

**OFFICE OF SURFACE MINING  
RECLAMATION AND ENFORCEMENT**

**Annual Evaluation Summary Report**

**for the**

**Program**

**Administered by the State**

**of**

**OHIO**

for

Evaluation Year 1999

(October 1, 1998 to September 30, 1999)

**FINAL**

January 2000

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## I. Introduction

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) created the Office of Surface Mining Reclamation and Enforcement (OSM) in the Department of the Interior. SMCRA provides authority to OSM to oversee the implementation of and provide Federal funding for State regulatory programs that OSM has approved as meeting the minimum standards specified by SMCRA. This report contains summary information regarding the Ohio Program and the effectiveness of the Ohio Program in meeting the applicable purposes of SMCRA as specified in section 102. This report covers the period of October 1, 1998, to September 30, 1999. Detailed background information and comprehensive reports for the program elements evaluated during the period are available for review and copying at the Columbus OSM Office.

The following acronyms are used in this report:

ABS	Alternative Bonding System
ACOE	US Army Corps of Engineers
ACSI	Appalachian Clean Streams Initiative
AEP	American Electric Power
ALD	Anoxic Limestone Drain
AMD	Acid mine drainage
AML	Abandoned mine land
ARP	Application to Revise a Permit
EPA	Environmental Protection Agency
EY	Evaluation Year
HRWRP	Huff Run Watershed Restoration Partnership
NRCS	Natural Resource Conservation Service
OMSI	Ohio Mine Subsidence Insurance Underwriting Association
Ohio	Division of Mines and Reclamation
OSM	Office of Surface Mining Reclamation and Enforcement
PHC	Probable Hydrologic Consequences
RCIC	Raccoon Creek Improvement Committee
ROE	Right-of-entry
SAPS	Successive Alkalinity Producing System
SMCRA	Surface Mining Control and Reclamation Act
SOAP	Small Operator s Assistance Program

## II. Overview of the Ohio Coal Mining Industry

Fifty-two mining companies produced 27.7 million tons of coal in 1998, a decrease of 9.4 percent over 1997 production. The total coal sold in 1998 was 27.3 million tons with a value of \$765.3 million. The average price per ton of coal was \$27.97, an increase from the 1997 average of \$24.52.

The number of coal-producing companies in Ohio in 1998 (52) remained the same as in 1997 and 1996. The number of producing mines decreased from 142 to 129. During 1998, surface mining operations at 121 mines produced 13.1 million tons (47 percent of total production). Under-ground mining at eight mines produced 14.7 million tons (53 percent of total production). Longwall mining of 8.3 million tons accounted for 56.8 percent of the total underground production (30 percent of total production).

The Ohio coal industry employed 3397 people in 1998, down slightly from 3429 in 1997. Production employees, numbering 1930, accounted for 57 percent of the 1998 coal work force. Wages earned by all coal industry employees in 1998 totaled more than \$169.3 million.

Ohio ranked twelfth of the 25 coal-producing States in the nation, and produced 2.8 percent of the nation's coal in 1998. Ohio ranked third nationally in coal consumption, behind Texas and Indiana. (Data source: Ohio Geological Survey, 1998 Report on Ohio Mineral Industries )



Two large mining operations announced closure or substantially reduced production during the year. They are Quarto Mining Company's #4 underground mine that produced 2.7 million tons in 1998 and Central Ohio Coal Company's surface mine that produced 1.7 million tons in 1998. Another major producer, R & F Coal Company, sold its active mining operations to Oxford Mining Company.

American Electric Power (AEP) also decided to dismantle the Big Muskie, known as the world's largest dragline. The Big Muskie operated between 1969 and 1991. Despite an effort by local officials and others to preserve the machine, it was dismantled this year. AEP donated the 220 cubic yard bucket from the machine to a local park within AEP's ReCreation Lands as a memorial to the men and women who have worked in the mines.

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

As reported in previous oversight reports, the Ohio Division of Mines and Reclamation (Ohio) has continued several efforts to keep the public informed of activities related to mining and reclamation, in addition to the routine public participation opportunities specified in the Ohio program. Ohio maintains an Internet web page that provides basic program information to the public. Ohio maintains an open public records policy and holds periodic meetings with interest groups and individuals to communicate with its constituents. Ohio conducts annual public meetings to obtain information about potential AML projects from citizens. Ohio released its first Citizen's Guide to Mining and Reclamation in Ohio. This comprehensive guide provides important information for the general public about all of the programs administered by Ohio. Ohio also continued its efforts with the Ohio Mine Subsidence Insurance Underwriting Association (OMSI) to educate local governmental agencies and local planning commissions about mine subsidence. These efforts included conducting public meetings, working to provide maps of abandoned underground mines to local agencies, and making the maps available over the Internet.

In addition to outreach efforts by Ohio, OSM also conducts outreach to the public. OSM maintains a mailing list of interested persons, including representatives of industry, environmental and citizen groups, and individuals who have expressed interest in mining in Ohio. OSM routinely sends out notices of *Federal Register* publications concerning public comment periods regarding Ohio program amendments and OSM's proposed rule-making actions. OSM prepares and distributes a monthly newsletter to everyone on the OSM mailing list. The OSM newsletter provides information on current activities of the agency, oversight updates, and Columbus office activities. The Ohio Mining and Reclamation Association also reprints parts of our newsletter in their newsletter. OSM also maintains an Internet web site that provides OSM news and information on a national level. The Oversight and Inspection Office created its own Internet web site ([www:coh.osmre.gov](http://www:coh.osmre.gov)) this year and will include items such as performance agreements, final oversight reports, and our monthly newsletter.

OSM and Ohio met periodically with a group of mining industry representatives to exchange information and to obtain feedback on program implementation and policy of Ohio and OSM. OSM and Ohio made presentations at the Ohio Mining and Reclamation Association's annual meeting.

Ohio and OSM continued to work together to organize and support development of local watershed groups in support of the Appalachian Clean Streams Initiative (ACSI). OSM and Ohio continued to support activities of the Monday Creek Restoration Project and the Raccoon Creek Improvement Committee by attending meetings of these organizations. OSM also attended a start-up meeting for the Duck Creek Watershed.

OSM and Ohio participated in meetings of the Ohio Mineland Partnership to exchange information concerning reclamation of abandoned mine lands and to promote OSM's ACSI and

remining initiatives. The Ohio Mineland Partnership is a citizen s group seeking more funding for AML reclamation.

OSM provided comments on a draft survey, developed and distributed by the Buckeye Forest Council, concerning longwall mining.

#### IV. Major Accomplishments/Issues/Innovations in the Ohio Program

##### A. Program Accomplishments and Initiatives

###### On-the-Ground Accomplishments

Ohio continues to effectively administer SMCRA regulatory and AML programs to protect coal field citizens and to restore land to pre-mining conditions. Overall industry compliance on active mine sites continues at a high level. The on-the-ground, end-result of the mining and reclamation process is predominantly restoration of mined lands to a pasture/grazing post-mining land use, with permanent water impoundments interspersed to support the land use. OSM's evaluation identified areas outside of the permitted area with minor impacts related to hydrology as a result of mining. OSM also identified five major hydrologic impacts related to water well degradation/loss. OSM's general characterization of the on-the-ground accomplishments are based on OSM's experience with mining and reclamation in Ohio. Observations regarding industry compliance and off-site impacts are supported by OSM's findings from 168 site visits on regulatory sites, 52 site visits on AML sites, and other oversight evaluations conducted during this review period.

During the 1999 Evaluation Year (EY), October 1, 1998, through September 30, 1999, the Ohio mining industry, in conjunction with the Ohio Division of Mines and Reclamation, achieved final reclamation (Phase III bond release) on 5170 acres; established soil replacement and vegetation for Phase II bond release on 6653 acres; and backfilled and graded mining areas for Phase I bond release on 4398 acres.

###### AML Accomplishments

The Ohio AML program continues to abate problems related to abandoned mines through its emergency and regular AML programs. Ohio identified and abated 33 emergency conditions during this EY, the same number as in EY 98 and EY 97. As was the case last year, OSM fully supported Ohio emergency project requests, due to continued good communication and cooperative investigation activity between Ohio and OSM. Ohio completed one design under the emergency program for a high priority project that it will construct as part of its normal AML program. That project has been bid and is awaiting construction authorization.

Ohio reported the following accomplishments in the Abandoned Mined Land Inventory System (AMLIS):

- " 2.8 miles of clogged stream restored
- " 143.8 acres of clogged stream lands reclaimed
- " 800 feet of dangerous highwall eliminated
- " one dangerous impoundment reclaimed
- " 6.7 acres of dangerous landslide stabilized
- " one hazardous mine gas problem eliminated

- " three hazardous facilities removed
- " one hazardous water body reclaimed
- " 19 portals sealed
- " one project correcting polluted water
- " 10.7 acres of subsidence stabilized
- " 65 acres of spoil reclaimed
- " 8.0 acres of surface burning corrected
- " 0.1 acre of underground mine fire corrected
- " five vertical openings sealed



Rock Run Gob Pile (before)

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Rock Run Gob Pile (after)



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### Management Transition

Management of the Ohio Program is in transition, pending an internal review considering consolidation of the Division of Mines and Reclamation and the Division of Oil and Gas. In addition, the Chief of the Division of Mines and Reclamation resigned in May and a new Chief has not been appointed. The Assistant Chief is currently managing the agency.

### Lands Unsuitable for Mining Decision



Ohio issued a decision on two petitions to deem land unsuitable for mining in and around Dysart Woods, an old-growth forest in Belmont County. Ohio received substantial public input about permit applications and the unsuitability petitions in this area. A multi-disciplined panel of experts from several Divisions of the Ohio Department of Natural Resources conducted a technical review of the issues related to mining in the vicinity of Dysart Woods. The technical review team provided recommendations to support decisions on permit applications and on the petitions.

Ohio determined that a portion of the petition area was unsuitable for surface mining. Ohio determined coal seams above the Meigs Creek coal seam within a 1500-foot buffer around the limits of the old growth forest unsuitable for underground mining. Ohio also determined that the Pittsburgh and Meigs Creek coal seams are suitable for mining. These seams may be mined using underground mining methodology under current practices without adversely affecting the overlying old growth forest areas by preventing subsidence of the overlying strata. High extraction mining that would result in subsidence can be limited to areas outside the 1500-foot buffer zone.

An issue related to the lands unsuitable petition was a request from a mining company that mining rights on property owned by this company within the petition area be exempt from the lands unsuitable process because of substantial legal and financial commitments by this company prior to August 3, 1977. Since Ohio determined that the area was suitable for underground mining of the Meigs Creek and Pittsburgh coal seams (mining rights owned by the mining company requesting the exemption), Ohio determined that the need to issue a decision on the request for exemption was moot. Both decisions are under appeal to the Ohio Reclamation Commission. Hearings are pending.

#### Stream Buffer Zone Guidelines

In the 1996 Annual Report, OSM reported the results of an oversight evaluation on Ohio's implementation of the regulations regarding stream buffer zones. OSM recommended that Ohio establish criteria for permit applicants and Ohio permitting review personnel to use in submitting and evaluating a buffer zone variance request. Ohio agreed to address the findings from this evaluation through a team, with representation from Ohio, industry, consultants, and OSM. The team met during 1997 and 1998. The team developed guidelines for the submission, review, and approval of stream buffer zone requests. Ohio issued and implemented the new guidelines this year.

### Temporary Inactive Status

Ohio distributed guidelines for staff to follow when evaluating notifications from permittees to place a mine site in temporary inactive status. The guidelines resulted from an earlier study conducted by Ohio on sites that have been in temporary inactive status for extended periods of time. The guidelines are expected to provide a more consistent review process and closer scrutiny of those sites that claim inactive status for longer than three years.

### Appalachian Clean Streams Initiative (ACSI)

Ohio continues to actively participate in this initiative. Ohio continues to support and encourage local watershed groups who want to partner with various government agencies, industry, and others who have an interest in abating acid mine drainage (AMD). This year's activities are reported by watershed as follows:

Monday Creek - The Monday Creek Restoration Project continues to be Ohio's most active and well organized watershed group involved in AMD abatement. The Rock Run project, which is the group's first major project, was completed in September of this year. The project reclaimed 14 acres of coal refuse, and installed a Successive Alkalinity Producing System (SAPS). Water quality has improved from a pH of 4.0 - 5.0 to pH 6.0 - 7.0 coming out of the SAPS. A second project, Snow Fork Subsidence, was also completed in late July. This project sealed up stream subsidence which had been draining 455 acres into an abandoned drift mine. The elimination of this drainage into the mine will greatly reduce its AMD production. A similar project, the Majestic Subsidence, is currently under construction. The group also applied for and received an OSM watershed cooperative agreement for \$80,000, which will help fund the Rock Run 24 project. The Rock Run 24 project will abate AMD from the only major source above the completed Rock Run project.



Completed SAPS at Rock Run



Raccoon Creek - The Raccoon Creek Improvement Committee (RCIC) also continues to be active in the AMD abatement area. They completed the first major project, Buckeye Furnace, this year. This project involved reclamation of over 60 acres of abandoned strip pits and coal slurry ponds. This was enhanced by the construction of an anoxic limestone drain (ALD), a SAPS, and steel slag ponds, all of which add alkalinity to the Buffer Run tributary to Raccoon Creek. The Natural Resource Conservation Service (NRCS) completed a design for the State Route 124 Strip Pit

project, a ten-acre pit and spoil area contributing AMD to Raccoon Creek. The project bid opening occurred on September 22, 1999. Construction began on October 12, 1999.

RCIC is also working to characterize its hydrologic units to be eligible for AMD set-aside funding. Work on the Little Raccoon Creek tributary is nearly completed. An Ohio EPA 319 grant has been approved to begin work in the headwaters of Raccoon Creek. RCIC is trying to increase public awareness of the AMD problem through activities such as watershed tours and voluntary tree planting on mine sites. Most recently, the RCIC arranged to be featured in a segment of the Public Broadcasting System (PBS) show *Trailsides*. The show, airing in early 2000, will have several episodes highlighting natural resource problems.

Huff Run - The Huff Run Watershed Restoration Partnership (HRWRP) is working with the Crossroads Resource Conservation and Development Council of the NRCS to apply for an Ohio EPA 319 grant to fund several projects in partnership with the group and DMR. Several of these projects have been identified in the hydrologic unit characterization that a consultant hired by DMR has nearly completed. The projects that were proposed last year in cooperation with a local mining company are presently on hold because the company is not currently mining in the area. HRWRP hosted a student intern provided by OSM this year. Along with his duties of participating in the planning and characterization process, the intern organized and conducted the Huff Run Watershed Fun Day, a weekend festival to bring attention to the watershed problems and activities.



Moxahala Creek - Ohio University's characterization of this watershed, with its focus on the Black Fork tributary, continued this year. They are monitoring an existing wetland treatment system and analyzing it for potential improvements. They are also studying a burning gob pile to determine the best reclamation approach. The Moxahala Watershed Restoration Committee has received a grant from Rivernet to write an action plan and to conduct promotional activities for the watershed. They hired someone to write the action plan. They sponsored a watershed tour and dinner in October.



Burning gob pile in the Black Fork drainage to Moxahala Creek

Wills Creek - Crossroads RC&D is becoming involved with organizing activities for this watershed. They are working with DMR and the U.S. Army Corps of Engineers (ACOE) on AMD abatement strategies in and around the Wills Creek Reservoir. DMR has partnered with the ACOE for an AMD abatement project using ACSI funds. The design of this project is nearly complete, and another similar project is proposed for next year. The scrubber sludge injection project sponsored by the Ohio Coal Development Office is continuing with Ohio State University monitoring it. However, the initial results do not show any significant improvements to water quality at this time.

Kimble Creek - The interagency group formed to abate AMD has not decided on an abatement approach. They did further sampling to assist with this task, but the results were inconclusive. The lack of a clear-cut technical solution to the problem and lack of citizen involvement have hampered progress on this watershed. A pilot project to remove several small coal refuse piles may be done first to see what effect this may have on water quality.

Captina Creek - The Captina Creek project design was completed with OSM's technical assistance. The project bid opening occurred on August 25, 1999. Construction was authorized in October and begun in November.

Yellow Creek - The Yellow Creek Watershed Restoration Committee meets regularly, and has begun to assess the water quality in their watershed. DMR and the ACOE have entered into a cost-sharing agreement to abate a significant AMD problem on the North Fork of Yellow Creek near the Village of Hammondsville. This discharge also adversely affects the main stem of Yellow Creek.



Yellow Creek where the North Fork enters the main stem

### Seasonal Variations

In 1997, in conjunction with industry representatives and OSM, Ohio created a workgroup to examine and develop recommendations regarding standards for submission and analysis of seasonal hydrologic information. This workgroup reviewed existing Ohio practices related to describing the seasonal variations of the hydrologic regime with regard to obtaining a surface coal mine permit.

The workgroup developed several proposed sampling schemes to establish variations based on historic water information. Input from OSM's Appalachian Regional Coordinating Center helped the group refine the proposal and draft a new method for collecting pre-mining water information.

The workgroup prepared its draft report in 1999, with fifteen recommendations for modifying the procedures for collecting samples to describe seasonal variation. The recommendations address procedures for sampling on both regular permits as well as permits requesting modified effluent limits on remaining sites. The primary recommendations from the workgroup are to:

- \* □ identify periods of high, intermediate, and low flow;
- \* □ require a sample from each period to describe the seasonal variation; and
- \* □ identify procedures to allow data from substitute sampling points for missing data.

The other recommendations from the workgroup address issues for implementing these primary recommendations.

The workgroup expects to finalize the draft report during the next evaluation year. Then Ohio will issue implementing policy directives. OSM believes that the workgroup approach for resolving these long-standing hydrologic issues helps all members understand the issue from other perspectives.

## B. Program Issues

### Landslides

In the EY 96 evaluation period, OSM evaluated the effectiveness of landslide repair on Ohio permits. Ohio reviewed the study report and agreed with the finding and recommendation. The report recommended that Ohio establish guidelines for landslide stabilization and repair. Ohio began working with OSM to develop guidelines in February of 1998. Ohio developed revised draft



guidelines in late 1999. OSM commented on the final draft in November 1999. Ohio has committed to issuing the guidelines soon.

### Alternative Bonding System

OSM conditionally approved Ohio's regulatory program on August 10, 1982. The one remaining program condition requires Ohio to demonstrate that the Alternative Bonding System (ABS) will ensure timely reclamation of all sites for which bond has been forfeited. OSM previously identified Ohio program deficiencies for not completing forfeiture reclamation in a timely manner and for having insufficient funds in the ABS to complete reclamation on existing bond forfeiture permits in a timely manner.

As reported in the 1998 annual report, Ohio has implemented several changes to resolve this program condition. Ohio intended to submit information to OSM that would address the condition before the end of 1998. Ohio developed a draft report on the actions taken in preparation of asking that OSM remove the condition. OSM informally reviewed the draft and asked Ohio to revise it. Ohio is currently revising the report.

### Data Management

Ohio has directed significant effort to developing, updating, and maintaining data management systems. They have developed systems for permitting, bonding, inspections, contract management, hydrology, and other areas. Ohio continues to experience difficulties with full and effective implementation of some of the systems. These difficulties span many aspects of their regulatory and AML programs and impact Ohio's management of several program areas. Ohio is continuously working on development, revision, and correction of these systems to improve reporting capability. Better reporting capability can help Ohio manage daily and long-range workloads and provide reliable information to reflect program activities and results.

One example is Ohio's inspection data system. Ohio has upgraded the system with improved hardware used by all inspectors. The system provides electronic inspection reports as intended and captures inspection data. The inspection system does not provide timely and reliable reports to managers on the number and type of inspections conducted and other site-specific data that will allow overall monitoring of such things as reclamation liability, disturbed acreage, and mine site status. Because reporting from the system is unreliable, managers have implemented manual systems to track inspection activity and manage the inspection workload.

Similar problems exist in other program areas -- most notably, the limited data systems that support the AML program. Existing systems do not provide important information about specific AML projects, AML program activity, or AML accomplishments that could help management of the AML program.

OSM acknowledges Ohio's efforts to improve data systems and will continue to encourage Ohio's use of data systems to improve productivity, efficiency, and to better identify program accomplishments.

### Hydrology

Previous oversight studies in EY 93, EY 94, and EY 96 identified a number of issues relating to hydrology. Two issues included Ohio's method of establishing seasonal variations and the approval of permits with only general descriptions of toxic-material handling plans unrelated to site-specific conditions. A team representing Ohio, industry, consultants, and OSM has developed recommendations to address the seasonal variations issue. Ohio also progressed with development of new guidelines for toxic-material handling plans. Ohio developed a draft document and solicited comments from OSM. The new manager for Ohio's permitting section plans to finalize these guidelines this year and to seek comments from interested parties.

A contractor has completed development of a comprehensive database for hydrologic information. Although Ohio has not fully implemented many of the databases or team recommendations, there is movement in that direction. OSM expects that Ohio will implement these initiatives gradually over the next evaluation period.

### Response to Water Supply Complaints

In 1997, OSM conducted an in-depth study of Ohio's water supply complaint investigations. The study showed that Ohio had a significant backlog of unresolved water supply complaints. Follow-up monitoring in 1998 found that the backlog had increased, but Ohio had created two new hydrologist positions to help reduce the number of unresolved complaints. Monitoring in 1999 shows a slight increase in the backlog as of April when there were 61 unresolved complaints listed. However, by the end of the evaluation period there were 46. This is a reduction of nearly 25 percent from April through September. While there is still a substantial number of unresolved complaints, the backlog has decreased. OSM will continue to monitor



this process in the upcoming year, and will do a more in-depth review of the procedures involved.

### Inspections

Since 1997, OSM has relied on Ohio to manage its inspection program and to routinely report on the number and type of inspections conducted. In 1997, OSM decided that Ohio should account for the number of inspections they conduct and monitor inspection frequency on a permit-specific basis without OSM's duplicating that effort. Through routine monitoring in September 1999, OSM noticed a steady decline in the number of inspections Ohio is conducting. There is a significantly widening gap between the total number of inspections conducted and the number of inspections required by the Ohio Program. This observation, based on inspection data provided by Ohio, shows a steeply declining trend since the third quarter of 1997. OSM has not conducted any type of permit-specific analysis of inspection frequency, but will first focus attention on the general trend in the overall number of inspections conducted.

OSM has notified Ohio of this matter in writing and asked that Ohio provide its perspective and plans for addressing this issue. Ohio convened a team to develop recommendations for addressing this issue. During OSM oversight inspections, OSM will monitor and report the number of inspections conducted by Ohio on individual permits to determine if there are on-the-ground impacts resulting from the reduced number of inspections.

### AML Emergency Project Rights-of-Entry

OSM reviewed 44 Ohio AML emergency project files after learning that Ohio may not be properly documenting rights-of-entry (ROE) on all AML emergency projects. OSM's file review found that Ohio's complaint investigation reports lacked sufficient information to document when property necessary for the project was purchased to determine if an appraisal should be conducted for lien purposes. Of the reports reviewed, 31 reports did not provide the date of purchase by the current landowner. Thirteen reports included the date of purchase, but only six reports indicated that a Preliminary Real Estate Report (PRER) or appraisal was required. Ohio subsequently determined that there were no properties identified that required liens to be filed or waived.

The Ohio AML Emergency Program Coordinator and a representative from Ohio's Reality Division met with OSM to determine the scope of the problem and what action is necessary to properly document ROE information. The Emergency Program Coordinator has discussed the problem with emergency program staff and clarified the requirements. Ohio is planning a workshop for staff to re-affirm procedures that will ensure that they obtain and properly document the ROEs and that they request appraisals when required.

### Program Amendment 75

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In 1998, OSM approved proposed revisions to the Ohio Revised Code concerning award of attorney fees. This issue has been a long-standing legal issue with the Ohio Program. OSM expects that Ohio will get a sponsor to introduce this revision, along with other statutory changes, to the Ohio Legislature during 2000.

V. Success in Achieving the Purposes of SMCRA as Measured by the Number of Observed Off-Site Impacts and the Number of Acres Meeting the Performance Standards at the Time of Bond Release

To further the concept of reporting end results, OSM is collecting the findings from performance standard evaluations for a national perspective in terms of the number and extent of observed off-site impacts and the number of mined and reclaimed acres that meet the bond release requirements for the various phases of reclamation. Individual topic reports that provide additional details on how OSM conducted the following evaluations and measurements are available in the Columbus OSM Office.

A. Off-Site Impacts

During the EY 99 evaluation period, OSM collected information on the number, type, and severity of off-site impacts resulting from mining operations. OSM used this information as a measure of the effectiveness of the Ohio mining program in protecting the environment and the public residing in areas adjacent to mining operations. The goal of this measurement is for States and OSM to reduce the occurrence of off-site impacts. OSM identified off-site impacts by reviewing Ohio enforcement actions resulting from all of Ohio's inspections; by reviewing citizen complaints received by Ohio and OSM; and by conducting oversight inspections that focused on identification and evaluation of impacts that occurred outside the areas authorized for mining and reclamation activities.

OSM considered both Ohio's inspections on 572 inspectable units and OSM's oversight inspections as data sources for identifying 51 off-site impacts during the evaluation period. Approximately 91 percent of the mine sites in Ohio had no identified off-site impacts based on the sources of data identified above. Six of the 51 impacts were considered major, nine moderate, and 36 minor.

- \* □ The six major impacts were related to well water loss and degradation.
- \* □ Nineteen of the impacts affected surface water resources, with acid water discharges the most prevalent.
- \* □ Six of the 51 impacts were encroachments of mining activities onto areas outside of the approved permit area.

Table 4 provides a distribution of the types of impacts and the affected resources.

The off-site impact data shows that the majority of impacts are water-related. Ohio and OSM have focused on hydrology issues and will continue to pursue improvements to the Ohio program to reduce the number of water-related off-site impacts. Currently, this initiative is directed through the efforts of the AMD Prevention Team and Ohio's efforts to improve their investigation of water complaints.

## B. Bond Release/Reclamation Success

OSM reviewed Ohio's approval of bond releases as one measure of success in administering the SMCRA program. Between July 1, 1998, and June 30, 1999, OSM conducted on-site inspections on 64 reclamation segments on which Ohio had approved bond release. In addition, OSM collected information about contemporaneous reclamation, re-mining, land use, and hydrology on most oversight inspections. Table 5 in the Appendix tabulates information on bond releases processed by Ohio during the review period.

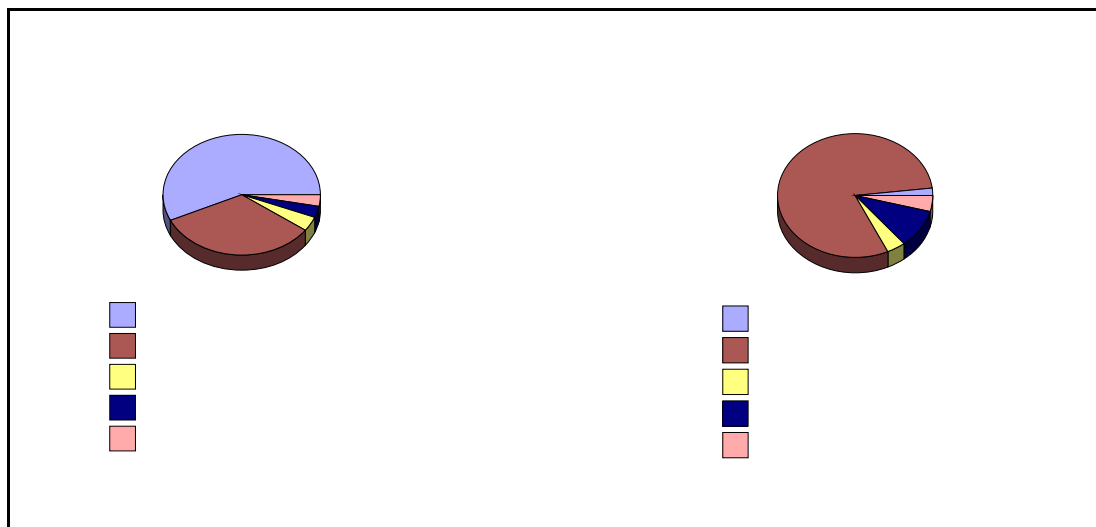
OSM oversight found that Ohio's evaluation of industry's compliance with the on-the-ground performance standards for bond release is effective.

Ohio has developed a hydrology database to assist with evaluation of hydrologic impacts on mine sites. However, as reported last year, Ohio has not yet fully implemented a defined evaluation process to determine whether mining has caused material damage to the hydrologic system before approving final bond release.

Overall, OSM oversight data collected at reclaimed mine sites shows that on-the-ground reclamation meets or exceeds performance standards in nearly all cases. Mined land is restored



to productive use, with 80 percent of the mined land restored to pasture/grazing land. Hay production generally exceeds the county average. Figure 1 on the next page demonstrates pre- and post-mining land use trends on the permits inspected by OSM. About 47 percent of the permitted land is approved for a different post-mining land use than existed before mining. Only about 12 percent of the land permitted requires any restoration of woody vegetation to support the post-mining land use. Ohio and OSM are continuing to explore ways to encourage permittees to plant more trees and to develop reclamation methods and land uses that will support trees.



**Figure 1**

OSM also evaluated Ohio's implementation of contemporaneous reclamation provisions as a measure of how timely mined land is returned to the landowner for implementing a post-mining land use, one of the purposes of SMCRA. Information on contemporaneous reclamation showed a wide range of reclamation/bond release time frames on 391 bond releases approved by Ohio.

- Time frames for completion of phase I reclamation averaged 1.9 years on the 115 phase I releases approved by Ohio.
- Time frames for completion of phase II reclamation averaged 3.9 years on the 129 phase II releases approved by Ohio.
- Time frames for completion of phase III reclamation averaged 6.5 years on the 147 phase III releases approved by Ohio.

OSM also continued to monitor Ohio's success in reducing the number of sites where mining has been completed for more than two years and the site has not achieved phase II bond release. During the past three years, DMR has worked to reduce the number of these sites. In August of 1996, there were 119 permits in this condition. In October 1997, there were 52 permits, and by October 1998, there were 45 permits in this condition. Fifteen of the 45 permits achieved phase II bond release between October 1998 and October 1999. Twelve other permits were added to the list. As of late December 1999, 11 additional permits were removed from this status either by achieving Phase II bond release or through bond forfeiture.

During the period between July 1, 1998, and June 30, 1999, new areas bonded accounted for 5058 acres, and a total of 9098.8 acres received final bond release (refunds of excess bond, re-affectation bond release, and phase III bond release). This comparison indicates that Ohio permittees obtained final bond release on acreage equivalent to 180 percent of the new acreage bonded. Since this is only the second year that we have made this observation, there is little

historical comparison available. However, equivalent acreage receiving final bond release was nearly 180 percent more than the new acres bonded during this review period. Last year, an equivalent of about 80 percent of the new acreage bonded achieved a final bond release. This 100 percent increase is attributed to: 1150-acre increase in Phase III bond release; 2300-acre increase in excess bond release; and 2000-acre decrease in new acres bonded. The dramatic shift between last year and this year is due mostly to finalization of many permits with release of a large amount of excess acreage bond and a significant decrease in the number of new acres bonded.

Ohio should continue its efforts to ensure that reclamation and other work necessary for each phase of bond release is conducted as contemporaneously as practicable.

## VI. OSM ASSISTANCE

During the evaluation period, OSM participated in numerous assistance efforts with Ohio. The purpose of this assistance was to help Ohio more efficiently implement their program. Both OSM and Ohio found that working together cooperatively on teams to resolve problems has been positive and successful. Listed below are brief descriptions of the specific areas where OSM assisted Ohio this year.

### AMD Prevention Team

The AMD Team continued development of an inventory of actual and potential AMD-producing sites. The purpose of the inventory is to determine the degree that post-1977 mine sites are producing or may produce AMD after reclamation. The AMD Team identified potential sites for the inventory through surveys of Ohio's and OSM's field staffs, review of enforcement actions for effluent violations, and by reviewing Ohio's inspection narratives. The preliminary inventory contains 75 potential AMD-producing sites, including sites that are being actively mined and treating AMD, and those that are reclaimed but have a remaining AMD discharge. Location information and water quality information for these sites are being collected to begin developing a geographic information system (GIS) for the inventory.

During the evaluation year, OSM inspected twenty of these sites to verify their eligibility for inclusion in the final inventory. Eleven of these sites were producing AMD or, based on site conditions, will likely produce acidic drainage in response to precipitation events. During the upcoming evaluation year, the Team will continue to develop the inventory and work with Ohio's permitting section on developing acid and toxic-material handling guidelines.

### ARP Permitting Team

In EY 96, Ohio implemented changes to the ARP (Application to Revise a Permit) process after a team was assigned to the process. The ARP team included representatives from Ohio, OSM, and industry. The purpose of the ARP team was to improve the processing time of ARP's while ensuring completeness, regulatory compliance, and tracking of individual ARP's.

In EY98, Ohio asked the ARP team members to review the ARP data since implementation of the revised process and to identify any problems or concerns. The team did this by reviewing the effectiveness of the ARP database and Ohio's processing of revisions. The ARP Team presented the results of the review in a final report to Ohio's management staff in January 1999. The report identified the implementation deficiencies of the revised ARP process, submission and processing trends, and provided recommendations for improvement.

### Remining Initiative

OSM continued as a member of Ohio's Remining Committee. The committee has an active representative on a national remining committee that is working with EPA concerning water quality issues related to remining. Ohio drafted revisions to its policies on remining to clarify areas eligible for remining and to improve guidance to staff on evaluating these areas. Ohio also adopted rule changes to encourage reclamation of AML areas through opportunities for remining. OSM inspections on 49 permits this year found that remining resulted in or is proposed to result in elimination of about 35 miles of abandoned highwalls, reclamation of about 1750 acres of unreclaimed mine spoil, and elimination of about 50 underground mine openings or entries.



### Landslide Investigation

OSM and Ohio worked together to conduct a follow-up investigation of an AML complaint alleging that a landslide was induced by subsidence from an abandoned underground mine. The complaint was previously investigated by Ohio and the Ohio Mine Subsidence Insurance Underwriting Association (OMSI). OMSI determined that mine subsidence had caused some damage to the landowner's home. However, a subsequent complaint alleged that a landslide in the backyard was caused by the same abandoned mine. Ohio and OMSI investigated the cause of the landslide and determined the slide did not result from mine subsidence or any other factor related to abandoned mines. OSM became involved because the landowner was not satisfied with Ohio's or OMSI's investigation or the results. OSM agreed to assist Ohio by taking another look at the complaint to make sure no critical issues were overlooked. The additional investigation found no new facts and affirmed that the slide was not related to abandoned mine lands. Therefore, correction of the slide was not eligible as an AML project.



## VII. General Oversight Topic Reviews

### OSM Oversight Inspections

OSM conducted 87 inspections for general compliance monitoring of coal mine operations during the evaluation period to assess compliance with performance standards; 41 inspections to evaluate bond releases approved by Ohio; and 40 other mine site visits associated with special studies or for other reasons. All of these inspections included evaluating for possible off-site impacts. In addition, OSM conducted 52 inspections to monitor AML reclamation project construction and 11 inspections to evaluate potential AML emergencies or to monitor AML emergency project construction.

OSM conducts general compliance monitoring oversight inspections to learn how well Ohio is implementing its program by reviewing the on-the-ground impacts of mining operations. Of the total 168 regulatory inspections conducted by OSM during this evaluation period, 78 percent of the sites were in compliance with the standards reviewed by OSM and 22 percent were in noncompliance with one or more standards. In all instances, Ohio either had taken or took appropriate enforcement or other appropriate action to address the noncompliance.

Two OSM inspections identified numerous and significant compliance issues related to drainage control, spoil placement, stability, and conducting operations within the permit boundaries. These permits involved steep-slope mining. These issues led to extensive involvement between OSM and Ohio to develop remediation strategies and bring about compliance. The period of involvement lasted six months. One issue related to stability remains outstanding due to an appeal filed by the coal company.

The results of OSM inspections related to OSM special studies concerning bond release, contemporaneous reclamation, and off-site impacts are further discussed under separate topics elsewhere in this report.

### Public Participation in the Permitting Process

OSM reviewed Ohio's implementation of the public participation aspects of the permitting process as one measure of success in achieving customer service. OSM's review focused on two aspects of public participation - those actions required by Ohio and those required of the applicant. OSM randomly selected applications and permits that Ohio received between January 1, 1998, and May 3, 1999.

The review found that Ohio has an effective process to ensure that they notify all required governmental agencies upon receipt of a complete permit application. For every application OSM reviewed, the applicants had placed notices in local newspapers as required. Ohio developed an approved list of newspapers with the largest circulation in all counties to ensure proper public notice of permit applications. The review found that Ohio is complying with its program concerning public access to the application during the review process.

To help improve public access to permit applications, OSM suggested that Ohio and the applicant consider leaving application files in the appropriate public offices until Ohio has approved the application. If this is not feasible, OSM suggested that Ohio post and maintain a list of all pending applications in the appropriate offices. Although these steps are not required by the program, they may improve customer service by increasing the public's opportunity to review current applications or by providing notice of those applications currently under review.

The review also found that Ohio is fulfilling the requirement to make copies of records available to the public upon request. OSM acknowledged that Ohio has issued guidelines concerning the public availability of records to further clarify who can receive information free of charge. The guidelines provide that a person is considered a resident in the area of a coal mining operation or application if they reside within one-half mile of the permit or application boundary. Residents within the one-half mile radius can receive copies of records free of charge. For residents beyond the one-half mile boundary, Ohio will mail copies at the current copying charge.

### Longwall Mining



OSM is in the process of conducting a study to better understand: the short and long-term impacts that longwall mining has on water supplies, land, and structures; how the mining industry and Ohio implement the program requirements and mitigate the impacts of longwall mining; and how effectively Ohio and the mining industry interact with those affected by longwall mining. OSM is interviewing Ohio inspectors, mining company officials, and landowners. OSM is also conducting field visits on areas impacted by longwall mining. OSM will prepare a report on the findings from this oversight study in EY2000.

House foundation being rebuilt following subsidence.

### Response to Blasting Complaints

OSM initiated a review to evaluate the effectiveness and timeliness of Ohio's process for investigating blasting complaints, including the use of pre-blast surveys to evaluate alleged blasting damages. OSM reviewed 35 blasting complaints received by DMR during the evaluation period and the response to each complaint. OSM also accompanied Ohio's Blasting Specialist during investigation of two blasting complaints to determine how he considers the pre-blast survey in his evaluation of alleged damage. OSM will prepare a final report on this oversight study during the next evaluation period.

### Coal Waste Disposal

Disposal of coal-processing waste occurs on approximately 10 percent of the permits in Ohio. The permitting requirement to receive approval for coal-processing waste disposal relies primarily on isolating the refuse material to prevent contact with water. This method minimizes impacts to the water regime. In addition to isolation, Ohio permits the mixing of the wastes with materials with high calcium carbonate. The high calcium material reacts with and neutralizes the acidic properties of the coal-processing waste material to cause no net discharge of acidic water. These two techniques offer the viable technologies for disposing of coal-processing waste material, but neither method ensures that no generation of acidic water will occur.

OSM is currently conducting a review to analyze and make recommendations on Ohio's methods for disposing of coal-processing waste in the backfilled area of the mines. This study will assess the effectiveness of permitting requirements for the implementation of approved plans and monitoring the environmental impacts of the disposal of coal-processing waste at surface coal mining operations. Specifically, this study will gather data to answer the following questions:

- " Are impacts to the hydrologic regime minimized on permits with approved coal-processing waste disposal plans?
- " How effectively are the industry and DMR monitoring plans for assessing impacts to the hydrologic regime from coal-processing waste disposal areas?
- " Do permits allowing coal-processing waste disposal comply with the laws, rules, and policy authorizing these activities?
- " Are specific methods of coal-processing waste disposal more effective at minimizing impacts to the hydrologic regime?

During this evaluation period, OSM conducted interviews with permitting staff in DMR to determine the permitting requirements. OSM also interviewed the permitting hydrologists and, to a limited extent, the engineering and inspection staff. In addition, OSM conducted seven of twenty-five field reviews on permits approved for refuse disposal. OSM will complete the remaining eighteen field reviews and report during the next evaluation period.

OSM cannot currently make any recommendations to Ohio for any changes to the current procedures for permitting or implementing refuse disposal plans.

Ohio's Compliance with Its Wildlife Provision in Its Regulatory Program - OSM conducted a follow-up review on a 1995 OSM study on wildlife enhancement. The 1995 study showed that Ohio mining permits were not describing wildlife resources, or providing an explanation of why certain enhancements were not used, as required by Ohio's rules. A review of ten recently issued permits showed that this condition is unchanged. This may be attributed to personnel changes at the time of the 1995 study. However, the current permitting manager is now acting on several of the 1995 recommendations. Ohio has created a new land use form that provides landowners a statement-of-interest checklist for various wildlife enhancements. This will help determine which enhancements are practical, and may help in getting more enhancements implemented in the field. Ohio has also consulted with its Division of Wildlife (DOW) concerning the descriptions of wildlife resources needed in permits, and, in particular, the description of high value habitats. Ohio is now in the process of developing internal guidelines for this requirement. OSM will continue to work with Ohio in this area to see that the use of practical wildlife enhancements is maximized to the fullest extent possible.

### AML Construction Program

OSM reviewed Ohio's non-emergency AML construction processes for productivity and timeliness as compared to the previous year. OSM did this by maintaining a project database, and performing routine AML oversight inspections. The results of these oversight activities are as follows:

- " National Environmental Policy Act (NEPA) Compliance - Ohio submitted all necessary NEPA documentation in a timely manner prior to the initiation of construction activities. OSM authorized 20 projects during the review period as having met the requirements of NEPA. Site inspections on AML projects verified the site conditions and mitigation procedures that were listed in Ohio's NEPA documentation.
- " Design Productivity and Timeliness - Over the last ten years, Ohio has averaged 25 design completions per year, with a range of 45 to 14. Ohio completed 20 designs during this evaluation period, as opposed to 24 completed during the previous year. The majority of the designs were done by private consulting firms, which took on average 471 days from the time the firms were authorized to begin work until it was accepted by Ohio. Design completions continue to be a significant limiting factor on the productivity of Ohio's AML program.
- " Construction Contracting - The average amount contracted over the last ten years by Ohio is \$2.7 million per year, with a range of \$5.8 million to \$1.1 million. Ohio authorized 24 construction contracts at an amount of \$2.3 million during this evaluation period, compared to 22 projects at an amount of \$3.3 million during last year's period. While the amount of contract activity is roughly the same for both periods, the timeliness of issuing contracts greatly improved during this evaluation period. For 1998, it took an average of 106 days from the bid opening to contract authorization. In 1999, this average improved to 74 days. In addition, six of the authorized contracts in this period were

under the 60-day period allowed by Ohio's contracting law. Only two were under the 60-day period last year. Contracts exceeding the 60-day period may be renegotiated unless extensions are mutually agreed to. Renegotiating contracts has not been a problem. However, contracting delays can often delay construction completion until the next construction season if they are authorized too late.

- " Construction Completions - Over the last ten years, Ohio has averaged 27 project completions annually, with a range of 38 to 21 projects. There were 23 projects substantially completed during this review period compared to 22 projects the previous period. There were no significant delays due to contractor negligence or non-performance, nor were there any significant delays due to cost overruns or design changes. The substantial completion certificate has been delayed on one project because of substandard materials, even though all work items were substantially completed.

In an effort to better understand Ohio's AML processes and to identify areas for improvement, OSM worked with Ohio to develop a flowchart of the AML program as the processes currently exist. Critical dates within these processes were identified and mutually agreed to. OSM then conducted file reviews on 23 projects completed during the state's fiscal year from July 1, 1998, to June 30, 1999. Although many of the critical dates were not found in this initial review, it did show that from the time a complaint is received until the construction of a project is completed, it took an average of 8.5 years for this to occur. Even though there are several instances where reasons for this long time period were identified, such as potential remaining or a change in landowners, many of these long periods lack a suitable explanation. Ohio and OSM will work together in the upcoming year to identify key areas for more detailed study with the hope that this will also identify areas for process improvement.

#### OSM Part 732 Notices to Ohio

In 1997, OSM notified Ohio of Federal rule changes that have occurred over the past several years. The provisions affecting Ohio include: permitting and performance standards on siltation structures and impoundments; variances from approximate original contour; prime farmland; and affirmation by the applicant that reclamation requirements are met when applying for bond release. Ohio submitted a program amendment to address these provisions in late 1997. OSM approved the amendment in late 1998. Ohio has promulgated some of the rules approved under the amendment, but is continuing to develop a strategy and guidelines for staff and industry before promulgating final rules concerning siltation structures, impoundments, and bond release affirmation.

**TABLE 1**

<b>COAL PRODUCTION (Millions of short tons)</b>			
<b>Period</b>	<b>Surface mines</b>	<b>Underground mines</b>	<b>Total</b>
Coal production <sup>A</sup> for entire State:			
Annual Period			
1997	13,579,710	16,658,160	30,237,870
1998	13,183,436	15,605,135	28,788,571
1999	12,403,243	12,980,985	25,384,228
	39,166,389	45,244,280	84,410,669

<sup>A</sup> Coal production as reported in this table is the gross tonnage which includes coal that is sold, used, or transferred as reported to OSM by each mining company on form OSM-1 line 8(a). Gross tonnage does not provide for a moisture reduction. OSM verifies tonnage reported through routine auditing of mining companies. This production may vary from that reported by States or other sources due to varying methods of determining and reporting coal production.

**TABLE 2**

<b>INSPECTABLE UNITS As of September 30, 1999</b>												
Coal mines and related facilities	Number and status of permits								Insp. Unit <sup>D</sup>	Permitted acreage <sup>A</sup> (hundreds of acres)		
	Active or temporarily inactive		Inactive		Abandoned		Totals					
			Phase II bond release									
	IP	PP	IP	PP	IP	PP	IP	PP		IP	PP	Total
<b>STATE and PRIVATE LANDS</b> REGULATORY AUTHORITY: STATE												
Surface mines	305		2	145	6	40	8	490	498	1233		
Underground mines	14		3				0	17	17	4		
Other facilities	39		9		1	5	1	53	54	41		
Subtotals	0	358	2	157	7	45	9	560	569	0	1278	
<b>FEDERAL LANDS</b> REGULATORY AUTHORITY: STATE												
Surface mines	2				1		0	3	3	3		
Underground mines							0	0		0		
Other facilities							0	0		0		
Subtotals	0	2	0	0	0	1	0	3	3	0	3	
<b>ALL LANDS<sup>B</sup></b>												
Surface mines	0	307	2	145	6	41	8	493	501	0	1,236	
Underground mines	0	14	0	3	0	0	0	17	17	0	4	
Other facilities	0	39	0	9	1	5	1	53	54	0	41	
Totals	0	360	2	157	7	46	9	563	572	0	1,281	
Average number of permits per inspectable unit (excluding exploration sites) . . . . .											1	
Average number of acres per inspectable unit (excluding exploration sites) . . . . .											224	
Number of exploration permits on State and private lands: <u>0</u> <u>0</u>											On Federal lands: <u>0</u> <sup>C</sup>	
Number of exploration notices on State and private lands: <u>0</u>											On Federal lands: <u>0</u> <sup>C</sup>	
<sup>I</sup> P: Initial regulatory program sites. <sup>PP</sup> : Permanent regulatory program sites. <sup>A</sup> When a unit is located on more than one type of land, includes only the acreage located on the indicated type of land. <sup>B</sup> Numbers of units may not equal the sum of the three preceding categories because a single inspectable unit may include lands in more than one of the preceding categories. <sup>C</sup> Includes only exploration activities regulated by the State pursuant to a cooperative agreement with OSM or by OSM pursuant to a Federal lands program. Excludes exploration regulated by the Bureau of Land Management. <sup>D</sup> Inspectable Units includes multiple permits that have been grouped together as one unit for inspection frequency purposes by some State programs.												

TABLE 3

**STATE PERMITTING ACTIVITY  
As of September 30, 1999**

Type of application	Surface mines			Underground mines			Other facilities			Totals		
	App. Rec.	Issued	Acres	App. Rec.	Issued	Acres <sup>A</sup>	App. Rec.	Issued	Acres	App. Rec.	Issued	Acres
New permits	37	48	5956	1	3	92	0	0	0	38	51	6,048
Renewals	22	47	27073	8	3	1754	18	12	1102	48	62	29,929
Transfers, sales, and assignments of permit rights	0	11		0	0		0	0		0	11	
Small operator assistance	12	12		0	0		0	0		12	12	
Exploration permits	0	0		0	0		0	0		0	0	
Exploration notices <sup>B</sup>		0			0			0			0	
Revisions (exclusive of incidental boundary revisions)		135			0			0			135	
Incidental boundary revisions		88	0		2	0		0	0		90	0
<b>Totals</b>	<b>71</b>	<b>341</b>	<b>33,029</b>	<b>9</b>	<b>8</b>	<b>1,846</b>	<b>18</b>	<b>12</b>	<b>1,102</b>	<b>98</b>	<b>361</b>	<b>35,977</b>

OPTIONAL - Number of midterm permit reviews completed that are not reported as revisions \_\_\_\_\_

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

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

\* State was unable to provide this information.



TABLE 4

OFF-SITE IMPACTS														
RESOURCES AFFECTED			People			Land			Water			Structures		
DEGREE OF IMPACT			minor	moderate	major	minor	moderate	major	minor	moderate	major	minor	moderate	major
TYPE OF IMPACT AND TOTAL NUMBER OF EACH TYPE	Blasting	2		2										
	Land Stability	3		1		2	1							
	Hydrology	36			3				29	1	3			
	Encroachment	6				2	4		2					
	Other	6				6								
	Total	53	0	3	3	10	5	0	31	1	3	0	0	0
OFF-SITE IMPACTS ON BOND FORFEITURE SITES														
RESOURCES AFFECTED			People			Land			Water			Structures		
DEGREE OF IMPACT			minor	moderate	major	minor	moderate	major	minor	moderate	major	minor	moderate	major
TYPE OF IMPACT AND TOTAL NUMBER OF EACH TYPE	Blasting													
	Land Stability													
	Hydrology													
	Encroachment													
	Other													
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

The objective of this table is to report all off-site impacts identified in a State regardless of the source of the information. More than one resource may be affected by each type of impact. Therefore, the total number of impacts will likely be less than the total number of resources affected; i.e., the numbers under the resources columns will not necessarily add horizontally to equal the total number for each type of impact. Bond forfeiture sites were not evaluated during the period. Impacts related to mine subsidence or to other areas where impacts are not prohibited are not included in this table. **Refer to report narrative for complete explanation and evaluation of the information provided by this table.**

TABLE 5

ANNUAL STATE MINING AND RECLAMATION RESULTS		
Bond release phase	Applicable performance standard	Acreage released during this evaluation period
Phase I	<ul style="list-style-type: none"> <li>* <input type="checkbox"/> Approximate original contour restored</li> <li>* <input type="checkbox"/> Topsoil or approved alternative replaced</li> </ul>	4398
Phase II	<ul style="list-style-type: none"> <li>* <input type="checkbox"/> Surface stability</li> <li>* <input type="checkbox"/> Establishment of vegetation</li> </ul>	6653
Phase III	<ul style="list-style-type: none"> <li>* <input type="checkbox"/> Post-mining land use/productivity restored</li> <li>* <input type="checkbox"/> Successful permanent vegetation</li> <li>* <input type="checkbox"/> Groundwater recharge, quality and quantity restored</li> <li>* <input type="checkbox"/> Surface water quality and quantity restored</li> </ul>	5170
	<b>Bonded Acreage Status<sup>A</sup></b>	<b>Acres</b>
	Total number of bonded acres at end of last review period (September 30, 1998) <sup>B1</sup>	79,893
	Total number of bonded acres during this evaluation year	3908
	Number of acres bonded during this evaluation year that are considered remaining, if available	NA
	Number of acres where bond was forfeited during this evaluation year (also report this acreage on Table 7)	822
<p><sup>A</sup> Bonded acreage is considered to approximate and represent the number of acres disturbed by surface coal mining and reclamation operations.</p> <p><sup>B</sup> Bonded acres in this category are those that have not received a Phase III or other final bond release (State maintains jurisdiction).</p>		

**OPTIONAL TABLES 6**

**(See Instructions)**

**TABLE 7**

<b>STATE BOND FORFEITURE ACTIVITY</b>			
(Permanent Program Permits)			
	Number of Sites	Dollars	Disturbed Acres
Bonds forfeited as of September 30, 1998 <sup>A</sup>	156	\$22,003,548	5860
Bonds forfeited during EY 1999	8	\$419,937.50	822.2
Forfeited bonds collected as September 30, 1998 <sup>A</sup>			
Forfeited bonds collected during EY 1999	1	\$10,000	
Forfeiture sites reclaimed during EY 1999	7	\$3,617,074 <sup>B</sup>	1183.2
Forfeiture sites repermited during EY 1999			
Forfeiture sites unreclaimed as of September 30, 1999	36		783
Excess reclamation costs recovered from permittee		0	
Excess forfeiture proceeds returned to permittee	0	0	
<sup>A</sup> Includes data only for those forfeiture sites not fully reclaimed as of this date.			
<sup>B</sup> Cost of reclamation, excluding general administrative expenses.			

**TABLE 8**

<b>STATE STAFFING</b> (Full-time equivalents at end of evaluation year)	
<b>Function</b>	<b>EY 1999</b>
<b>AML Program</b>	<b>30.9</b>
Regulatory program	
Permit review . . . . .	10.0 . . . . .
Inspection . . . . .	19.1 . . . . .
Other (administrative, fiscal, personnel, etc.) . . . . .	6.0
<b>TOTAL</b>	<b>35</b>

**TABLE 9**

<b>FUNDS GRANTED TO OHIO BY OSM</b> (Millions of dollars) EY 1999		
<b>Type of grant</b>	<b>Federal funds awarded</b>	<b>Federal funding as a percentage of total program costs</b>
Administration and enforcement	\$1,410,906	50%
Small operator assistance	\$196,689	
<b>Totals</b>	<b>\$1,607,595</b>	