OSM and the state regulatory authorities a tool to better predict the pattern and concentrations of TDS coming from mine sites. They will also be able to better identify which materials are going to be TDS generating. Both federal and state offices now have better insight into which type of overburden will potentially be a problem when dealing with TDS prevention and prediction.

These tools will also be very important to successful reforestation. When reforestation is the planned post mining land use,



using overburden that is TDS producing will not support healthy tree growth. If the coal companies and the regulatory authorities can determine which types of overburden are high in salt/TDS producing and which ones are not, they will know which materials would be ideal for reforestation. These tools will potentially help to create a link between TDS compliance and reforestation.

This study will help to link the type of overburden found at a mine site to the pH and TDS concentrations and amounts that will be produced from that mine.

Improved Static Test Prediction of Acid Generation Potential: Using X-ray Photoelectron Spectroscopy

X-ray photoelectron spectroscopy (XPS) is a new analytical tool that can be applied in the characterization of minerals common to mining operations. Samples collected from mine sites that were analyzed with XPS indicate that this new technique holds strong potential as a complementary method to existing technology for predicting the potential for mine spoil to generate acid mine drainage. Semi-quantitative results from this technology compare favorably with more costly and time-consuming bulk results determined by traditional acid-base accounting (ABA) methods.

The identification of specific minerals that are known acid producers by this method is proving to be helpful in understanding the complex chemistry of soils and rocks associated with mining. Great importance is being placed on the application of cutting-edge characterization techniques that can assist the development of better mine plans that correctly identify and handle acid-forming materials.

The Use of Commercial Weed Fabric and Irrigation to Enhance Growth and Survival of Aspen and Serviceberry on Reclaimed Surface Mine Lands

This project was designed to determine the effectiveness of landscape fabric to control competing vegetation and improving growth and survival of aspen and serviceberry planted on reclaimed surface coal mine lands at high elevation sites in

Colorado. The method can be used to mechanically replant large areas with woody perennials and enhance survival and growth of trees and shrubs on reclaimed surface mines.

This methodology can be a useful tool to ensure survival and growth of woody perennials on reclaimed surface mine lands where regeneration of trees and shrubs has been problematic due to competition for soil moisture from natural regeneration or replanted herbs and forbs. The method can be used in any area of the country where woody perennial vegetation needs to be re-established, but where growth and survival of the vegetation is limited by competition for water.

Applied Science Projects Completed in Fiscal Year 2009

One of OSM's activities is supporting applied science projects that are designed to help state and tribes in their mission of reclaiming mining sites and mitigating the adverse effects attributed to mining. These applied science projects often involve gathering large data over long periods, and then extensive analysis of the results.

Most projects will run for several years before they reach a conclusion. In Fiscal Year 2009, OSM's Applied Sciences program completed nine projects, which began between 2005 and 2008.

In chronological order by their start date, here are the projects that OSM completed in Fiscal Year 2009:

2005 Projects

Monitoring and Exploration for Flooded Pools in the Pittsburgh Coal Basin of Northern West Virginia, Principal Investigator: Donovan, West Virginia University

2006 Projects

An Evaluation of BMP Efficiencies in Reducing TDS Loads from Active and Abandoned Mine Lands and AMD, Principal Investigator: Kern, MapTech, Inc.

Improved Static Test Prediction of Acid Generation Potential: A Surface Analysis Approach, Principal Investigator: McWhinney, Prairie View University

2007 Projects

Improving Passive Mine Treatment Through Better Understanding of Biogeochemistry and Mineralogy Associated with Mn(II) Oxidation, Principal Investigator: Burgos, Penn State University

Enhancing Mine Subsidence Prediction and Control Methodologies for Long-Term Landscape Stability, Principal Investigator: Karmis, Virginia Tech University

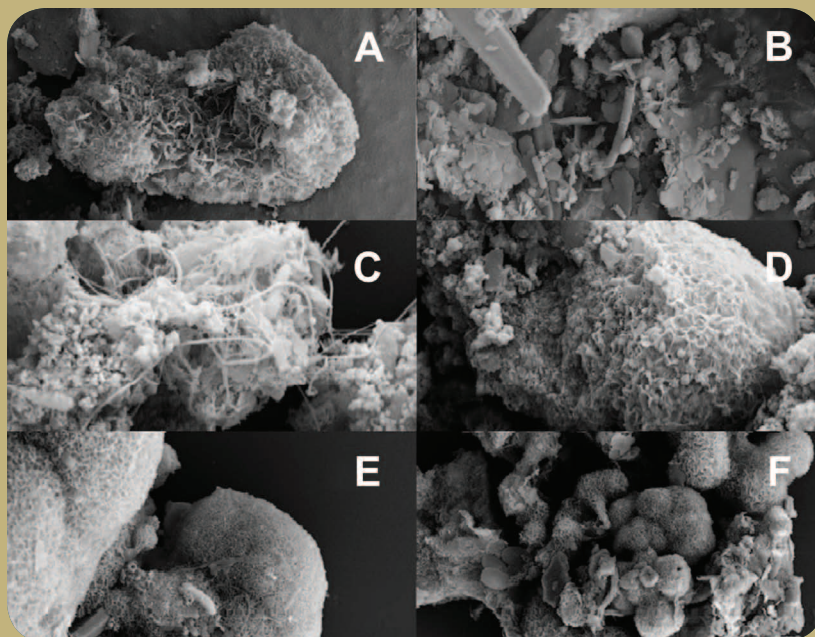
Predicting Contaminant Leaching Potentials for Central Appalachian Overburden & Coal Refuse Materials, Principal Investigator: Daniels, Virginia Tech University

In-Situ Mitigation of Iron in a Net-Alkaline Environment, Principal Investigator: Leavitt, West Virginia University

Quantifying the Functional Value of Stream and Wetland Mitigation Structures on Reclaimed Surface Mines in West Virginia, Principal Investigator: Petty, West Virginia Water Research Institute

2008 Projects

The Use of Landscape Fabric and Supplemental Irrigation to Enhance Survival and Growth of Woody Perennials Planted on Reclaimed Surface Mine Lands, Principal Investigator: Musselman, USDA Forest Service



An electron micrograph of manganese used in a 2007 study to understand the biogeochemistry and mineralogy associated with Mn(II) Oxidation.

Retirements, The Aging of the Workforce, and Opportunities to Improve: How Alabama's Surface Mining Commission Reacted to a Staffing Challenge

Loyalty and longevity are two words often used when talking about the people who work at OSM and its partner state agencies. Walk down almost any hallway in OSM or at a state office, and you will likely see where employees have placed 20 and 30-year certificates of service on their wall. That speaks eloquently to the satisfaction many people get from carrying out the work that OSM and its state government partners do.

However, it also lends itself to another reality: many of those same workers will probably retire within the next five or six years. A March 2008 Office of Personnel Management study reported that about 36 percent of the total current Federal workforce would be eligible for retirement in October 2010, but that number would balloon to nearly 61 percent by 2016. OSM has also seen a big increase in the number of retirements. From a peak of 36 retirements in FY 2005 and FY 2007, 24 OSM employees chose to leave Federal service in FY 2009, which represents nearly 5 percent of the overall workforce. There is little doubt that, as a result, every office at OSM could feel a significant loss of institutional knowledge in a very short time. Some state agencies find themselves in similar positions.

However, such turnover in the workforce presents opportunities as well. Sometimes it can lead to improvements in the regulatory arena, as the arrival of new employees offers new ways of addressing existing challenges.

In 2009, one of OSM's partner state agencies experienced such a loss when a 20-year veteran employee suddenly retired. The departure of a senior geologist/hydrogeologist meant the Alabama Surface Mining Commission (ASMC) would have to continue operations with a newly hired hydrologist with limited experience.

Facing a backlog of more than 20 permit applications, the ASMC asked OSM to lend a hand with increased technical support. In response, OSM assigned one of its hydrologists to immediately begin working closely with ASMC's new hire. OSM and the ASMC staff began the process by conducting simultaneous permit reviews. These joint reviews not only helped Alabama begin clearing its backlog of permit applications but also served as an initial training tool for the newly employed scientist.

This assistance from OSM led to a broader request from ASMC, one which produced widespread changes that took more than three years to fully implement. In addition to doing the permit reviews, OSM developed a multi-year

work plan consisting of over 25 individual tasks aimed at training the ASMC staff and enhancing Alabama's geologic and hydrogeologic permitting requirements.

For three and a half years, OSM's staff provided individual training to the ASMC on geology and hydrogeology. The courses focused on the applications of these disciplines to surface coal mining.

OSM also provided training on evaluating the potential hydrologic effects of surface coal mines to several ASMC staff members, which led to opening communications with other state and Federal programs, and promoting even better exchanges of information.

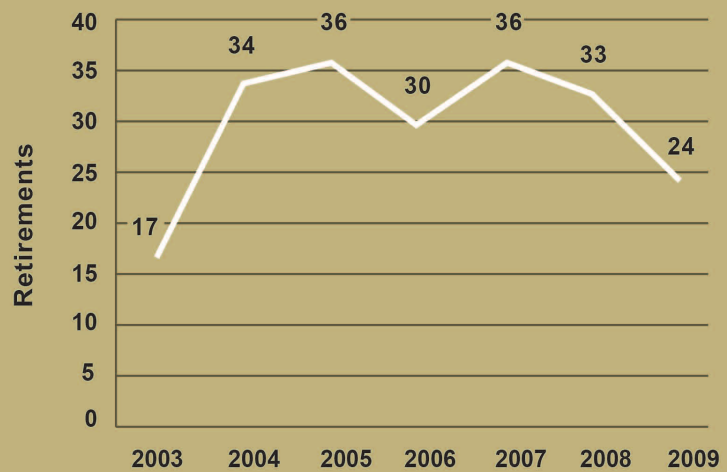
By late 2009, as a result of the changes at ASMC, the state had adopted more stringent requirements for geologic and hydrogeologic data submitted in permit applications. These new requirements will result in better probable hydrologic consequence determinations and improve the predictive analysis of potential impacts resulting in more accurate cumulative hydrologic impact assessments. There are also new requirements for overburden sampling and analysis, as well as more stringent criteria for obtaining bond release.

The work plan also prompted the state to produce and distribute plans on better preparing determinations of the Probable Hydrologic Consequences, permitting requirements for surface and ground water, geologic characterization, overburden sampling and analysis requirements, and bond release criteria.

By December 2009, OSM's staff had completed the 25-task assignment to train the ASMC staff.

In the process, both sides benefited. One new hire can make a difference. The Alabama Surface Mining Commission has a fully trained geologist/hydrogeologist, and clearly written hydrology and geology guidelines for the industry to use. For its part, OSM has developed a valuable model that may help its own transition as more Federal and state regulatory employees retire, and the next generation of professionals joins the workforce.

OSM Retirements 2003-2009



FY 2009 Table Highlights

2009 FAST FACTS

1,469
OSM mine inspection
visits

state and tribal mine
inspections
(full 30,855)
(partial 49,596)

4,607
state and tribal
notices of violations

88%
percentage of active
coal mining sites free
of offsite impacts

38,312
acres released from
Phase III Performance
Bonds

5,838
Federal, private, and
tribal land and surface
water acres reclaimed
or mitigated



The Abandoned Mine Land Program has reclaimed almost 285,461 acres of hazardous high-priority (Priority 1 and 2) coal-related problems.

Safety and environmental hazards have been eliminated on 428,006 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, OSM has provided \$4.59 billion in grants to its partners in 25 states and three Indian tribes to clean up dangerous abandoned mine sites.

OSM has provided \$1,430,350,091 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, OSM has awarded 202 cooperative agreements and amendments to existing cooperative agreements for a total of \$17,284,145.

Since 1977, OSM has addressed 5,447 Abandoned Mine Land emergencies, while the states and tribes have addressed 3,079 emergencies.

2009 FAST FACTS

\$279,885,681
Abandoned Mine Land
fees collected in FY
2009

\$124,049,162
contributed to
miners' health
benefits fund

1,053
students trained in
NTTP courses

550
students trained in
TIPS courses

77
watershed interns
taking part in OSM/
VISTA Program

9
new watershed
cooperative
agreements

2009 Tables

OSM/DOI Strategic Plan Measures

Fiscal Year 2009

Measure	Target	Results
Mission Area: Resource Protection		
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)	6,900	5,838
Mission Area: Resource Use		
Percent of active coal mining sites that are free of offsite impacts.	93%	88% ^{2,3}
Percent of mined acreage reclaimed.	75%	89% ^{2,4}

Data Source: Abandoned Mine Land Inventory System

¹ Information calculated from projects reported with completion dates of 10/1/08 - 9/30/09 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 Not Met: For FY 2009, the Abandoned Mine Land Inventory System reported 5,838 acres reclaimed for Priority 1, 2 and associated 3 projects. This is 1,062 less than the target of 6,900. Although the 2009 results are 15 percent less than the target, the number of Priority 1 and 2 problems represents a larger portion of the total number of acres reclaimed this year than in 2008. Results show 84 percent of the 5,838 acres reclaimed were for Priority 1 and 2 projects, as compared to 62 percent of the 9,909 acres reclaimed in 2008. In addition, the total number of problem areas addressed was 375, or 12 percent more than in FY 2008. Therefore, although the target was not met, progress was made on the number of problem areas addressed associated with high priority projects. Steps to Improve: States have been receiving substantial funding increases to reclaim Priority 1 and 2 sites. OSM staff will review and monitor progress in reporting completed projects during the upcoming year.

² Calculated values: State programs provide data on a July 1, 2008- June 30, 2009 timeframe, to accommodate the accelerated publishing requirements. Results are calculated by subtracting the 2008 quarter data (July 1 – September 30, 2008) and adding the 2009 quarter for (July 1 - September 30, 2009). Federal data is on the federal fiscal year.

³ 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 SMCRA. Target Not Met: This measure covers the mining activities in 31 States and Tribes. Of these States and Tribes, 16 exceeded the target of 93% while 15 were below the target. A new goal of 88% was adopted for the FY2010 President's Budget based on more detailed input on targets from OSM field staff. (Note: based the revised goal, OSM would have met the target.) There are significant differences among regions in terms of the number and size of inspectable units. Pennsylvania, West Virginia, and Kentucky represent the bulk of inspectable units. Some of the off-site impacts reported were due to hydrology, blasting, and encroachment (over the permit boundary) issues. The proportion of the severity of impacts showed a shift from moderate to minor impacts in 2009 as compared with 2008 data. Steps to Improve: OSM's management plans to review the results of this measure as it addresses various oversight activities during the upcoming year.

⁴ Mined acreage reclaimed: This performance measure furthers the concept of reporting end results, i.e. evaluate on a national basis the return of mined land to its intended land use. The numerator is the sum of all acreage that has been processed through Phases I, II, and III bond release. The denominator is the sum of all acreage that has been mined, i.e. bonded acreage data, reported in Directive REG-8 Table 5, is a proxy for the mined acreage. Target Exceeded: The FY 2009 actual of 89% exceeded the FY2009 target of 75%. The increase can be attributed to, in part, three years of experience with revised data on bonded and reclaimed acreage. The data is also reported electronically to allow for ready use as a management tool. For example, a state adopted the use of the performance measure to evaluate contemporaneous reclamation. A review of three active mines in that state was conducted to review the rate of mine reclamation compared to disturbance at the site. In one case, there was an indication that mining and reclamation was not occurring at similar rates (mining was increasing faster than reclamation). Subsequent review lead to submission of new reclamation plans to address the backlog of lands needing reclamation. This action resulted in increased acreage released from the bond, increasing the acreage reclaimed.

TABLE 1

Rounded Figures on AML Collections

AML Funding (Cash Basis)

State/Tribe	AML Collections ¹	State Share Distribution ²	Historic Coal Distribution ²	Minimum Program Distribution ²	Prior Balance Replacement Funds Distribution ³	Certified In Lieu Distribution ⁴	Total Mandatory Distribution ⁵	Emergency Distribution ⁵
Alabama	\$4,154,606	\$1,038,651	\$1,519,587	\$0	\$2,913,226	\$0	\$5,471,464	\$400,000
Alaska	\$429,791	\$107,448	\$16,397	\$1,276,460	\$323,236	\$0	\$1,723,541	\$0
Arkansas	\$10,286	\$2,572	\$126,341	\$1,430,906	\$9,275	\$0	\$1,569,094	\$15,000
Colorado	\$5,936,999	\$1,484,250	\$740,569	\$0	\$4,260,584	\$0	\$6,485,403	\$0
Illinois	\$5,001,847	\$1,250,462	\$5,629,532	\$0	\$4,476,798	\$0	\$11,356,792	\$1,000,000
Indiana	\$8,587,853	\$2,146,963	\$1,832,799	\$0	\$6,566,872	\$0	\$10,546,634	\$338,516
Iowa	\$0	\$0	\$444,970	\$1,275,614	\$3,802	\$0	\$1,724,386	\$70,000
Kansas	\$99,320	\$24,830	\$360,720	\$1,274,813	\$64,825	\$0	\$1,725,188	\$465,000
Kentucky	\$24,594,337	\$6,148,584	\$5,517,297	\$0	\$19,518,442	\$0	\$31,184,323	\$0
Louisiana	\$345,397	\$0	\$0	\$0	\$246,411	\$43,175	\$289,586	\$0
Maryland	\$717,298	\$179,324	\$357,519	\$914,815	\$633,527	\$0	\$2,085,185	\$0
Mississippi	\$308,790	\$77,198	\$0	\$0	\$133,541	\$0	\$210,739	\$0
Missouri	\$75,780	\$18,945	\$435,545	\$1,192,880	\$159,751	\$0	\$1,807,121	\$50,000
Montana	\$11,823,713	\$0	\$0	\$0	\$8,069,086	\$1,477,964	\$9,547,050	\$125,000
New Mexico	\$2,537,212	\$634,303	\$180,042	\$0	\$3,009,503	\$0	\$3,823,848	\$0
North Dakota	\$2,621,362	\$655,341	\$230,470	\$62,721	\$1,988,747	\$0	\$2,937,279	\$58,334
Ohio	\$4,720,743	\$1,180,186	\$3,450,976	\$0	\$3,744,905	\$0	\$8,376,067	\$1,725,001
Oklahoma	\$394,552	\$98,638	\$259,443	\$1,149,959	\$342,002	\$0	\$1,850,042	\$64,167
Pennsylvania	\$10,848,573	\$2,712,143	\$18,197,440	\$0	\$9,065,709	\$0	\$29,975,292	\$0
Tennessee	\$625,131	\$156,283	\$637,403	\$1,103,157	\$0	\$0	\$1,896,843	\$0
Texas	\$3,567,375	\$0	\$0	\$0	\$3,335,548	\$445,922	\$3,781,470	\$0
Utah	\$3,326,701	\$831,675	\$428,662	\$0	\$2,360,196	\$0	\$3,620,533	\$0
Virginia	\$4,289,980	\$1,072,495	\$1,693,431	\$0	\$4,257,059	\$0	\$7,022,985	\$1,200,000
Washington	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
West Virginia	\$32,048,722	\$8,012,181	\$10,458,447	\$0	\$21,407,423	\$0	\$39,878,051	\$2,463,815
Wyoming	\$144,658,474	\$0	\$0	\$0	\$82,700,759	\$18,082,309	\$100,783,068	\$0
Crow Tribe	\$2,102,153	\$0	\$0	\$0	\$1,318,208	\$262,769	\$1,580,977	\$0
Hopi Tribe	\$708,171	\$0	\$0	\$0	\$879,524	\$88,521	\$968,045	\$0
Navajo Tribe	\$5,350,518	\$0	\$0	\$0	\$5,182,493	\$668,815	\$5,851,308	\$0
TOTAL	\$279,885,681	\$27,832,472	\$52,517,590	\$9,681,325	\$186,971,452	\$21,069,475	\$298,072,314	\$7,974,833

Total figures above have been adjusted for rounding.

"Cash Basis" (in the title for Table 1) refers to the recognition of revenue when it is received. AML Fee Collections are reported using cash-basis criteria. AML revenue in OSM's financial statements may include other amounts.

Beginning with the FY 2007 annual report data, OSM uses the term "Distribution" instead of "Allocation" in column headings. OSM allocates funds when it receives the fee collections and "pools" the monies in the AML Fund. Funds are distributed annually to make them available to individual states and tribes for subsequent grant awards. The distributions are calculated as required by SMCRA, except for the appropriated State Emergency funding which is based on state estimates and approved by the OSM Director.

¹ This column represents AML fees actually paid during FY 2008, regardless of when they were reported to OSM. These amounts are the basis for the FY 2009 Distribution.

² For FY 2008 to FY2011, the State Share, Historic Coal, and Minimum Program Distributions are phased in as required by the 2006 AML Amendments.

³ 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.

⁴ OSM has added a new column for the Certified In Lieu Distribution by the U.S. Treasury for the state share balance to certified states. FY 2009 is the first year for this distribution.

⁵ The total Mandatory Distribution does not include AML State Emergency Program funds which are appropriated and not part of the mandatory distribution process.

Data Source: Financial Business Management System and the Grant Distribution

TABLE 2

Abandoned Mine Reclamation Fund Status

Cash Basis (Includes Investments)

(Dollars in Thousands)	FY 2009	FY 2008
Balance, Start of Year	\$2,438,948	\$2,362,684
Fees, debts, and interest collected	\$273,724	\$291,453
Interest earned on investments	\$55,465	\$83,764
TOTAL EARNINGS	\$329,189	\$375,217
Less:		
Disbursements	\$163,385	\$198,559
Transfers to the United Mine Workers	\$61,224	\$100,394
TOTAL DISBURSEMENTS & TRANSFERS	\$224,609	\$298,953
BALANCE, START OF YEAR	\$2,543,528	\$2,438,948

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

AML Grants¹ to States and Indian Tribes

State/Tribe	Administration ³	Project Costs ⁴	Emergency ⁵	AMD Set-Aside ²	Subsidence Insurance	Non-Reclamation Activity Costs ⁶	2009 Total	2008 Total	Program Staff (FTE) 2009
Alabama	\$1,070,631	\$4,688,124	\$400,000	\$0	\$0	\$0	\$6,158,755	\$5,616,359	14
Alaska	\$333,804	\$1,460,563	\$0	\$0	\$0	\$0	\$1,794,367	\$1,750,474	4
Arkansas	\$397,613	\$1,178,926	\$15,000	\$0	\$0	\$0	\$1,591,539	\$1,575,316	7
Colorado	\$2,000,000	\$4,810,403	\$0	\$0	\$0	\$0	\$6,810,403	\$6,697,578	21
Illinois	\$1,568,991	\$8,787,801	\$1,055,000	\$1,000,000	\$0	\$0	\$12,411,792	\$12,332,084	24
Indiana	\$1,612,621	\$7,972,720	\$338,516	\$1,193,929	\$0	\$0	\$11,117,786	\$11,277,279	23
Iowa	\$272,628	\$1,599,753	\$70,000	\$0	\$0	\$0	\$1,942,381	\$1,756,241	5
Kansas	\$360,817	\$1,364,371	\$612,000	\$0	\$0	\$0	\$2,337,188	\$2,525,517	10
Kentucky	\$1,711,976	\$26,558,600	\$0	\$3,499,764	\$0	\$0	\$31,770,340	\$27,444,139	94
Louisiana	\$161,296	\$319,204	\$0	\$0	\$0	\$0	\$480,500	\$229,886	1
Maryland	\$407,440	\$1,419,745	\$0	\$258,000	\$0	\$0	\$2,085,185	\$2,306,364	5
Mississippi	\$274,391	\$83,750	\$0	\$0	\$0	\$0	\$358,141	\$223,515	1
Missouri	\$304,982	\$1,911,129	\$50,000	\$0	\$0	\$0	\$2,266,112	\$1,830,731	8
Montana	\$847,505	\$8,699,545	\$125,000	\$0	\$0	\$0	\$9,672,050	\$8,194,086	14
New Mexico	\$1,599,666	\$3,159,969	\$0	\$0	\$0	\$0	\$4,759,635	\$4,027,510	10
North Dakota	\$398,748	\$2,582,182	\$100,000	\$0	\$0	\$0	\$3,080,930	\$3,072,803	5
Ohio	\$2,305,226	\$6,147,907	\$3,050,000	\$1,389,348	\$0	\$0	\$12,892,481	\$10,151,090	64
Oklahoma	\$381,034	\$1,471,946	\$285,000	\$0	\$0	\$0	\$2,137,980	\$2,005,266	9
Pennsylvania	\$1,084,122	\$32,143,445	\$0	\$2,000,000	\$0	\$0	\$35,227,567	\$25,939,943	127
Tennessee	\$10,000	\$1,651,368	\$0	\$238,105	\$0	\$0	\$1,899,473	\$1,869,416	0
Texas	\$182,405	\$3,599,065	\$0	\$0	\$0	\$0	\$3,781,470	\$4,561,739	6
Utah	\$523,844	\$3,251,373	\$0	\$0	\$0	\$0	\$3,775,217	\$3,644,687	11
Virginia	\$1,139,884	\$8,477,638	\$1,200,000	\$0	\$0	\$0	\$10,817,522	\$8,413,842	24
West Virginia	\$7,764,255	\$36,316,095	\$4,775,000	\$900,000	\$0	\$0	\$49,755,350	\$43,591,961	58
Wyoming	\$1,616,903	\$33,630,248	\$0	\$0	\$89,869	\$68,845,000	\$104,182,020	\$82,265,735	12
Crow Tribe	\$861,000	\$0	\$0	\$0	\$0	\$719,977	\$1,580,977	\$1,942,140	5
Hopi Tribe	\$433,934	\$0	\$0	\$0	\$0	\$534,111	\$968,045	\$1,856,325	2
Navajo Tribe	\$1,148,079	\$0	\$0	\$0	\$0	\$4,703,229	\$5,851,308	\$5,182,493	21
TOTAL	\$30,773,795	\$203,285,873	\$12,075,516	\$10,479,146	\$89,869	\$74,802,317	\$331,506,515	\$282,284,518	583

The figures above have been adjusted for rounding.

¹ Funding for these grants is derived from the FY 2009 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 FY2009 mandatory distribution that appears in Table 1.

² Acid Mine Drainage set-aside funding are funds set aside in a trust account to be used for Acid Mine Drainage abatement and treatment.

³ Included in this category are costs for program support (personnel, budgeting, procurement, etc.), AML inventory management, and program policy development. Indirect costs associated with the administration of the program may also be included.

⁴ The term "Project Costs" is now used instead of Construction. AML simplified grants do not contain specific construction cost breakouts, but rather list all costs associated with a construction project as a project cost. This category contains non-water supply, water supply, and non-coal project costs. There were no new obligations for clean streams in FY09. However there was \$3,658.95 of prior year money deobligated.

⁵ This category contains emergency project, administrative, and indirect costs.

⁶ This category contains non-reclamation activity costs that certified states may cover with Treasury funds. This is a new category for FY09.

Data Source: Financial Business Management System

TABLE 4

Abandoned Mine Land (AML) Emergency Reclamation Projects

State/Tribe	AML Emergencies 2009 1			AML Emergencies 1978-2009		Non-Emergency AML Projects 2009	
	Federal ²	State or Tribe ³	Federal & State Totals	Federal ²	State or Tribe ³	Federal	State or Tribe
Alabama	0	3	3	10	143	0	3
Alaska	0	0	0	0	1	0	2
Arkansas	0	0	0	1	24	0	1
California	0	0	0	5	0	0	0
Colorado	5	0	5	114	0	0	19
Crow Tribe	0	0	0	0	0	0	1
Georgia	0	0	0	0	0	1	0
Hopi Tribe	0	0	0	0	0	0	1
Illinois	0	27	27	51	335	0	26
Indiana	0	8	8	94	194	0	29
Iowa	0	2	2	22	9	0	5
Kansas	0	39	39	270	781	0	3
Kentucky	80	0	80	1,287	0	0	24
Louisiana	0	0	0	0	0	0	0
Maryland	0	0	0	1	0	0	5
Michigan	1	0	1	1	0	0	0
Mississippi	0	0	0	0	0	0	0
Missouri	0	0	0	6	7	0	7
Montana	0	1	1	7	15	0	2
Navajo Nation	0	0	0	6	0	0	4
New Mexico	0	0	0	16	0	0	4
North Dakota	0	1	1	15	22	0	3
Northern Cheyenne	0	0	0	2	0	0	0
Ohio	0	21	21	190	395	0	15
Oklahoma	0	5	5	47	43	0	0
Oregon	0	0	0	0	0	0	0
Pennsylvania	103	0	103	2,956	0	0	67
Rhode Island	0	0	0	4	0	0	0
South Dakota	0	0	0	0	0	0	0
Tennessee	0	0	0	22	1	0	0
Texas	0	0	0	6	0	0	1
Utah	0	0	0	1	0	0	6
Ute Reservation	0	0	0	1	0	0	0
Virginia	0	4	4	30	194	0	18
Washington	1	0	1	65	0	1	0
West Virginia	0	39	39	179	915	0	62
Wyoming	0	0	0	38	0	0	16
TOTAL	190	150	340	5,447	3,079	2	324

Notes:

1. Beginning this year, Annual Report data on AML emergencies are based on the dates the emergencies were "declared" rather than the dates the projects "started." This change promotes consistency with similar project data in OSM's annual budget justifications and should help in measuring OSM's performance by linking resource commitments in budget documents to actual emergency project results in Annual Reports.
2. Federal AML emergencies data represent projects declared in Fiscal Year 2009 (10/01/08 through 9/30/09)
3. State and Tribe AML emergencies data represent projects declared during the most recent complete annual reporting period, which varies depending on when each State's or Tribe's fiscal year begins and ends.

Federal Data Source: OSM's Emergency Reclamation Program

State Data Sources: Individual State AML Reclamation Programs

TABLE 5**Federal Reclamation Program Projects****FY 2009 Obligations 1**

State or Tribe	Emergency	High Priority	Total 1978-2009 ²
Alabama	\$0	\$0	\$13,934,015
Alaska	\$0	\$0	\$194,638
Arkansas	\$0	\$0	\$84,904
California	\$0	\$0	\$2,642,532
Colorado	\$94,406	\$0	\$2,313,900
Georgia	\$0	\$161,449	\$4,623,391
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	\$6,015,524	\$0	\$139,234,171
Maryland	\$0	\$0	\$3,308,669
Michigan	\$2,999	\$0	\$3,671,246
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	\$241,278
Pennsylvania	\$2,785,294	\$0	\$132,546,196
Rhode Island	\$0	\$0	\$567,259
S Dakota	\$0	\$0	\$226,368
Tennessee	\$0	\$0	\$27,829,521
Texas	\$0	\$0	\$289,849
Utah	\$0	\$0	\$123,791
Virginia	\$0	\$0	\$10,139,469
Washington	\$82,077	\$25,008	\$9,671,215
West Virginia	\$0	\$0	\$29,023,226
Wyoming	\$0	\$0	\$1,067,101
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 ³	\$0	\$0	(\$782)
TOTAL	\$8,980,299	\$186,456	\$439,005,751

¹ Figures shown above have been adjusted for rounding² Includes prior-year contract de-obligations and upward adjustments³ Refers to funds that OSM awarded in previous fiscal years that were subsequently returned to the Department of the Interior.

Data Source: Financial Business Management System

TABLE 6a

Priority 1 and 2 (Protection of Public Health, Safety, and General Welfare) and Emergency Projects

(Statistics do not include OSM emergency project accomplishments)

State/Indian Lands	Clogged Streams	Clogged Stream Lands	Dangerous Highwalls	Dangerous Impoundments	Dangerous Pile & Embankments	Dangerous Slides	Dangerous Gases	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
Alabama	1	198	298,038	1	1,462	20	0	470	886	25	1,036	8	15	41	75	0	408
Alaska	0	0	11,190	4	6	0	0	1,498	2	4	38	0	0	1	47	0	57
Arkansas	1	0	72,631	1	841	0	0	2	85	34	28	0	0	17	4	0	116
California	0	0	0	0	0	0	0	0	0	0	34	0	0	1	0	0	42
CERT Tribes*	0	0	7,050	0	475	0	0	6	30	9	66	0	0	35	0	0	24
Colorado	0	0	52,007	0	74	0	1	14	0	10	3,235	3	0	106	29	215	4,436
Crow Tribe	1	0	2,267	1	58	23	0	32	1	0	15	3	0	16	0	0	5
Georgia	0	0	11,500	2	0	0	0	0	0	0	112	0	1	0	0	0	11
Hopi Tribe	0	0	11,662	0	0	0	0	8	0	0	9	0	0	0	0	0	2
Idaho	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Illinois	22	1,435	68,696	8	465	4	25	419	12	79	205	11	1	181	119	0	134,278
Indiana	14	82	128,784	6	638	10	5	103	7	32	71	111	7	258	15	1	440
Iowa	11	911	67,892	3	881	0	0	5	30	58	1	12	3	8	0	0	26
Kansas	1	19	172,540	2	111	8	0	2	1	29	0	3	0	28	9	0	1,670
Kentucky	47	8,332	35,298	119	546	2,280	1	263	49	27	2,162	6	11,429	53	227	63	211
Maryland	5	67	44,680	3	273	69	0	26	20	35	42	85	87	15	1	2	5
Michigan	0	0	950	0	0	0	0	7	2	0	0	0	1	0	8	0	53
Missouri	11	1,519	73,702	6	606	0	0	28	11	70	36	38	15	6	19	7	204
Montana	22	99	25,560	3	180	1	1	267	1	447	1,112	17	12	554	305	69	623
Navajo Nation	0	1	109,586	4	665	7	0	5	0	6	870	19	0	12	3	0	382
New Mexico	2	21	286	0	16	0	0	17	0	0	567	4	1	50	35	32	1,089
North Carolina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
North Dakota	0	0	87,599	4	317	35	0	14	18	2	13	6	0	1,407	18	0	91
Ohio	38	5,554	75,039	11	102	483	4	65	16	34	394	53	324	176	171	3	269
Oklahoma	15	1	259,034	0	0	0	0	16	224	26	190	6	3	22	4	0	138
Oregon	0	0	0	0	0	0	0	3	0	0	16	0	0	0	0	0	3
Pennsylvania	143	304	991,815	16	694	105	0	363	126	41	336	28	440	2,605	183	1,179	635
Rhode Island	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0
South Dakota	0	0	135	0	0	0	0	4	0	0	5	0	0	1	0	0	1
Tennessee	2	147	63,028	3	533	68	0	31	80	17	192	7	14	6	28	0	11
Texas	0	0	64,002	0	1,533	0	0	0	17	0	66	0	0	8	0	0	368
Utah	14	9	3,425	1	356	3	19	207	0	2	3,517	3	0	185	43	20	1,569
Virginia	76	873	30,155	56	255	327	0	234	2	2	1,065	0	6,106	14	52	0	111
Washington	0	0	0	0	3	0	0	7	0	0	30	0	0	12	15	0	92
West Virginia	55	167	200,722	860	4,996	584	5	650	8	38	2,505	80	15,205	471	494	28	160
Wyoming	121	1,757	571,993	142	2,675	25	0	217	416	29	613	3	0	1,187	17	68	674
TOTAL	601	21,496	3,541,266	1,257	18,759	4,051	61	4,983	2,044	1,055	18,581	506	33,664	7,483	1,920	1,686	148,209

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

*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).

Data Source: Abandoned Mine Land Inventory System

TABLE 6b**Priority 3 Coal and Non-Coal Problems (Environmental Restoration)**

(Statistics do not include OSM emergency project accomplishments)

State/ Indian Lands	Bench	Industrial/ Residential Waste	Equipment/ Facility	Gobs	Highwalls	Haul Road	Mine Openings	Pits	Spoil Area	Slurry	Slump	Water Problems
Alabama	23	15	8	241	32,435	2	50	0	9,501	5	9	379
Alaska	0	0	0	2	0	0	0	0	51	0	25	0
Arkansas	0	0	0	0	0	0	0	6	153	0	0	160
California	0	0	0	2	0	0	0	0	0	0	0	50
CERT Tribes*	0	0	2	4	1,500	0	1	7	80	0		0
Colorado	3	6	7	162	2,028	0	18	131	829	0	0	1
Crow	6	0	0	37	2,245	12	2	38	29	0	4	0
Georgia	3	0	0	3	400	0	0	3	7	0	0	0
Hopi Tribe	0	0	0	25	51	15	0	10	10	0	0	0
Illinois	1	6	167	2,649	10,880	210	72	633	1,895	1,166	1	2,896
Indiana	0	111	227	1,653	15,226	263	28	378	2,407	1,140	86	9,105,428
Iowa	0	2	0	1	2,900	5	1	21	356	0	0	0
Kansas	0	0	1	89	3,200	0	0	23	316	10	0	0
Kentucky	562	0	61	233	2,240	0	71	4	822	66	5	60
Maryland	10	1	2	46	5,335	2	11	22	263	0	1	273
Michigan	0	0	1	27	0	1	0	1	10	0	11	0
Missouri	0	5	9	148	16,824	1	0	96	1,386	69	0	86
Montana	1	105	58	162	1,170	1	230	34	870	0	19	2,741
Navajo Nation	41	1	2	141	890	203	79	148	265	0	0	3
New Mexico	3	0	29	90	0	12	29	2	335	2	0	0
North Dakota	0	0	0	0	0	0	0	0	0	0	0	0
Ohio	2	0	3	202	9,620	0	19	19	425	0	0	156
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	0	29	198	9,358	0	39	225	3,790	1	51	6,621
Tennessee	76	2	15	67	10,376	8	3	148	902	0	4	360
Texas	0	0	0	8	0	0	0	0	553	0	0	0
Utah	4	7	64	255	550	4	0	8	55	1	16	20
Virginia	0	1	25	21	13,000	1	52	0	12	0	0	120
West Virginia	3	1	5	88	44,841	11	5	5	218	2	1	622
Wyoming	0	0	25	45	220	406	143	7,216	9,349	199	112	76
TOTAL	737	264	740	6,597	185,289	1,156	854	9,177	34,887	2,660	344	9,120,052

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

*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).

Data Source: Abandoned Mine Land Inventory System

TABLE 7

Final Rules Published

Title	Citations	Date Effective	Summary of the Rule
Abandoned Mine Land Program RIN 1029-AC56	30 CFR Parts 700, 724, 773, 785, 816, 817, 845, 846, 870, 872, 873, 874, 875, 876, 879, 880, 882, 884, 885, 886, and 887 73 FR 67576	1/13/2009	The rule revised OSM's Abandoned Mine Land program regulations to be consistent with the Surface Mining Control and Reclamation Act Amendments of 2006. The rule reflects the extension of our statutory authority to collect reclamation fees for an additional fourteen years and to reduce the fee rates. The rule also updated our regulations in light of the statutory amendments that changed the activities State and Tribal reclamation programs may perform under the AML program.
Civil Monetary Penalties RIN 1029-AC61	30 CFR 723, 724, 845, and 846 74 FR 34490	11/28/2009	This rule adjusts the penalty amount of certain civil monetary penalties authorized by the Surface Mining Control and Reclamation Act of 1977. The rule implements the Federal Civil Penalties Inflation Adjustment Act of 1990 which requires that civil monetary penalties be adjusted for inflation at least once every four years.
Excess Spoil, Coal Mine Waste, and Buffers for Perennial and Intermittent Streams RIN 1029-AC04	30 CFR Parts 780, 784, 816, and 817 73 FR 75814	1/12/2009	The rule revised OSM's regulations concerning stream buffer zones, stream-channel diversions, siltation structures, impoundments, excess spoil, and coal mine waste.

During FY 2009, OSM published in the Federal Register 7 proposed and 10 final rules for State programs.

Data Source: OSM, Program Support Directorate

TABLE 8

Significant Court Decisions

Court Decisions	Citation	Decision Text
Consolidation Coal Co., et al. v. United States	86 Fed. Cl. 384 (2009); No. 2009-5083 (Fed. Cir.)	Plaintiffs brought suit against the United States claiming that the Surface Mining Control and Reclamation Act's abandoned mine land (AML) fee, and the Office of Surface Mining's implementing regulations, violate the Export Clause of the U.S. Constitution to the extent they apply to exported coal. Initially, the U.S. Court of Federal Claims agreed with plaintiffs and granted plaintiffs' motion for summary judgment on the issue of liability. Applying the canon of constitutional avoidance, the U.S. Court of Appeals for the Federal Circuit reversed the lower court's grant of summary judgment, holding that "the government's construction [of the statute] must [] prevail as it is the only reasonable construction which preserves the constitutionality of the statute." On remand to the trial court, the court, on March 4, 2009, rejected plaintiffs' renewed argument that OSM's regulations violate the Export Clause. The trial court held that the Federal Circuit's previous decision had disposed of plaintiffs' statutory and regulatory claims. The case is currently back on appeal to the Federal Circuit.
National Mining Association v. Kempthorne	512 F.3d 702 (D.C. Cir. 2008); 129 S. Ct. 624 (2008)	On January 15, 2008, the U.S. Court of Appeals for the District of Columbia Circuit upheld the Secretary's 1999 valid existing rights (VER) rulemaking against an industry challenge. The VER rule defines the circumstances under which a person has VER to conduct surface coal mining operations on lands listed in SMCRA Section 522(e). In affirming the trial court's decision, the court of appeals concluded that the Secretary's interpretation was reasonable, and based on a permissible construction of the statute, and that the Secretary had considered the matter in a detailed and reasoned fashion. On March 14, 2008, the court denied plaintiff's petition for rehearing, and, on December 1, 2008, the Supreme Court denied plaintiff's petition for Supreme Court review.
Ohio Valley Environmental Coalition, et al. v. U.S. Army Corps of Engineers, et al.	556 F.3d 177 (4th Cir. 2009); No. 09-247 (S. Ct.)	Ohio Valley Environmental Coalition (OVEC) is challenging the U.S. Army Corps of Engineers' (Corps') reissuance of Clean Water Act Section 404 individual permits to four coal companies. OVEC alleges that the Corps' actions violate the Clean Water Act, the National Environmental Policy Act, and the Administrative Procedure Act. The permits at issue allow the coal companies to create "valley fills" and other structures in waters of the United States in conjunction with their surface coal mining operations. In a series of decisions dated March 23, June 13, and September 13, 2007, the district court granted judgment in favor of plaintiffs; rescinded the permits at issue; and enjoined defendants and the coal mining companies from all activities authorized under the permits. On February 13, 2009, U.S. Court of Appeals for the Fourth Circuit reversed the trial court's decisions, ruling in favor of the government on all issues. On May 29, 2009, the appellate court denied plaintiffs' petition for rehearing. On August 26, 2009, plaintiffs filed a petition for Supreme Court review.
Coal River Mountain Watch, et al. v. Salazar; National Parks Conservation Association v. Salazar	No. 08-2212 (D.D.C.); No. 09-115 (D.D.C.)	Plaintiffs initiated these separate actions in the U.S. District Court for the District of Columbia challenging the Office of Surface Mining's 2008 stream buffer zone rule (SBZ rule) and the Environmental Protection Agency's concurrence determination issued in connection with that rule. The rule addresses, among other things, placement of excess spoil from mining operations, disposal of coal mine waste, stream buffer zones, and stream-channel diversions. In the aggregate, the complaints allege violations of SMCRA, the National Environmental Policy Act, the Clean Water Act, the Endangered Species Act, and the Administrative Procedure Act. In National Parks Conservation Association (NPCA), the government filed a motion for voluntary remand and vacatur, based on the Secretary of the Interior's determination that OSM erred in failing to initiate consultation with the Fish and Wildlife Service to evaluate the possible effects of the SBZ rule. In Coal River, the government filed a motion to dismiss as moot, which the government argued should have been granted if the court granted the government's motion in NPCA. On August 12, 2009, the court denied the government's motion for remand and vacatur in NPCA, holding that, absent a ruling on the merits, significant new evidence, or consent of all the parties, a grant of vacatur would allow the government to bypass the APA's procedures for repealing an agency rule. Because the court denied the government's motion in NPCA, it likewise denied the government's motion to dismiss in Coal River.

Data Source: U.S. Department of the Interior, Office of the Solicitor

TABLE 9**Federal Oversight of State Programs ¹**

State	Site Visits	Notice of Violations (NOVs)	Failure-To-Abate Cessation Orders (FTA COs)	Imminent Harm Cessation Orders (IHCOs)
Alabama	23	0	0	0
Alaska	6	0	0	0
Arkansas	2	0	0	0
Colorado	10	0	0	0
Illinois	97	0	0	0
Indiana	64	0	0	0
Iowa	0	0	0	0
Kansas	2	0	0	0
Kentucky	346	0	0	0
Louisiana	4	0	0	0
Maryland	26	0	0	0
Mississippi	2	0	0	0
Missouri	8	0	0	0
Montana	4	0	0	0
New Mexico	3	1	0	0
North Dakota	6	0	0	0
Ohio	218	0	0	0
Oklahoma	1	0	0	0
Pennsylvania ²	288	0	0	0
Texas	1	0	0	0
Utah	3	0	0	0
Virginia	76	0	0	0
West Virginia	269	1	0	0
Wyoming	10	0	0	0
TOTAL	1,469	2	0	0

¹ Violations cited by the Office of Surface Mining Reclamation and Enforcement in States with approved regulatory program. Excludes any NOVs or COs that have been vacated.

² OSM conducted three inspections and issued two NOVs for AML Reclamation Fee Collections in Pennsylvania.

Data Source: Inspection and Enforcement Tracking System

TABLE 10

Regulatory Program Statistics ¹

State/Tribe	Regulatory Staffing ²	New Permits	New Acreage Permitted ⁴	Total Acreage Permitted	Inspect-able 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	27	16	5,338	89,520	214	2,680	396	224	6	0	2	3,917	3,322	3,228
Alaska	4	0	0	9,650	12	27	70	0	0	0	0	0	0	0
Arkansas	4	0	0	1,340	7	33	76	5	2	0	0	0	0	199
Colorado	24	0	2,268	164,100	43	155	238	7	0	0	0	698	1,985	735
Crow Tribe ³	1	1	3,317	9,790	2	5	8	0	0	0	0	0	317	0
Georgia ³	0	0	0	140	6	0	0	0	0	0	0	0	0	0
Hopi Tribe ³	2	0	3,129	6,140	1	2	1	0	0	0	0	0	0	0
Illinois	26	7	4,491	48,300	84	380	717	57	0	0	1	1,997	2,049	2,709
Indiana	40	2	9,773	211,090	103	665	865	51	0	0	0	4,268	5,128	4,396
Iowa	2	0	0	1,600	4	4	0	0	0	0	0	0	0	0
Kansas	3	0	0	4,010	10	39	78	6	0	0	0	0	0	0
Kentucky	268	85	95,524	1,870,500	1,915	7,350	14,531	2,301	214	40	22	10,498	7,740	7,183
Louisiana	2	0	40	41,950	2	8	16	0	0	0	0	0	316	316
Maryland	13	2	218	5,190	64	279	468	7	0	0	0	370	655	612
Mississippi	2	0	0	5,800	1	4	9	0	0	0	0	0	0	0
Missouri	5	0	0	6,050	21	60	70	0	0	0	0	106	153	263
Montana	15	0	0	66,300	15	77	83	9	0	0	0	999	785	0
Navajo Nation ³	7	0	15,728	88,710	16	56	31	91	1	1	0	0	487	0
New Mexico	8	0	0	87,370	9	36	88	8	0	0	0	0	0	0
North Dakota	9	0	414	106,460	30	127	532	5	0	0	0	2,225	2,664	2,664
Ohio	51	9	2,563	10,130	290	1,156	2,279	104	0	2	0	2,126	1,846	2,792
Oklahoma	20	3	3,619	22,000	58	213	346	29	2	0	0	679	733	1,049
Pennsylvania	235	58	7,816	387,300	1,912	6,397	10,288	612	16	51	7	7,471	4,546	4,120
Tennessee ³	37	3	709	30,840	313	552	1,004	69	0	0	1	486	1,751	1,377
Texas	34	1	33,178	285,600	34	133	267	9	0	0	0	6,847	1,186	982
Utah	16	0	240	2,840	34	117	200	7	0	3	0	96	95	0
Ute Mountain Ute Tribe ³	0	0	0	180	1	4	7	0	0	0	0	0	0	0
Virginia	75	8	2,086	78,990	414	1,828	2,782	129	0	9	0	3,559	853	2,664
Washington ³	6	0	0	14,820	2	8	20	4	0	0	0	0	0	57
West Virginia	247	52	11,793	348,890	2,161	8,321	13,881	865	49	21	10	1,477	4,066	2,625
Wyoming	24	0	10,634	403,240	35	139	245	8	0	0	0	3,955	1,424	341
TOTAL	1,206	247	212,878	4,408,840	7,813	30,855	49,596	4,607	290	127	43	51,774	42,101	38,312

¹ State program statistics are for the one-year period, July 1, 2008 - June 30, 2009, except where noted (Federal statistics for the States of Georgia, Tennessee and Washington, as well as for the Crow, Hopi and Ute Mountain Ute Tribes and the Navajo Nation. See Footnote 3.)

² Number of regulatory program staff as of June 30, 2009.

³ Federal statistics are for the one-year period, October 1, 2008 - September 30, 2009.

⁴ New acreage permitted includes acreage permitted for incidental boundary revisions and other revisions or amendments that add acreage, in addition to acreage for new permits.

Data Source: OSM Directive REG-8, Oversight of State Regulatory Programs

TABLE 11

Regulatory Grant Funding Obligations ¹

State/Tribe	FY 2009 Federal Funding	Total FY 2008 Federal Funding	Cumulative Federal Funding Through FY 2009 ²
Alabama	\$1,326,592	\$1,253,652	\$32,682,108
Alaska	\$240,000	\$219,164	\$6,871,190
Arkansas	\$145,814	\$141,123	\$4,412,743
Colorado	\$2,332,820	\$2,322,607	\$41,928,182
Illinois	\$2,895,394	\$2,646,092	\$68,361,210
Indiana	\$1,890,286	\$1,762,946	\$43,672,328
Iowa	\$74,953	\$83,074	\$3,345,033
Kansas	\$111,699	\$144,654	\$3,471,781
Kentucky	\$10,442,002	\$11,858,072	\$340,491,286
Louisiana	\$166,498	\$169,938	\$4,533,643
Maryland	\$715,177	\$716,596	\$15,662,726
Michigan	\$0	\$0	\$135,458
Mississippi	\$129,710	\$127,051	\$1,808,964
Missouri	\$234,318	\$223,650	\$9,633,785
Montana	\$1,357,365	\$1,227,501	\$23,879,329
New Mexico	\$850,000	\$850,000	\$17,515,588
North Dakota	\$719,156	\$644,571	\$14,880,082
Ohio	\$2,969,654	\$2,247,626	\$71,932,820
Oklahoma	\$1,233,638	\$1,112,882	\$24,483,843
Pennsylvania	\$12,684,550	\$12,545,785	\$283,713,839
Rhode Island	\$0	\$0	\$158,453
Tennessee	\$0	\$0	\$5,340,085
Texas	\$1,747,598	\$1,545,898	\$31,734,364
Utah	\$2,037,196	\$2,029,409	\$39,795,140
Virginia	\$3,913,498	\$4,010,342	\$89,259,394
Washington	\$0	\$0	\$4,893
West Virginia	\$11,924,119	\$11,791,029	\$192,180,886
Wyoming	\$2,289,321	\$2,318,000	\$46,962,917
Crow Tribe	\$145,000	\$69,360	\$1,436,112
Hopi Tribe	\$298,969	\$173,977	\$2,842,863
Navajo Tribe	\$908,964	\$677,845	\$7,132,157
N. Cheyenne Tribe	\$0	\$0	\$86,888
TOTAL	\$63,784,291	\$62,912,844	\$1,430,350,091

¹ Figures shown above have been adjusted for rounding.

² Includes obligations for the Applicant/Violator System, Technical Innovation and Professional Services, Kentucky Settlement, and other Title V cooperative agreements. Figures for FY 2009 do not include downward adjustments of prior-year awards. However, cumulative figures are net of all prior-year downward adjustments.

Data Source: Financial Business Management System

TABLE 12**Appropriations ¹**

	2009	2008
Discretionary Appropriations		
Regulation & Technology		
Environmental Restoration	\$159,000	\$157,504
Environmental Protection	\$88,425,000	\$87,424,564
Technology Dev. & Transfer	\$15,386,000	\$15,175,510
Financial Management	\$510,000	\$483,340
Executive Dir. & Admin	\$15,676,000	\$15,120,384
Subtotal	\$120,156,000	\$118,361,302
Abandoned Mine Reclamation		
Environmental Restoration	\$25,623,000	\$33,945,065
Technology Dev. & Transfer	\$3,970,000	\$3,920,865
Financial Management	\$6,836,000	\$6,308,035
Executive Dir. & Admin	\$8,017,000	\$7,776,760
Subtotal	\$44,446,000	\$51,950,725
Total Discretionary Appropriations	\$164,602,000	\$170,312,027
Mandatory Appropriations		
Payments to States in Lieu of Coal Fee		
Receipts (Treasury Funds)	\$208,040,927	\$186,971,452
Grants to States and Tribes (AML Fund)	\$90,031,387	\$87,383,721
Transfer to United Mine Workers Fund	\$124,049,162	\$167,165,037
Total Mandatory Appropriations	\$422,121,476	\$441,520,210
Total OSM	\$586,723,476	\$611,832,237

¹ The appropriations figures include rescissions for FY 2008. The appropriations displayed on this table do not include Civil Penalties collections: \$111,000 for 2008, and \$225,000 for 2009.

Data Source: Fiscal Year 2009 Congressional appropriations

TABLE 13

Watershed Cooperative Agreements

State	Project Name Sponsor Organization	Grant Amount
Iowa	Westercamp II Pathfinders RC&D	\$100,000
	McLandsborough Pathfinders RC&D	\$100,000
	Long AML Site Iowa Heartland RC&D	\$100,000
	Pierce Run (Oreton Seep) Project Ohio Valley Resource Conservation and Development (RC&D) Council	\$100,000
Ohio	West Branch Headwaters of Sunday Creek Project Rural Action, Inc.	\$100,000
	East Branch Phase II AMD Remediation Project Ohio Valley Resource Conservation and Development (RC&D) Council	\$100,000
	Melcroft Watershed Project Mountain Watershed Association	\$100,000
	Saxman Run Project (Amendment) Loyalhana Watershed Association, Inc.	\$40,000
Pennsylvania	Tangascootack Site 1 Trout Unlimited, Inc.	\$17,000
	Glade Run (Garry Conner AMD Remediation Project) Friends of the Cheat Watershed Association, Inc.	\$100,000
	Middle Fork of Greens Run Project (Amendment) Friends of the Cheat Watershed Association, Inc.	\$23,000
TOTAL		\$880,000

Data Source: OSM Regional Offices

TABLE 14

Watershed Assistance: OSM/VISTAs and Summer Interns

State	2009		2008	2007	2006	2005	2004	2003	2002	2001	2000	1999
	OSM/VISTA Positions	Summer Interns										
Alabama	0	0	0	0	1	1	1	1	1	0	3	0
Colorado	27	19	1	0	1	0	0	0	0	0	0	0
Indiana			0	0	0	0	0	1	1	0	1	1
Iowa			1	0	0	0	0	0	0	0	0	0
Kentucky	5	0	0	0	1	0	0	0	0	1	2	0
Maryland	2	1	1	1	1	2	2	1	2	2	1	0
New Mexico	2	0										
Ohio	3	1	1	2	0	2	1	5	4	3	2	1
Oklahoma			1	1	0	1	0	0	0	0	0	0
Pennsylvania	11	3	5	3	6	5	7	9	8	12	5	3
Tennessee	2	1	5	3	5	4	3	1	3	1	3	1
Virginia	6	3	1	0	2	1	1	3	3	2	1	0
West Virginia	19	11	6	5	5	6	8	6	9	11	6	4
TOTAL	77	39	22	15	22	22	23	27	31	32	24	10

Beginning with the FY09 report, Watershed Assistance positions are reported in two categories. Full-time, year-long, OSM/VISTA Positions are supported by a partnership among OSM, Volunteers in Service to America (VISTA), and community watershed organizations providing local sponsorship and supervision. Summer Interns are seasonal student positions working with watershed organizations for 8 or 10 weeks.

Data Source: OSM Program Files

TABLE 15

Abandoned Mine Land Inventory Costs

FY 2009

Completed	2.5 billion	21 percent
Funded	0.3 billion	2 percent
Unfunded	9.2 billion	77 percent
TOTAL	12.0 billion	100 percent

Data Source: Abandoned Mine Land Inventory System

TABLE 16

NTTP Courses and Enrollment

Course Name	Number of Sessions	Students
Acid-forming Materials: Fundamentals & Applications	1	23
Advanced Blasting: Investigation & Analysis	1	13
AML Design Workshop: Dangerous Highwalls	1	7
AML Design Workshop: Dangerous Openings	1	14
AML Design Workshop: Fires	1	11
AML Design Workshop: Landslides	1	9
AML Design Workshop: Subsidence	1	13
AML Drilling and Grouting	1	11
AML Realty	1	13
AML Reclamation Projects	2	37
Applied Engineering Principles	2	39
Basic Inspection Workbook	0*	91
Blasting and Inspection	1	22
Bonding Workshop: Administrative & Legal Aspects	1	15
Bonding Workshop: Cost Estimation	1	15
Coalfield Communications: How to Get it Right!	2	40
Effective Writing	3	66
Enforcement Procedures	2	26
Enforcement Tools and Applications	1	10
Erosion and Sediment Control	3	48
Evidence Preparation and Testimony	1	13
Excess Spoil Handling and Disposal	2	53
Forensic Hydrologic Investigation	1	18
Geology and Geochemistry of Acid-forming Materials	2	25
Historic and Archeological Resources	1	16
Instructor Training	2	34
Master Instructor Forum	1	16
National Environmental Policy Act (NEPA) Procedures	1	20
Orientation	1	26
Passive Treatment: Theory and Application Workshop	1	20
Permit Findings Workshop	1	15
Permitting Hydrology	1	13
Principles of Inspection	2	42
Quantitative Hydrogeology	1	23
SMCRA: Permitting and the Endangered Species Act	1	19
Soils and Revegetation	2	40
Subsidence	1	26
Surface and Groundwater Hydrology	2	36
Underground Mining Technology	3	41
Wetlands Awareness	2	34
TOTAL	56	1,053

*Self Study

Data Source: National Technical Training Program

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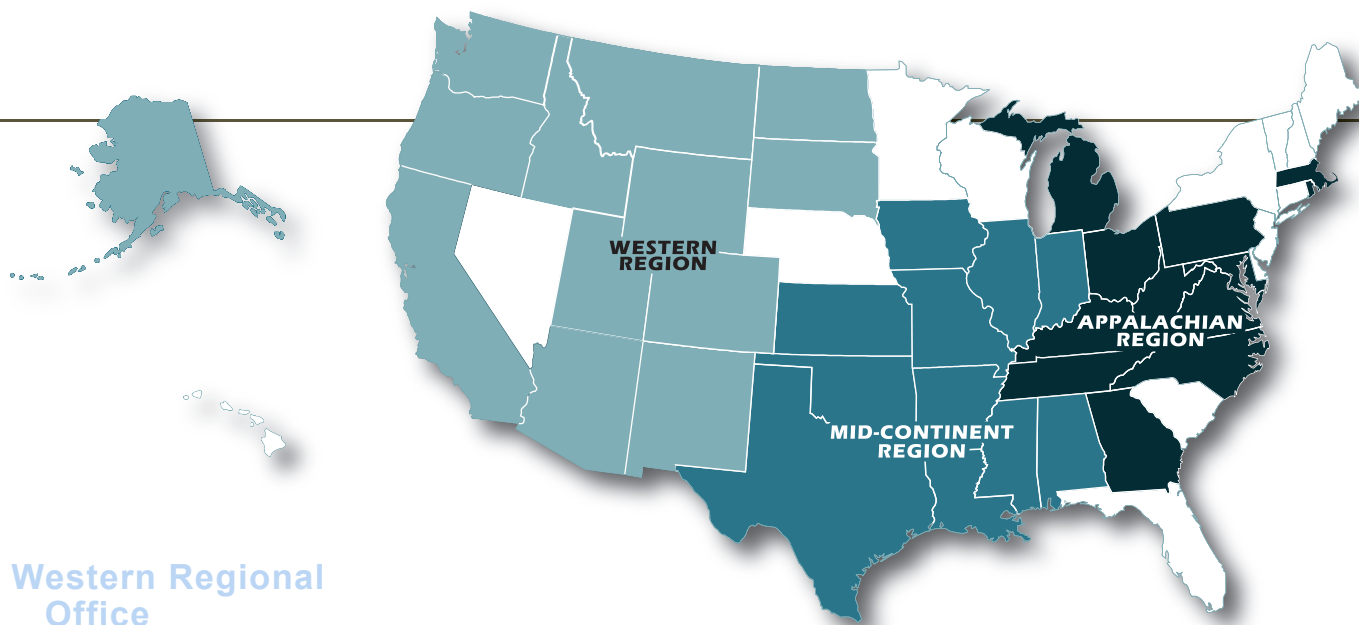
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About This Report

OSM's Annual Report is published under the requirements of the Surface Mining Control and Reclamation Act of 1977. The report describes the bureau's operations from October 1, 2008, through September 30, 2009 (Fiscal Year 2009). Some state program information from those dates contained within may vary due to differences in states' fiscal year reporting periods. Responsibilities performed by other bureaus or agencies under the Surface Mining Control and Reclamation Act do not appear in this report, as they are reported to Congress by the respective agencies themselves. All facts and statistics cited in this report reflect circumstances as of October 1, 2009.



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