

OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

Annual Evaluation Summary Report

for the

Regulatory and Abandoned Mine Lands Reclamation Programs

Administered by the State

of

ALABAMA

for

Evaluation Year 1999

October 1, 1998 to September 30, 1999

November 1999

EXECUTIVE SUMMARY

During the 1999 Evaluation Year, the Office of Surface Mining, Birmingham Field Office, conducted oversight evaluations of the Alabama Surface Mining Commission and the Alabama Department of Industrial Relations, the State coal mine regulatory and abandoned mine lands program agencies, respectively. The oversight studies focused on the success of these agencies in meeting the Surface Mining Control and Reclamation Act's goals for environmental protection and prompt, effective reclamation of land mined for coal. An evaluation (performance) plan for each agency was cooperatively developed by the BFO and the State to tailor the oversight activities to the unique conditions of each State program. The purpose for the oversight activities was to identify the need for and then provide financial, technical, and other program assistance to the State to strengthen its programs.

Studies in the areas of offsite impacts, reclamation success, and customer service were conducted by the BFO in support of OSM's national initiatives.

- " Data on offsite impacts were collected during BFO inspections and from State inspection reports, Notices of Violation and assessment records. Fifty-nine (59) offsite impacts were identified, which is comparable with 64 offsite impacts identified during Evaluation Year 1998. Eighty-six (86) percent of Alabama's inspectable units were free of offsite impacts.
- " The BFO's review of 20 bond release actions demonstrated that ASMC continues to follow all program requirements for releasing bonds. The BFO concurred with the ASMC action on each bond release.
- " The BFO's customer service review concerned the time frames required for permittees to acquire all of the necessary permits, clearances, and agency reviews needed to obtain a coal mining permit. The amount of time needed by six State and Federal consulting agencies to process permits, clearances and agency reviews was tracked for mining permits issued during the review year.

General oversight topic reviews were conducted for both the State regulatory and abandoned mine lands programs.

- " The compliance of the regulatory program with policies and procedures related to ownership and control review and documentation was studied. The review involved 12 permits issued in the eighteen months leading up to the review year. The study showed that the State was actively collecting and verifying information required by the interim regulations on ownership and control.
- " A review of minesites in temporary cessation status was conducted to determine if the State was following its procedures regarding temporary cessation to include site maintenance, violations of performance standards, offsite impacts, enforcement actions, land leases, and bond adequacy. Twenty-two minesites were reviewed. Requests for temporary cessation status were properly approved by the State. The State monitored all sites at the required inspection frequency and required reclamation if temporary cessation status was no longer appropriate. No trends in violations were noted peculiar to temporary cessation. The study verified that the State had followed its procedures to regularly assess bond adequacy.

- " A review of the use of Best Management Practices on active and complete AML sites demonstrated that the State AML Program used a wide array of short-term and long-term BMP s to reduce or eliminate the likelihood of erosion and sedimentation. Over twenty techniques were identified during the study. Multiple BMP s were typically used on AML projects. The State s monitoring and engineering program provided early detection and correction of erosional problems on two of the 18 projects field inspected during the study.
- " A study of the State AML Program s performance in obtaining Stormwater Drainage Permits and adhering to permit requirements demonstrated that the permits and supporting documents were secured and filed in accordance with requirements, that the State exceeded the inspection rate and development of inspection reports, and that files accurately reflected the status of the permit.
- " Phase I of a study on the State s success in revegetation and tree planting on AML sites was completed during the review year. This phase of the study chronicled the chronology of the State s tree planting program since the inception of the Program. Major innovations, such as ripping and removal of competing vegetation, are described. The study showed that the State has revegetated 6465.29 acres under the AML Program with 173 sites, covering 2867.7 acres, planted in trees and wildlife shrubs since 1987.

In addition to national initiative reviews and topical studies, the BFO engaged in a number of assistance activities, emphasizing improving the regulatory and AML programs, during the review period. Each assistance activity was identified during joint State/BFO meetings and was performed in full cooperation with the associated State agency.

- " The history of OSM s remining initiative, including the recently enacted AML Enhancement Rule, was discussed, and the differences between remining and resource recovery were explored. A review of mining permits issued between October 21, 1996 and April 6, 1999, showed that the majority combined the remining of AML acres with regular mining. In the upcoming review year, the BFO plans to discuss with the regulatory authority and the coal industry the usefulness of setting up a 3-way partnership on remining issues.
- " The assistance activity conducted by the BFO to identify and quantify AML acid mine drainage sites continued during the review year. An additional 38 sites were tested, bringing to 68 the number of AML sites which have been tested since the inception of the activity in 1998. A total of 22 sites have exhibited AMD conditions.
- " The BFO assisted the State AML and regulatory agencies in the development of a coordination procedure for the processing of government-financed AML projects where there will be incidental coal removal. Continued progress can be made after the regulatory authority amends its State regulations to revise the definition of government financed construction .
- " A study was conducted on the requirements and criteria for permitting coal processing operations. The study provided an overview of the regulations concerning this permitting activity and analyzed the regulatory authority s compliance with these regulations. It concluded that the State gathered all data needed to determine which coal processing operations needed to be permitted and had made correct permitting decisions for all Alabama operations.

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LIST OF ACRONYMS USED IN THE REPORT

ADCNR - Alabama Department of Conservation and Natural Resources
ADEM - Alabama Department of Environmental Management
ADIR - Alabama Department of Industrial Relations
AHC - Alabama Historical Commission
AMD - Acid Mine Drainage
AML - Abandoned Mine Lands
AOC - Approximate Original Contours
ASMC - Alabama Surface Mining Commission
BFO - Birmingham Field Office
BMP s - Best Management Practices
Board - Walker County Soil and Water Conservation District Board
CO - Cessation Order
Corps - U.S. Army Corps of Engineers
EPA - Environmental Protection Agency
EY - Evaluation Year
FY - Fiscal Year
MCRCC - Mid-Continent Regional Coordinating Center
MSHA - Mine Safety and Health Administration
NEPA - National Environmental Protection Act
NHPA - National Historic Preservation Act
NOV - Notice of Violation
NPDES - National Pollutant Discharge Elimination System
OSM - Office of Surface Mining
PAD s - Problem Area Descriptions
Rules - Rules of the Alabama Surface Mining Commission
SMCRA - Surface Mining Control and Reclamation Act
TC - Temporary Cessation
TVA - Tennessee Valley Authority
USFWS - U.S. Fish and Wildlife Service

I. INTRODUCTION

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) created the Office of Surface Mining (OSM) in the Department of the Interior. SMCRA provides authority to OSM to oversee the implementation of and provide Federal funding for State regulatory and abandoned mine lands programs that have been approved by OSM as meeting the minimum standards specified by SMCRA. This report contains summary information regarding the Alabama Regulatory and Abandoned Mine Lands Programs and the effectiveness of the Alabama Programs in meeting the applicable purposes of SMCRA as specified in section 102. These programs are administered by the Alabama Surface Mining Commission (ASMC) and the Alabama Department of Industrial Relations (ADIR). 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 OSM's Birmingham Field Office (BFO), 135 Gemini Circle, Suite 215, Homewood, AL 35209.

II. OVERVIEW OF THE ALABAMA COAL MINING INDUSTRY

Alabama ranks fourteenth in coal production among coal-producing States. The majority of Alabama's coal is ranked high-volatile A bituminous. Moderate amounts of low and medium-volatile A bituminous coal also exist. The coal is generally of good quality, and most beds have low percentages of sulfur and ash.

Alabama has four coalfields that are part of the great Appalachian coal basin - the Plateau field, the Warrior field, the Cahaba field, and the Coosa field. Alabama's total coal reserves have been estimated at 4.8 billion tons. A total of 3.1 billion tons is estimated as recoverable reserves (.73 billion tons is recoverable by underground mining, i.e., overburden of greater than 120 feet; and 2.4 billion tons are recoverable by present strip mining techniques, i.e., overburden less than 120 feet). A total of 9,700 square miles of the State is underlain by coal. Coal is the most abundant and important mineral resource in the Warrior, Cahaba, and Coosa fields. The great majority of coal mined today is in the Warrior field. The Plateau field, with a greater area than all the other coalfields combined, has attracted little commercial mining. The coal mined in Alabama is used principally for electric power generation. Other uses include methane gas recovery and coke production.

Coal is recovered by both surface and underground mining techniques. Surface mining in Alabama includes auger, contour, and area methods. Room and pillar and longwall methods are used for underground mining. Prior to 1986, surface mining predominated; since that time, underground mines have accounted for the majority of the coal recovered. For calendar year 1998, approximately 73 percent of the coal mined was by underground mining (tonnage recovered by underground mining - 17,273,206; tonnage recovered by surface mining - 6,277,146). Underground mining operations employed 3074 people while surface mining operations employed 670 people as of September 30, 1999.

As of September 30, 1999, 35 permitted surface mines, nine permitted underground mines, and four preparation and loading facilities were actively producing coal in Alabama. Production reports show that bituminous coal was produced in eight Alabama counties: Bibb, Cullman, Fayette, Jefferson, Marion, Tuscaloosa, Walker, and Winston. Approximately 85 percent of that production came from Jefferson, Tuscaloosa, and Walker counties. For the first three quarters of Fiscal Year (FY) 1999 (October 1, 1998, through June 30, 1999) coal production in Alabama totaled 16,419,552 gross tons (12,445,414 tons recovered by underground mining and 3,974,138 tons recovered by surface mining).

III. OVERVIEW OF THE PUBLIC PARTICIPATION OPPORTUNITIES IN THE OVERSIGHT PROCESS AND THE STATE PROGRAMS

Opportunities for public participation occur at significant points in the Alabama regulatory program and involve the ability of the public to initiate rulemaking (880-X-2A-.08), to initiate civil suits (880-X-2A-.09), to request that areas be designated as unsuitable for mining (880-X-7D-.05), to review permit and revision applications (880-X-8K), to object to proposed bond releases (880-X-9D-.02), and to request an inspection of a minesite (880-X-11B-.03). Monthly meetings of the Commissioners are also open to the public. Opportunities for public participation in the Alabama Abandoned Mine Lands (AML) Program occur at the time of (1) project selection, (2) consultation under the National Environmental Policy Act (NEPA), (3) grant application review, (4) obtaining right of entry documents, (5) management and disposal of land acquired by the AML Program, (6) stormwater drainage permit application process, and (7) amendment of the State Plan. Both ASMC and ADIR were participants in the Hurricane Creek Stakeholders Forum, an organization with representatives from industry, academia, the environmental communities, and Federal and State government agencies. This activity has provided the public with an opportunity to engage ASMC and ADIR in discussions and problem solving associated with Hurricane Creek water quality issues.

Public participation was highlighted in a number of BFO activities during the review period. On January 28, 1999, a BFO staff member was a speaker at the Tenth Annual Nonpoint Source New Directions Conference in Montgomery, Alabama. The topic of the presentation was Quantification of Acid Mine Drainage Sites . During the presentation, conference attendees were made aware of OSM s oversight program and opportunities for the public to provide comments on the oversight process and suggestions for studies. On March 2-4, 1999, the BFO sponsored a workshop on testing for acid mine drainage. Attendees, which included representatives from Federal, State, and county agencies, the coal industry, educators, and watershed groups, were challenged to provide the BFO with input on oversight processes and studies. On May 6, 1999, the BFO met with six environmental/watershed groups to discuss the oversight process and to solicit input on evaluation studies for the year 2000. Using the brainstorming technique, a list of concerns was developed during the meeting.

IV. MAJOR ACCOMPLISHMENTS/ISSUES/INNOVATIONS IN THE ALABAMA PROGRAM

Alabama Regulatory Program

ASMC continued to successfully administer its regulatory program during Evaluation Year (EY) 1999 to achieve the goals identified in section 102 of SMCRA. The BFO conducted regulatory program studies and engaged in assistance activities to characterize the success of the State's program and to provide assistance in specific areas.

During the evaluation year, ASMC issued 11 new permits and seven (7) permit renewals. Seventy-seven (77) permit revisions and five (5) incidental boundary revisions were approved. Four (4) permit transfers were submitted, with four (4) being approved. ASMC approved 17 Notices of Intent to Explore. A total of 3665 inspections were conducted, including 3213 complete inspections and 452 partial inspections. One-hundred twenty-four Notices of Violation, representing 162 violations, and 26 Cessation Orders, with a total of 36 violations, were issued (not including vacated violations).

In an effort to present a historical snapshot of ASMC's bonding activities, the BFO in cooperation with ASMC, gathered data by fiscal year on acres bonded, acres receiving Phase I, II, and III bond releases, and acres receiving bond forfeiture. ASMC does not maintain information on disturbed acres but believes that the acres that are bonded each year provide a **very** close estimate of the number of acres disturbed. A total of 100,879 acres were bonded from October 1, 1982, through September 30, 1998. As of the end of FY 1998, 31,441 acres had received Phase III bond releases. Thirty-one percent of the acreage bonded and mined since 1982 have received final bond release indicating the completion of all reclamation obligations for those acres and the return of those lands to productive use after mining.

ASMC does not consider acreage to be released at the time of a Phase I or Phase II bond release. These releases are monetary releases of a certain percent of the total bonded amount. Acres are determined to be successfully reclaimed only at the time of the Phase III bond release. Therefore, ASMC does not track acreage for Phase I and II releases. To obtain information on the acreage related to Phase I and II bond releases, the BFO gathered bond release acreage from ASMC's files and through a computer query of the ASMC database. As of September 30, 1998, ASMC had released Phase I bond amounts

for approximately 63,318 acres and Phase II bond amounts for approximately 37,551 acres. The table below indicates bonded acreage and bond releases by fiscal year. See Table 5 for current FY 1999 bonding and bond release information.

**ALABAMA ACREAGE FIGURES
BONDED AND RELEASED**

Fiscal Year	Acres Bonded	Phase I Release Acres	Phase II Release Acres	Phase III Release Acres	Bond Forfeiture Acres
1983	23,711	0	0	0	0
1984	12,674	0	0	0	0
1985	8,569	398	0	0	192
1986	9,227	5,158	718	420	510
1987	2,246	4,656	910	26	235
1988	3,913	7,221	1,410	103	15
1989	5,467	3,954	2,072	381	180
1990	7,907	5,266	2,739	1,348	118
1991	5,205	3,585	1,630	1,386	302
1992	5,201	6,010	5,691	3,792	119
1993	4,979	6,606	2,742	3,779	1,991
1994	3,655	3,878	4,527	4,035	752
1995	2,477	5,005	3,898	4,203	605
1996	975	4,948	3,160	1,922	575
1997	2,474	3,057	3,477	4,302	857
1998	2,199	3,576	4,577	5,744	349
TOTAL	100,879	63,318	37,551	31,441	6,800

Alabama Abandoned Mine Lands Program

ADIR successfully administered the AML Program during EY 1999 in accordance with the AML Reclamation Plan and policies and procedures established in the annual AML grant. The AML Program completed 25 projects (including 13 emergency projects) during the evaluation year. Reclamation of the 13 emergencies involved \$113,385 in construction expenses. Pothole subsidence events were the predominant problem. Reclamation achieved by non-emergency activities included 9900 linear feet of dangerous highwall, 8 dangerous impoundments, 66.4 acres of spoil, 150 linear feet of dangerous piles and embankments, 17 vertical openings, and 51 portals. The data presented in Table 6 characterizes the status of AML reclamation in Alabama. The data is presented by problem type, showing reclaimed versus unreclaimed figures.

V. SUCCESS IN ACHIEVING THE PURPOSES OF SMCRA AS DETERMINED BY MEASURING AND REPORTING END RESULTS

To further the concept of reporting end results, the findings from performance reviews and public participation evaluations are being collected for a national perspective in terms of the number and extent of observed offsite impacts, the number of acres that have been mined and reclaimed and which meet the bond release requirements for the various phases of reclamation, and the effectiveness of customer service provided by the State. Individual topic reports are available in the Birmingham Office which provide additional details on how the following evaluations and measurements were conducted.

A. Offsite Impacts:

OSM annually evaluates and reports on the effectiveness of ASMC's regulatory program in protecting the environment and the public from offsite impacts resulting from surface coal mining and reclamation operations. Offsite impact data is gathered nationwide in order to portray the on-the-ground success of State programs in preventing or minimizing offsite impacts.

An offsite impact is defined as anything resulting from coal mining which causes a negative effect on resources (people, land, water, structures). Also, the impact would be regulated or controlled by the applicable State program. The impact must be coal mine related and must occur outside the area authorized by the permit for conducting mining and reclamation activities.

For EY 1999, offsite impact data was collected for the period of October 1, 1998, through September 30, 1999, during the BFO's field inspections and file reviews of State inspection reports, Notice of Violation (NOV) actions, and bond releases. The field and file reviews were conducted to determine if the State properly recorded offsite impacts for the minesites inspected by the BFO. BFO's inspections of minesites occurred throughout the evaluation year, beginning in October 1998, and ending in August 1999. Of the 24

inspections performed for the Temporary Cessation study, no offsite impacts were identified. Of the twenty inspections performed for the Bond Release study, no offsite impacts were identified. Of the seventy complete inspections performed, twenty offsite impacts were identified. All of these offsite impacts had been identified and cited by the State. The examination of the State NOV database and associated hard-copy State NOV s identified an additional 39 offsite impacts not associated with the before mentioned studies.

Therefore, a total of 59 offsite impacts, affecting people, land, water and structural resources, were identified on 38 mine sites. Affects on resources were determined to be major in 8 cases, moderate in 26 instances, and minor in 31 cases. Information concerning offsite impacts and resource affects are presented in Table 4. The impacts were associated with failure to meet effluent limitations (17), uncontrolled run-off (11), other hydrological impacts (9 - includes 6 for failure to construct or maintain diversions properly), failure to maintain setbacks - encroachment (17), and blasting violations (5).

Offsite impacts associated with Alabama minesites numbered 64 impacts in EY 1998 and 59 impacts in 1999. For EY 1999 offsite impacts occurred on 38 permits. Alabama s inspectable units as of September 30, 1999, totaled 272. Therefore, offsite impacts occurred on a small percentage (14 %) of the permitted sites.

As a special emphasis, remediation and prevention was addressed for each of the 20 offsite impacts identified during BFO inspections by determining what could have been done to prevent the impact and what was done on the ground to correct the problem. The following was noted:

- " The offsite impacts involving the failure to meet effluent limitations were remediated by treating the water to raise the pH to meet the effluent limits or by lining drainage ways with limestone. Prevention of this category of offsite impacts could be accomplished by a monitoring and maintenance program designed to identify and treat low pH/high iron water before it is released into the environment.
- " The offsite impacts involving failure to maintain setbacks and failure to provide bond on all disturbed acreage were remediated by reclaiming the unauthorized disturbed areas, bonding of disturbed areas, or granting of a waiver to disturb in a buffer zone. These violations appear to be due to negligence on the part of the operator. Prevention of this category of offsite impacts could be accomplished by observing permit requirements which do not allow disturbing these areas unless a waiver or bond is obtained.
- " The offsite impacts involving uncontrolled drainage (failure to build basins/uncontrolled runoff/failure to maintain diversions) were remediated by constructing sediment basins, redirecting runoff into sediment basins, and cleaning out diversion ditches. Prevention of this category of offsite impacts could be

accomplished by observing permit requirements and performing monitoring and maintenance of drainage structures.

- " The offsite impacts involving blasting (failure to control flyrock and failure to follow approved blasting plan) were remediated by requiring the operators to follow the blasting plans or revise the blasting plans. Prevention of this category of offsite impacts could be accomplished by following approved blasting plans and revising plans as necessary when mining conditions change.

While the occurrence of offsite impacts is beyond the control of ASMC, the BFO has concluded from this review that the State is operating its inspection and enforcement program in a manner that discourages the occurrence of offsite impacts and is employing diligence in discovering and citing violations involving offsite impacts as they occur. No instances were noted in which the State inspector failed to take proper enforcement actions.

B. Reclamation Success:

The ASMC's effectiveness in ensuring successful reclamation through compliance with performance standards relative to bond release was evaluated. A sample of bond release actions reviewed by ASMC after October 1, 1998, was selected for the evaluation. The total number of bond releases reviewed was 20 sites. This sample included Phase I, II, and III bond releases. Each site was evaluated to determine if the site supported the proposed postmining land use. The field reviews occurred throughout the evaluation year. All of the sites were reviewed prior to ASMC's approval/denial of the bond release request.

The following parameters were evaluated through field observations and/or review of the State bond release files:

- " Phase I - Approximate Original Contour (AOC) achievement
Evaluation Method - Onsite inspection
- " Phase II - Replacement of soil resources, vegetation stability
Evaluation Method - onsite inspection and permit file review
- " Phase III - Postmining land use, successful revegetation, surface water quality and quantity, restoration of ground water recharge capacity, comparison of premining to postmining surface water quality and quantity restoration
Evaluation Method - Onsite inspection and permit file review

Phase I

The BFO inspected and conducted permit file reviews on seven (7) increments requested for Phase I bond release, totaling 245 acres. These increments were field inspected for AOC achievement, toxic material coverage (where indicated), and the removal of temporary structures and equipment. When indicated, water discharge was tested, toxic material coverage was measured, and topsoil variance compliance was analyzed. A permit file review was conducted to determine the premining/postmining surface/ground water quality comparison and compliance of National Pollutant Discharge Elimination System (NPDES) monitoring points.

All seven (7) increments were determined to have met the requirements for Phase I bond release. These increments had achieved AOC and toxic material had been covered when applicable. The permit files reflected a comparison of premining/postmining surface/ground water quality, compliance of NPDES monitoring points were on file, and documentation reflected that temporary structures and equipment had been removed.

Phase II

Eight (8) Phase II increments representing 306 acres were inspected. Onsite inspections were conducted to determine the presence of topsoil or suitable soil replacement, to verify the establishment and presence of approved vegetation, to determine that vegetative success standards were met, and to assure that the site was stabilized. A determination was also made that lands were not contributing suspended solids off the permit and that removal of temporary ponds and diversions was completed. The permit files were reviewed to determine acres of basins approved as permanent water impoundments, the applicability of prime farmland productivity, and the presence of topsoil waivers.

All eight (8) increments met the requirements for a Phase II bond release. These increments reflected suitable soil replacement, adequate and approved species of vegetative cover, and site stabilization (no rills or gullies). All temporary ponds and diversions had been appropriately removed, acres of basins were approved as permanent water impoundments, and reclamation did not contribute to suspended solids off the permit.

Phase III

Ten (10) increments, totaling 828 acres, were reviewed for Phase III bond release. These sites were field inspected for the achievement of postmining land use and successful vegetative cover. The permit files were reviewed to determine the approved postmining land use, monitoring of the quality of the water, groundwater recharge capabilities, and compliance with surface water discharge effluent limits. The permit files were also reviewed to determine that the appropriate liability periods had been met.

All ten (10) of these increments were determined to have met the requirements for a Phase III bond release. All increments had achieved postmining land use and vegetative

success, and had met water quality standards. Permit files reflected that water leaving the minesite was comparable to or better than pre-mining conditions, that the ground water recharge capabilities had been tested, and that compliance with surface water discharge effluent limits had been verified. In all cases, the liability periods had been met.

The BFO determinations were consistent with ASMC's actions on Phase I, II, and III bond releases on sites inspected in this sample. All increments appeared to be on track for the stated postmining land use. Based upon this review, the BFO has determined that ASMC's decisions on approving bond release requests met the requirements of the approved Alabama surface mining program. As shown in Table 5, ASMC released 3,115 acres under a Phase I bond release, 3,945 acres under a Phase II bond release, and 4,385 acres under a Phase III bond release.

C. Customer Service:

Directive REG-8 requires an annual review of the effectiveness of customer service provided by the State. For EY 1999 the amount of time required to obtain other permits needed for the approval of a permit application was reviewed. The intent of the review was to determine the problems in obtaining these other permits and how this was affecting the timeliness of the ASMC permit review process. In addition, the BFO hoped to facilitate discussions with the Federal and State agencies involved in providing these other permits to determine if areas of improved coordination and interaction could be identified. The customers affected by the timeliness of permit issuance are the coal companies.

The population chosen for the review was the permits issued by ASMC from October 1, 1998 through May 30, 1999, providing a population size of six permits. The BFO initiated its review by conducting an interview on June 21, 1999, with the ASMC permitting staff. The interview solicited information, such as what other permits must be obtained, which permits are required for all applications, does the ASMC assist the applicant in obtaining necessary permits or clearances and so forth. The BFO then conducted a file review of the six permits.

During the interview and file review process, it was determined that four permits or clearances must be obtained prior to approval of a permit application: a) clearance from the Alabama Historical Commission for cultural/archeological resources; b) clearance from the U.S. Fish and Wildlife Service under the Endangered Species Act; c) acquisition of a NPDES permit from the Alabama Department of Environmental Management; and d) acquisition of a permit from the Mine Safety and Health Administration. Additional permits or clearances may be required, depending on minesite conditions, such as whether a wetland is present on the proposed minesite or whether mining will occur in a municipality where there is zoning.

To determine the time lines for obtaining permits or clearances, the BFO reviewed the six permit applications for interactions with the following agencies: Alabama Historical Commission (AHC); U.S. Fish and Wildlife Service (USFWS); Alabama Department of Environmental Management (ADEM); Mine Safety and Health Administration (MSHA); U.S. Army Corps of Engineers (Corps); and, Alabama Department of Conservation and Natural Resources (ADCNR).

The response times for the USFWS, MSHA, and ADCNR averaged less than 30 days. The AHC response times were somewhat longer, averaging 35 days for five of the six permits reviewed; the response time for the sixth permit was 559 days, which was considered to be anomalous. The Corps responded an average of 90 days after a request was made with the response times varying from 56 to 221 days. ADEM response times ranged from 97 to 210 days with an average of 155 days.

To date, the BFO has determined through this study the amount of time needed by six consulting agencies to process permits, clearances and agency reviews required by ASMC prior to issuing permits. This concluded Phase I of this customer service study. Phase II is planned for EY 2000 which will include the identification of opportunities for improved coordination between agencies involved indirectly in the permit process.

VI. OSM ASSISTANCE

OSM's oversight role has shifted to focus more on on-the-ground reclamation success and end results than on processes. OSM's changing role now emphasizes assisting the State in improving its regulatory and abandoned mine lands programs by identifying program needs and offering financial, technical, and programmatic assistance as necessary to strengthen the State programs. The BFO routinely provides information to ADIR and ASMC regarding new policy guidelines and procedures as well as changes in existing guidelines and procedures.

Remining in Alabama

The topic of remining was selected as an assistance activity for EY 1999. The two purposes of the assistance activity were to: (1) describe the national remining initiative and the regulatory authority's allowances for remining and (2) attempt to capture the interest and potential for remining in Alabama. The remining definition promulgated in ASMC's regulations includes not only land affected by surface coal mining operations prior to August 3, 1977, but was amended in December 1998 to add a definition of lands eligible for remining. This amendment brought ASMC's regulations into conformance with changes in section 402 of SMCRA which expanded the definition of abandoned mine lands to include inadequately reclaimed interim law sites and permanent program mine sites on which the surety had become insolvent.

The report covering the remining assistance activity described the history of the remining initiative, explained the differences between remining and resource recovery and the responsible State agency for each process, and explained the regulatory or contractual limitations for remining or resource recovery. The report then discussed OSM's February 12, 1999 final rule (AML Enhancement Rule) which amended Federal regulations associated with resource recovery.

As far as remining activity in Alabama, of the permits issued between October 21, 1996, and September 30, 1998 (21 permits), 16 indicated that the remining of AML acres were planned. The majority of the permits involved surface mining operations. Permits issued from October 1, 1998 through April 6, 1999, were also reviewed. Of the six permits issued during that time period, five involved the remining of AML acres. This analysis showed that many Alabama companies are combining the remining of AML acres with regular mining.

As shown by this assistance activity, remining is often incorporated into the mining plans of Alabama coal permits. The review determined that the formation of a working partnership between the coal industry, the regulatory authority, and OSM to discuss and resolve remining issues could benefit and encourage additional remining in the State. The BFO plans to investigate the usefulness of such a partnership during the upcoming review year. If sufficient interest is found, the possibility of sponsoring a forum on remining in Alabama would be explored.

Identification/Quantification of Acid Mine Drainage Sites

The BFO entered into an Appalachian Clean Streams Initiative agreement with ADIR to provide technical assistance toward developing an inventory of potential Clean Streams Initiative projects. The BFO used the list of acid mine drainage (AMD)-impacted abandoned mine lands sites, which was developed in July 1996, to provide the population for field review. Eighty-one sites had previously been identified. Water quality data was last collected on all but five of these problem areas (PA's) during the early 1980's. The BFO agreed to assist in quantifying current conditions at the 81 sites identified as being sources of acid mine drainage and provide updated information.

It was determined that the study would be conducted in two phases. The first phase of the study was to screen each of the 81 sites by testing pH and total iron to determine if the definition of AMD (pH < 6 and/or total iron \geq 10 mg/L) was met for that site. Field investigations would be performed during high and low flow conditions.

The first phase of the study began on February 24, 1998. Sites have been tested during two high flow periods and one low flow period. The total number of sites screened to date (February 24, 1998, through April 30, 1999) is 68 of the 81 original PA's. A total of 22 of these sites exhibited AMD conditions. Phase I of the study will continue until all 81 sites have been screened for AMD. Once Phase I is completed, those sites identified

with AMD present will receive indepth testing (Phase II) to further characterize the water quality at each site.

During planning for the AMD study, it was decided that training on water sampling and testing procedures and use of equipment would be conducted prior to the initiation of Phase II data collection. This training would be offered to BFO personnel, State agencies (in particular ADIR), and watershed groups. On March 2 through 4, 1999, the BFO held a three-day workshop for *Surface Water Sampling and Analysis of Acid Mine Drainage (AMD)*. The workshop addressed AMD formation and related treatment options, as well as global positioning and coal mining related AMD sampling methods. The training was provided by the Mid-Continent Regional Coordinating Center (MCRCC) along with participation by the Alabama Water Watch. Attendees at the meeting included representatives from OSM, ADIR, ASMC, the Storm Water Management Authority of Jefferson County, the coal industry, academia, and several watershed groups.

Resource Recovery - Project Approval Process

The BFO, in light of the expected approval of new OSM regulations, which eliminate the percentage of Federal funding for government-financed AML projects, agreed to assist in developing a process to respond to the documentation and coordination provisions of those regulations. The process established would eventually include both the Title IV and V aspects of approving resource recovery projects.

On February 12, 1999, the regulations at 30 CFR Parts 707 and 874 were revised regarding the government financing of AML projects that involve the incidental extraction of coal. In brief, the new regulations changed the definition of government financed construction projects to allow less than 50 percent funding when the construction is an approved AML project under SMCRA. Secondly, the revisions added a new section which requires specific consultations and concurrences with the Title V regulatory authority for AML construction projects receiving less than 50 percent government financing.

ADIR and ASMC have begun discussions concerning the coordination procedures that will occur prior to and during the approval of these types of projects. Reclamation can be accomplished under the new rule once ADIR and ASMC have reached agreement on coordination procedures and ASMC rules are revised to change the definition of government financed construction .

Once ASMC s rules are revised, OSM will assist ADIR and ASMC in developing a process to respond to the documentation and coordination procedures for the approval of projects that qualify under the new definition.

Permitting of Processing Operations

As part of the 1999 Performance Agreement, the BFO agreed to study the requirements and criteria for permitting processing operations and to evaluate ASMC's permitting procedures concerning these operations. This study would further identify the current activities and any regulatory concerns.

ASMC administers its regulatory program through the Rules of the Alabama Surface Mining Commission which provide regulatory procedures. The Rules at Chapter 880-X-8J-.11 and 880-X-10J establish standards for permitting processing operations. The definitions for coal preparation, coal processing plant, and surface coal mining operation at Chapter 880-X-2A-.06 provide further clarification of the standards for permitting processing operations. The regulations and definitions contained in Alabama's surface coal mining regulations are essentially the same as corresponding Federal provisions and operate in a similar manner. These include the definitions of surface coal mining operations, coal preparation and coal processing plant, and requirements on coal preparation plants not located within the permit area of a mine. Federal Register Notice 53 FR 47378-47391, dated November 22, 1998, supporting 30 CFR 785.21, explains the relationship of these provisions.

Coal preparation plants located within a permitted minesite are regulated under the mine permit. Coal preparation plants located outside of permitted minesite may or may not be regulated under SMCRA. The regulatory authority makes a case-by-case determination on jurisdiction based on a determination that the coal preparation plant operates in connection with a coal mine. In order to permit a site, the site must meet the definition of surface coal mining operation, coal processing and/or coal preparation plant. In addition, the plant must operate in connection with a mine or mines.

An operation may not be permitted even though it may meet the definitions of surface coal mining operation and coal processing and/or coal preparation plant, if it does not operate in connection with a mine or mines or if the facility is at the site of ultimate coal use - End User. Industrial facilities designed for long-term use are not permitted. Also, facilities that are primarily freight handling facilities and as such are an intermediate transfer point for coal which has already entered interstate or international commerce are not permitted. Examples include facilities such as the docks at Mobile, Alabama, that may occasionally crush or size coal. Facilities whose operations are not regulated under SMCRA such as government financed projects that involve the incidental extraction of coal, operations where coal does not exceed 16 2/3 percent of the tonnage of minerals removed for commercial use or sale, and operations that only process or recover coal by-products such as coke breeze are not permitted.

The BFO examined ASMC's records of nine (9) permitted sites that were active as of March 31, 1999. To evaluate how ASMC was making determinations on permitting processing operations, the BFO examined each file to see if the processing operation and associated support facilities were located within an ASMC permitted area of a specific coal mine; to see if the processing plant met the definitions of coal preparation, coal

processing plant, and surface coal mining operation; and to see if ASMC was permitting the sites according to their regulations.

The BFO also visited four (4) coal processing plants that were not permitted by ASMC. A file review of documents relating to these facilities was also conducted. Of the four (4) sites visited, only two (2) were active.

ASMC has procedures in place to determine if a facility should or should not be permitted. ASMC has followed their procedures and has properly permitted all nine (9) active processing operations. All nine (9) operations met the definitions for coal preparation, coal processing plant, and surface coal mining operation. ASMC followed its regulations in permitting these sites.

ASMC has properly elected not to permit certain processing operations. The unpermitted facilities were not dependent on any particular mine or mines for their existence. Since ASMC determined that the facilities were not currently being operated in connection with a mine or mines, no surface coal mining permits were required. One of the unpermitted operations qualified under the exemption for a government financed construction project.

ASMC is applying the definition for surface coal mining operation properly and is following its regulations. ASMC has procedures in place to periodically check the records of active non-permitted facilities to determine if they continue to meet the exemption from obtaining a coal mining permit.

Streamlining of the National Historic Preservation Act Process

In February 1996, ADIR and the BFO developed a process for adhering to the National Historic Preservation Act (NHPA). The process was determined to be laborious and involved major time delays during the processing of AML projects involving NHPA issues. In addition, the regulations that support NHPA have been revised. The 1999 performance agreement contained an assistance activity that would involve the redesign of the current process to bring it into conformance with the new NHPA regulations as well as to identify and remove time delays. Due to workload constraints, the BFO did not complete this assistance activity. With the agreement of ADIR, the activity was extended into the 2000 review period.

Other Assistance Activities

In addition to providing acid mine drainage water quality training, as described above under *Identification/Quantification of Acid Mine Drainage Sites*, the MCRCC assisted the BFO and the regulatory authority on three projects.

The MCRCC assisted the BFO in its investigation of the Iris Gossett citizen complaint by performing an extensive technical review of the allegations associated with the complaint.

The MCRCC continued to assist the State in its review of a permit revision in which the coal company proposed to use anoxic drains to mitigate acid mine drainage. The MCRCC provided information to the State on passive treatment systems and summarized their review findings in a report which was sent to the State through the BFO on January 28, 1999.

In response to a request from the State, the MCRCC reviewed the proposed Shoal Creek Mine Subsidence Control Plan. A copy of the resulting report was provided to the State by the BFO on July 29, 1999.

VII. GENERAL OVERSIGHT TOPIC REVIEWS

A. Program Evaluations of the State Regulatory Program:

Ownership and Control Program

The purpose of this oversight review was to evaluate the compliance of ASMC with the policies and procedures related to ownership and control review and documentation as outlined in the ASMC Rules. To evaluate the State's procedures for review and collection of ownership and control information, the BFO selected permits approved by ASMC during the period April 1, 1997, through September 30, 1998. This sample of permits consisted of 12 approved permits. This time frame of permit issuance was chosen because OSM amended its ownership and control rules effective April 3, 1997, in response to a decision by the U.S. Court of Appeals for the District of Columbia.

During this review, all required applicant ownership and control documentation and ownership and control review documentation was located in the permit and license files. It was noted that in addition to information provided by the applicant, the ASMC uses several other sources to verify and follow-up ownership and control information during the initial permit application review and also periodically throughout the life of the permit.

As outlined by OSM's interim final rule, ASMC collects the required information regarding the owners and controllers of the applicant; however, this information is not used to block permits in accordance with the interim final rule which does not authorize the regulatory authority to deny permits because of outstanding violations of an applicant's owners and controllers.

OSM's interim final rule limits the scope of ownership and control to the applicant only and operations owned or controlled by the applicant only. This is a major change from

the previous rule which encompassed the owners and controllers of the applicant also. On May 28, 1999, the U.S. Court of Appeals (D.C. Circuit) issued a decision regarding the National Mining Association's challenge to OSM's interim final rules for blocking the issuance of surface mining permits to companies in violation of SMCRA. The court decision will require further modification of provisions contained in the interim final rule.

Because the Alabama program contains provisions stating that ASMC may not enforce state counterparts to Federal provisions found unlawful, the Alabama program currently operates in conformance with OSM's interim final rule as modified by the court decision. At such time as OSM issues final rules to address ownership and control, ASMC will take steps to modify the Alabama program.

The study demonstrated that the State is actively collecting and verifying information required by the interim regulations on ownership and control. The processes in place provide several checkpoints for review of the ownership and control information during the permit application phase. This information is collected and reviewed again during the annual license renewal process, whenever there is a change in ownership and control, and when a failure-to-abate cessation order has been issued. This allows for an updated review of ownership and control information periodically throughout the life of a permit.

Temporary Cessation of Operations Activities

In this review, minesites in the temporary cessation (TC) status were evaluated for compliance with routine performance standards as well as any specific requirements that allowed the site to remain in temporary cessation. This review focused on ASMC procedures regarding permits in TC status, as well as site maintenance, violations of the performance standards, offsite impacts and enforcement actions taken. Bond adequacy, bond status, and current land leases were also assessed.

The population for this review consisted of those sites identified as being in TC status after October 1, 1996. This population included 22 sites - 15 surface permits and seven (7) coal processing operations. No underground mines were identified as being in TC status when the population was established.

The review determined that the 22 sites encompassed a total of 9,500 permitted acres. Only a fraction of this acreage is currently disturbed and unreclaimed. Fourteen of the sites have been in TC status longer than five years, with six of these in TC status since 1991 or earlier.

Because of the length of time that many of the sites remain in temporary cessation, ASMC has determined that a continual assessment of bond adequacy is an important process. Utilizing the same process implemented on all permits, every two and one-half years, or at the time of permit renewal and at mid-term review, the ASMC initiates a full technical review of each permit, including bond recalculation for adequacy. The

recalculation is based on the current acreage disturbed and the length and depth of the existing highwall. The bond is then adjusted based on current costs for backfilling and grading, topsoil replacement, and revegetation. This recalculation is especially significant for TC sites to prevent inflation from depleting the bond. ASMC expressed confidence that because of their attention to bond recalculation, the bond on TC sites should always be adequate.

A randomly selected sample of 12 sites was reviewed in the field. The 12 TC sites involved nine (9) surface mine permits and three (3) coal processing sites, totaling 4,676 permitted acres. In addition to the field review, the BFO inspectors reviewed the selected permit files and the ASMC inspection reports of the sites to identify violations and enforcement actions taken during the review period. During the file reviews of the sample permits, it was determined that in each instance the permittee had submitted the appropriate documentation to ASMC notifying them of the intent to place or keep the site in TC status. Each request was properly approved by ASMC.

During the site inspections, BFO inspectors evaluated all performance standards, assessed the sites for offsite impacts, verified if leases were current or expired, and generally assessed site maintenance during TC status. Enforcement actions taken were also assessed to determine if specific types of violations were occurring at TC sites.

At the time of the review, eight (8) of the 12 sample sites were still in TC status, and the land leases were still current. Following the six-month notification that one site intended to remain in TC, ASMC had determined that the lease had expired and had denied TC status. They further ordered complete reclamation of the site within 180 days. The three remaining sites had given up TC status, and reclamation had begun. None of the sample sites had returned to coal production.

By reviewing ASMC inspection reports for trends in violations, enforcement actions, and offsite impacts, it was determined that TC sites remain inspectable units and that ASMC inspected these sites at the required inspection frequency. This study indicated also that there were no trends in violations identified, and no specific type of violation consistent with TC sites. The data suggested that sites were being removed from TC status and being reclaimed without returning to coal production. The review further indicated that ASMC identified violations and took appropriate enforcement action.

Grant Reviews

The MCRCC performed an analysis of ASMC's drawdown and disbursement of Federal grant funds procedures and a review of matching and cost sharing funds on June 22, 1999.

Request of funds are to be timed to immediate needs to carry out the purpose of the approved program. The grantee is required to minimize the time elapsing between the

transfer of Federal funds and the disbursement of the funds. Funds are to be disbursed as soon as administratively feasible under the recipient's financial management system.

In Alabama the State Treasurer disburses State funds to pay ASMC's expenses. Therefore, ASMC's drawdowns of Federal grant funds are reimbursement funds to the Alabama Treasury. To ensure compliance with OSM's grant procedures and disbursement requirements, ASMC's drawdown of Federal Funds are made one month after the State Treasurer has disbursed State funds for expenses. The drawdown analysis determined that the cash reimbursements were not excessive and were limited to 50 percent of the incurred expenses. The cash reimbursements were limited to the amounts needed and timed to immediate needs.

ASMC receives Federal grant funds in the amount of 50 percent of the administrative and enforcement costs of the program. ASMC is responsible for matching the Federal funds granted to run their approved program. By law, ASMC is required to provide the remaining 50 percent of funds needed to administer their program. One specific requirement imposed on the State is that costs financed by program income shall count towards satisfying the matching requirements of administrative and enforcement grants.

Grants procedures require OSM to review and verify the State's accounting for matching and cost sharing contributions. The review of matching and cost sharing funds was performed to verify ASMC's funding and program income along with ASMC's accounting of these funds. The reviews included financial actions that occurred during the period of September 1, 1998, through May 30, 1999.

The review was limited to procedures to determine the FY99 State matching funds. ASMC's matching fund sources are 1) appropriations from the Alabama State government, 2) program income generated by ASMC's approved program through permit and licence fees, and 3) penalties for FY99.

ASMC manages matching funds in accordance to the State's accounting system requirements. ASMC's accounting of matching funds are recorded in the accounting system as defined by State requirements. Included in the income accounting listing was State appropriations and program income from the sources noted above. The Alabama State government appropriated funds and program income generated by ASMC are an appropriate source of funding to match granted OSM Federal funds.

The reviews revealed that ASMC is following grant procedures both in their drawdown of Federal funds and in the management requirements for matching and cost sharing funds.

B. Program Evaluations of the Abandoned Mine Lands Program:

Use of Best Management Practices

Best Management Practices (BMP s) are selected for each AML project based on: the stormwater drainage permit required for the project; consultation with other State or Federal agencies; and, the professional judgement of the ADIR staff. BMP s are typically physical or revegetation techniques that reduce, minimize or eliminate erosion or sedimentation problems or which are designed to prevent environmental damage from toxins, such as oil, gasoline or other organic compounds. The purpose of the study was to evaluate whether BMP s used by ADIR on AML projects were successfully preventing environmental damage from erosion/sedimentation or from organic compounds commonly used during reclamation.

The population chosen for the study was all nonemergency AML projects under active construction from October 1, 1998 through May 31, 1999. Eight projects undergoing active construction were site reviewed for BMP utilization. In addition, a sample of ten (10) nonemergency projects completed between October 1, 1995, and September 30, 1998 was chosen. The purpose of the two study populations was to review BMP s on projects under active construction as well as the long-term success of BMP s on completed projects.

Site review observations made on the 18 projects reviewed on the ground showed that BMP selection and use was similar throughout the projects. Typical BMP s present on active sites included haybale and riprap checkdams, hay or straw mulch, silt fences, culverts, berms, and rapid revegetation. Setbacks from streams also afford some protection. One site used the technique of incised construction, whereby sediment was contained onsite by not disturbing an outer ridge of spoil material during the majority of the gob removal process. The topography of several sites reduced or eliminated the need for BMP s because runoff was either contained within project boundaries or exited into another AML site. On all projects with onsite fuel tanks, the tanks were correctly placed inside a bermed area to prevent spills. On one site a riprapped culvert was installed to convey a stream through the construction site without sedimentation problems.

ADIR has a wide array of short-term and long-term BMP s which they use to reduce or eliminate the likelihood of erosion on their project sites and sedimentation off the sites. Over twenty techniques or practices were identified during the study. Multiple BMP s are typically used on AML projects, although the topography of some sites reduced the need for extensive BMP s. The field review of ten projects completed in the last four years showed that the BMP s selected assured long-term reclamation success and stable construction sites. On the eight sites under active construction during the review period, an average of eight different BMP s were used. The BMP s selected for sixteen sites were appropriate for preventing erosion and sedimentation or damage to the environment from toxic materials. One site experienced some internal erosion problems. ADIR s postconstruction maintenance program provides early identification of erosion and assures that selected BMP s are appropriately maintained after the active phase of the project to assist in long-term project success and environmental protection. A series of rain events impacted the drainage control structures on another project while it was under

active construction. The drainage patterns on the project were reassessed by ADIR and the structures were repaired, replaced and enhanced.

Stormwater Drainage Permits

As part of NPDES, the Environmental Protection Agency (EPA) requires that AML construction projects affecting five acres or more receive a Stormwater Discharge Permit. ADIR's performance in obtaining Stormwater Discharge Permits and in adhering to permit requirements was selected for review by a joint ADIR/BFO team.

Two populations of AML projects were reviewed. The first encompassed all nonemergency AML projects approved for active construction from October 1, 1998 through May 31, 1999. In addition, a sample of ten nonemergency projects completed between October 1, 1995, and September 30, 1998, was chosen. A total of 21 project files were reviewed.

Each project file was reviewed to answer the following stormwater discharge permit questions related to obtaining and administering a permit.

- based on acreage disturbed, was a stormwater discharge permit required?
- was the approved permit in the State files?
- was the permit obtained prior to the beginning of construction?
- was a Best Management Practices Plan in the State files?
- was an EPA Form 3510-1 in the State files?
- was a Spill Prevention Control and Counter Measure Plan in the State files?
- was a copy of the public notice describing the permit in the State files?
- did ADIR follow all permit requirements?

The study reviewed 21 AML projects for compliance with the processing requirements of the permit system. Permits were secured for all projects which disturbed five acres or more. The permit or an authorization to proceed was located in ADIR's files. The review determined that a copy of the NPDES General Permit was not required to be placed in ADIR's individual project files, but was required to be displayed at the construction site. For projects on which construction started within the past three years, the stormwater discharge permit was obtained prior to the start of construction. BMP Plans were developed for each project and were found in the appropriate project file. A copy of EPA 3510-1, the public notice for the permit, and the Spill Prevention Control and Counter Measure Plan was located in all project files, where they were required. This review concluded that ADIR was conforming with all processing requirements of the stormwater discharge permit system.

Six projects were reviewed to determine ADIR's compliance with the requirements of the stormwater discharge permit system, after issuance of the permit. Contractors were required to comply with the fuel tank protective berm specification. The development of inspection certifications relative to stormwater discharge exceeded the requirements of

the system. Although mandatory water sampling is not required by the stormwater discharge permit, samples were taken on three of the six projects. The absence of documented noncompliance events demonstrated the success of the selected BMP s and the inspection program conducted by ADIR. The monthly inspection regime required by the permit was exceeded by ADIR which has a monitor onsite and actively supervising the project every working day. The inspection reports showed that ADIR inspected the sites within 72 hours of storm events greater than .75 inches. The study concluded that ADIR was not always certifying on the inspection report that water sampling or testing was not required.

Success in Revegetation and Tree Planting (Phase I)

The purpose of the study was to evaluate the AML Program s performance in reclaiming and revegetating abandoned mine lands sites in a manner that minimizes erosion following reclamation and maximizes the survival of trees planted on the sites.

Alabama s AML revegetation program has evolved over time. ADIR began its tree planting program under the Tennessee Valley Authority s (TVA) Orphan Mine Land Reclamation Program in 1976 continuing through 1980. In 1983, tree planting was resumed under the AML program. Up until 1987, tree survival rates were a problem due to soil compaction and competition. ADIR consulted with a noted forestry expert in 1987, Dr. Samuel Lyle. Dr. Lyle set in place the current tree planting practices that have produced tree survival rates up to 99.7 % with an average of 81.0%. The planting of grasses and legumes has evolved to include species that are best suited for Alabama s climate and soil/spoil conditions. ADIR has also recognized when to discontinue planting certain species. The wild-life shrub, Autumn Olive, is no longer planted due to its aggressive nature. The legumes, sericea and vetch, have been eliminated due to their aggressive competition with pine seedlings. Love grass was discontinued as a ground cover due to its poor coverage abilities. ADIR s excellent post-construction monitoring and maintenance program assures long-term vegetation success. One of the programs of great benefit in post-construction maintenance is the Kudzu eradication program. Kudzu is an exotic, very invasive vine that destroys trees and all other vegetation in its path. To eliminate the competition from this species, ADIR regularly sprays sites and adjacent areas plagued with Kudzu.

ADIR has revegetated approximately 6465.29 acres under the AML program. Approximately 173 different areas have been planted in trees and wildlife shrubs since 1987 covering a total of approximately 2867.7 acres. See the table below for a breakdown by season of the number of acres planted in trees and wildlife shrubs. The majority of projects are first planted with grasses and legumes, and then at the appropriate planting time, trees and wildlife shrubs are added on portions of the projects. Reforestation of reclaimed AML sites not only stabilizes the soil, but provides cover and habitat for many wildlife species, while increasing productivity and enhancing the value of property.

One of the objectives of the Alabama AML program is the restoration and enhancement of fish and wildlife habitat. One of the means of achieving this goal is the planting of wildlife-food shrubs/trees. Not only do these species provide food for wildlife, but many of the plant species provide excellent erosion control through their extensive root systems. The planting of hardwoods and pines provides excellent wildlife habitat. Since revegetation controls runoff into and sedimentation of streams, fish habitat is also enhanced.

One of the primary objective for planting trees is erosion control. Also, considered is the fact that approximately 95 percent of coal surface mining land in Alabama were once forested. The planting of trees can offer commercial opportunities for land owners while providing food and shelter for wildlife. With these factors in mind, in 1987 the AML program embarked on a program to reforest, to the extent possible, all of its AML reclamation projects.

Several different species have been planted over a 12 - year period, with loblolly pine, autumn olive, bi-color lespedeza, and sawtooth oak the most used. Approximately 85% of the planting is loblolly pine. Loblolly pines are planted for commercial production and other species for wildlife food and shelter.

A recent survey by the Interstate Mining Compact Commission of States reforestation efforts indicated that Alabama leads the nation in both number of trees planted on AML sites, as well as highest survival rate after planting. This achievement is due to the availability of top-quality genetically-improved seedlings, proper care and handling, supervision by qualified reclamation inspectors, and superior tree planting methods.

ADIR has completed another successful planting season. During the 1998/1999 tree planting season, 104,585 seedlings (loblolly pine, sawtooth oak, and various wildlife-food shrubs) were planted on 168 reclaimed acres across eight (8) counties.

The BFO will continue this study by beginning Phase II in January 2000. At that time field visits and statistical analysis will be performed to assess revegetation success and erosion control on completed AML sites. The results of this portion of the study will be included in the 2000 Annual Report.

ALABAMA S ABANDONED MINE LAND PROGRAM
Tree and Wildlife Shrub Planting
During Planting Seasons 1987 through 1999

Planting Season	Acres Planted	Pine Seedlings	Autumn Olive	Lespedeza	Sawtooth Oak
1987 - 1988	200.0	147,000	19,140	13,860	0

1988 - 1989	657.4	362,240	32,400	25,400	39,400
1989 - 1990	419.0	216,050	19,700	15,300	12,200
1991 - 1992	293.5	209,000	2,000	10,000	8,000
1992 - 1993	309.8	191,000	6,000	6,000	6,000
1993 - 1994	184.0	127,000	4,000	2,300	5,000
1994 - 1995	146.0	105,000	550	2,000	5,450
1995 - 1996	150.0	100,000	2,000	2,000	4,000
1996 - 1997	150.0	111,000	2,000	2,000	4,000
1997 - 1998	190.0	103,000	0	0	8,000
1998- 1999	168.0	89,000	0	5,000	10,360
TOTAL	2867.7	1,760,290	87,790	83,860	102,410

APPENDIX A

TABULAR SUMMARY OF CORE DATA TO CHARACTERIZE THE PROGRAM

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

TABLE 1

ALABAMA COAL PRODUCTION (Millions of short tons)			
Period	Surface mines	Underground mines	Total
Coal production ^A for entire State:			
Calendar Year			
1996	7	18	25
1997	7	18	25
1998	6	16	22

^A 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

INSPECTABLE UNITS As of September 30, 1999												
Coal mines and related facilities	Number and status of permits								Insp. Unit^D	Permitted acreage^A		
	Active or temporarily inactive		Inactive		Abandoned		Totals					
	IP	PP	Phase II bond release									
			IP	PP	IP	PP	IP	PP		IP	PP	Total
STATE and PRIVATE LANDS REGULATORY AUTHORITY: STATE												
Surface mines	0	77	0	127	0	30	0	234	234	0	77032	77032
Underground mines	0	15	0	5	0	0	0	20	20	0	9726	9726
Other facilities	0	12	0	6	0	0	0	18	18	0	2977	2977
Subtotals	0	104	0	138	0	30	0	272	272	0	89735	89735
FEDERAL LANDS* REGULATORY AUTHORITY: STATE												
Surface mines	0	0	0	2	0	0	0	2	2	0	76	76
Underground mines	0	2	0	0	0	1	0	3	3	0	1770	1,770
Other facilities	0	0	0	0	0	0	0	0	0	0	0	0
Subtotals	0	2	0	2	0	1	0	5	5	0	1,846	1,846
ALL LANDS^B												
Surface mines	0	77	0	127	0	30	0	234	234	0	77,032	77,032
Underground mines	0	15	0	5	0	1	0	20	20	0	9,726	9,726
Other facilities	0	12	0	6	0	0	0	18	18	0	2,977	2,977
Totals	0	104	0	138	0	30	0	272	272	0	89,735	89,735
Average number of permits per inspectable unit (excluding exploration sites)											<u>1</u>	
Average number of acres per inspectable unit (excluding exploration sites)											<u>330</u>	
Number of exploration permits on State and private lands:											<u>0</u>	On Federal lands: <u>0</u> ^C
Number of exploration notices on State and private lands:											<u>15</u>	On Federal lands: <u>0</u>
<p>IP : Initial regulatory program sites.</p> <p>PP : Permanent regulatory program sites.</p> <p>^A When a unit is located on more than one type of land, includes only the acreage located on the indicated type of land.</p> <p>^B 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.</p> <p>^C Includes only exploration activities regulated by the State pursuant to a cooperative agreement with OSM or by OSM pursuant to a Federal lands program. Excludes exploration regulated by the Bureau of Land Management.</p> <p>^D Inspectable Units includes multiple permits that have been grouped together as one unit for inspection frequency purposes by some State programs.</p> <p>* Acreage does not include Federal coal located in shadow areas of permits.</p>												

TABLE 3

**ALABAMA 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 ^A	App. Rec.	Issued	Acres	App. Rec.	Issued	Acres
New permits	15	11	2958	0	0	0	0	0	0	15	11	2,958
Renewals	5	6	558	0	0	0	0	1	12	5	7	570
Transfers, sales and assignments of permit rights	3	3		1	1		0	0		4	4	
Small operator assistance	0	0		0	0		0	0		0	0	
Exploration permits	0	0		0	0		0	0		0	0	
Exploration notices ^B		17			0			0			17	
Revisions (exclusive of incidental boundary revisions)		67			7			3			77	
Incidental boundary revisions		4	-47.9		0	0		1	2		5	-45.9
Totals	23	108	3,468	1	8	0	0	5	14	24	121	3,482

OPTIONAL - Number of midterm permit reviews completed that are not reported as revisions 15

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

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

TABLE 4

OFF-SITE IMPACTS														
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	5	3	1	1									
	Land Stability	0												
	Hydrology	37				12	4	2	6	13				
	Encroachment	23				8	6	3				2	2	2
	Total	65	3	1	1	20	10	5	6	13	0	2	2	2
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. Report the degree of impact under each resource that was affected by each type of impact. Refer to guidelines in Directive REG-8 for determining degree of impact. 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. As provided by the Table, report impacts identified on bond forfeiture sites separately from impacts identified on other sites. If bond forfeitures sites were not evaluated during the period, clearly note the table to indicate that fact. 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 ALABAMA MINING AND RECLAMATION RESULTS		
Bond release phase	Applicable performance standard	Acreage released during this evaluation period
Phase I	* <input type="checkbox"/> Approximate original contour restored * <input type="checkbox"/> Topsoil or approved alternative replaced	3,115
Phase II	* <input type="checkbox"/> Surface stability * <input type="checkbox"/> Establishment of vegetation	3,945
Phase III	* <input type="checkbox"/> Post-mining land use/productivity restored * <input type="checkbox"/> Successful permanent vegetation * <input type="checkbox"/> Ground water recharge, quality and quantity restored * <input type="checkbox"/> Surface water quality and quantity restored	4,385
	Bonded Acreage Status^A	Acres
	Total number of bonded acres at end of last review period (September 30, 1998) ^B	62,638
	Total number of bonded acres during this evaluation year	1,059
	Number of acres bonded during this evaluation year that are considered remining, if available	676
	Number of acres where bond was forfeited during this evaluation year (also report this acreage on Table 7)*	231
<p>^A Bonded acreage is considered to approximate and represent the number of acres disturbed by surface coal mining and reclamation operations.</p> <p>^B Bonded acres in this category are those that have not received a Phase III or other final bond release (State maintains jurisdiction).</p> <p>* Acreage may be different than that reported in Table 7 as forfeiture orders from courts may specify different acreage.</p>		

TABLE 6

**Alabama Abandoned Mine Lands
Problem Type Unit & Cost Summary
September 30, 1999**

Problem Type	Meas.	<i>Unfunded</i>		<i>Funded</i>		<i>Completed</i>		<i>Total</i>	
		Units	Costs	Units	Costs	Units	Costs	Units	Costs
Bench	(Acres)	0.0	0	0.0	0	22.5	4,009	22.5	4,009
Clogged Streams	(Miles)	0.6	504,000	0.0	0	6.6	615,932	7.2	1,119,932
Clogged Stream Lands	(Acres)	0.3	2,400	0.0	0	161.5	516,938	161.8	519,338
Dangerous Highwalls	(Feet)	319,955.0	35,056,236	52,300.0	6,194,624	291,646.0	19,587,535	663,901.0	60,838,395
Dangerous Impoundments	(Count)	0.0	0	0.0	0	6.0	52,149	6.0	52,149
Ind/Res Waste	(Acres)	71.7	50,595	0.7	2	19.2	11,885	91.6	62,482
Dangerous Piles & Embankments	(Acres)	2,035.4	2,678,543	7.0	64,200	2,208.7	2,642,298	4,251.1	5,385,041
Dangerous Slides	(Acres)	21.0	60,000	0.3	65,000	52.3	943,020	73.6	1,068,020
Equip/Facilities	(Count)	156.0	300,004	0.0	0	20.0	49,857	176.0	349,861
Gobs	(Acres)	478.9	2,420,750	15.0	43,500	411.1	622,114	905.0	3,086,364
Highwall	(Feet)	1,752,335.0	286,374,534	0.0	0	67,885.0	1,649,085	1,820,220.0	288,023,619
Hazardous Equipment & Facilities	(Count)	413.0	388,000	24.0	135,000	472.0	209,446	909.0	732,446
Haul Road	(Acres)	3.0	1	0.0	0	3.5	3	6.5	4
Hazardous Water Body	(Count)	70.0	832,352	9.0	266,000	87.0	523,283	166.0	1,621,635
Industrial/Residential Waste	(Acres)	51.4	204,685	1.2	1	31.5	46,185	84.1	250,871
Mine Opening	(Count)	203.0	661,100	0.0	0	80.0	38,790	283.0	699,890
Other	()	66.5	214,155	6.0	1	53.0	30,413	125.5	244,569
Portals	(Count)	202.0	527,600	9.0	36,000	1,064.0	1,624,720	1,275.0	2,188,320
Pits	(Acres)	22.0	21,002	4.5	24,000	1.1	960	27.6	45,962
Polluted Water: Agri. & Indus.	(Count)	1.0	1,680,000	1.0	27,000	2.0	732,161	4.0	2,439,161
Polluted Water: Human Cons.	(Count)	1.0	5,000	0.0	0	15.0	765,724	16.0	770,724
Subsidence	(Acres)	3.2	17,575	0.1	8,175	38.8	681,267	42.1	707,017
Spoil Area	(Acres)	39,851.5	73,644,946	125.0	48,704	13,690.5	10,735,900	53,667.0	84,429,550
Surface Burning	(Acres)	62.5	445,125	2.0	40,000	71.9	1,769,179	136.4	2,254,304
Slurry	(Acres)	18.3	111,048	4.0	20,000	36.1	227,642	58.4	358,690
Slump	(Acres)	5.3	16,001	0.0	0	10.5	64,621	15.8	80,622
Vertical Opening	(Count)	28.0	146,176	6.0	27,000	405.0	711,729	439.0	884,905
Water Problems	(Gal/Min)	333.5	196,000	0.0	0	430.0	34,100	763.5	230,100
TOTAL			406,557,828		6,999,207		44,890,945		458,447,980

Alabama " November 19, 1999

Alabama " November 19, 1999

TABLE 7

**ALABAMA BOND FORFEITURE ACTIVITY
(Permanent Program Permits)**

	Number of Sites	Dollars	Disturbed Acres
Bonds forfeited as of September 30, 1998 ^A	19	\$713,971.00	786
Bonds forfeited during EY 1999	1	\$130,661.00	31
Forfeited bonds collected as September 30, 1998 ^A	12	\$330,874.00	387
Forfeited bonds collected during EY 1999	5	\$227,851.00	87.5
Forfeiture sites reclaimed during EY 1999	6	\$296,683.38 ^B	72
Forfeiture sites re-permitted during EY 1999	0		0
Forfeiture sites unreclaimed as of September 30, 1999*	11		304
Excess reclamation costs recovered from permittee	0	0	
Excess forfeiture proceeds returned to permittee	0	0	

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

^B Cost of reclamation, excluding general administrative expenses.

* Does not include three sites for which bonds were forfeited, but not collected during EY 1999.

TABLE 8

ALABAMA STAFFING (Full-time equivalents at end of evaluation year)	
Function	EY 1999
Regulatory program	
P e r m i t r e v i e w	9.5
I n s p e c t i o n	11.5
O t h e r (a d m i n i s t r a t i v e , f i s c a l , p e r s o n n e l , e t c .)	5.0
TOTAL	26

TABLE 9

FUNDS GRANTED TO ALABAMA BY OSM EY 1999		
Type of grant	Federal funds awarded	Federal funding as a percentage of total program costs
Administration and enforcement	\$882,272	50%
Small operator assistance	105,000	100%
Federal Lands	13,895	100%
Totals	\$1,001,167	

APPENDIX B

STATE COMMENTS ON THE REPORT