Office of Surface Mining
Reclamation and Enforcement

Pittsburgh Field Division

Evaluation Report

ABANDONED MINE LANDS INFORMATION SYSTEM

Maryland Abandoned Mine Lands Program

Evaluation Year 2004

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OBJECTIVE

The purpose of this study was to review Maryland's processes for adding, updating, and maintaining information in The Office of Surface Mining's (OSM) Abandoned Mine Land Inventory System (AMLIS) to assure conformance with OSM Directive AML-1 and associated law, rules, policy, and procedure. Accuracy, conformance with directive requirements, and timeliness of data entry were reviewed.

SUMMARY

Maryland generally follows the requirements found in OSM Directive AML-1 for making entries, updating, and maintaining the AMLIS system. Cost estimates are generally accurate and have a logical basis, though the format of the AMLIS system lends itself to inherent problems involving distribution of funds which are outside Maryland's control. Areas which need further attention include:

- Assuring that problem areas are entered under the correct AMLIS Program
- Assuring that priority documentation form records are maintained for each problem
- Using separate program PADS for multi-program funded problem areas
- Assuring that non-OSM program funding sources are recorded separately
- Assuring Problem Areas are not duplicated among programs
- Assuring that updates are entered in a timely manner

Maryland is in the process of updating the entire inventory database included in AMLIS. This update will include taking advantage of technological advancements through use of geographic positioning systems (GPS) and the global information system (GIS), as well as gathering more detailed data on existing problem areas to better reflect an accurate inventory. When complete, the updated files will be entered into AMLIS. The expectation for completion of this effort is eight months to one year.

BACKGROUND

AMLIS is an inventory of land and water impacted by past mining. It is mandated by law and is used by OSM to determine which States and Tribes have sufficient Priority 1 and 2 coal problems to justify a grant distribution from the Federal historic coal share[1] and to determine which are eligible for the minimum program funding[2] under the annual distribution of Abandoned Mine Land (AML) grant funds. The AMLIS is also used to verify that all coal problems have been funded when a State or Tribe certifies[3] that all known priority one and two coal reclamation problems have been completed, including post-Surface Mining Control and Reclamation Act (SMCRA) coal sites.[4]

[1] Section 402(g)(5) of SMCRA
[2] Section 402(g)(8) of SMCRA (currently $1.5 million per year)
[3] Section 411(a) of SMCRA
[4] Section 402(g)(4)(F) of SMCRA

AMLIS is maintained by OSM with information added by individual States. Maryland presently has 157 problem areas comprising 447 problems[5] in the AMLIS system. Breakout is 40 priority one, 288 priority two, and 119 priority three problems. Priority one and two pre-SMCRA problems, as well as AML enhancement, Appalachian Clean Streams Initiative, RAMP and Federal Program non-emergency projects are required to be tracked in three phases; unfunded, funded, and completed. Pre-SMCRA priority three problems, Watershed Cooperative Agreement problems, and non coal problems are only required to be entered into the AMLIS upon funding of the project.

States are responsible for updating information in the AMLIS system in accordance with OSM Directive AML-1. This directive has gone through several iterations since 1984.

Initially, all problems were lumped under one program (Priority 1, 2, and 3). All AMLIS entries were reviewed, approved, and entered by OSM. A major change was made November 26, 1991 to reflect The Abandoned Mine Land Reclamation Act of 1990, which included revisions to Section 403(c) of the SMCRA. These revisions required maintenance of the inventory by OSM and formulation of standardized procedures for use by the States and Tribes in updating the inventory. The 1991 Directive added thirteen additional program areas for inclusion in AMLIS[6].

On August 12, 1992, OSM, via Temporary Directive 92-9, eliminated OSM's review responsibilities for priority designations and cost determinations, and limited OSM's role to entering data into the inventory and reporting on program accomplishments.

In 1993 OSM prepared an oversight evaluation report which concluded:

- The Maryland Inventory is not complete, and does not support the minimum program funding levels throughout the life of the program
- BOM provides the required inventory submissions
- Inventory submissions are generally complete and accurate

It recommended that Maryland proceed with efforts to finalize the inventory to include all known AML problems.

Since that time Maryland has been making efforts to follow this recommendation with a resultant increase in priority one and two unfunded problem areas and associated costs. At the time of the 1993 report, the inventory contained only $7.9 million in unfunded priority one and two costs. As a result of recommendations contained in the 1993 report, changes to AMLIS guidelines and definitions, and Maryland's efforts to update AMLIS, the unfunded priority one and two problems have risen to $14.5 million.

A revision to the directive on January 20, 1995, required that priority four, five, and six pre-SMCRA coal and all Non-Coal sites be added upon funding of the problems. Also, States, rather than OSM were tasked as the primary source for data entry into AMLIS.

[5] Includes unfunded, funded, and completed problems

[6] Pre-SMCRA Coal (P1, P2, P3), Pre-SMCRA Coal (P3 only), Pre-SMCRA Coal (P4), Pre-SMCRA Coal (P5, P6), RAMP, FRP, State Emergency Program, Remining, Coal Interim Site Funding, Coal Insolvent Surety Site Finding, Acid Mine Drainage Plan, Private (P1, P2, P3), Non-coal (P4).

Revisions which took effect on October 15, 1998, included the addition of four more program areas; Pre-SMCRA Coal (Research), Federal Reclamation Program Emergency, Non-Coal (priority 5), and the Clean Streams Initiative. It also changed the title of the old "Private (P1, P2, P3)" program to "Other (P1, P2, P3)", and included a method of entering non-OSM AML fund sources.

Two more programs were added to the directive on August 28, 2000. They were the Enhanced AML program and the Watershed Cooperative Agreement program. In addition, AMLIS included a method of tracking multiple funding sources under a single program.

The most recent revision included adding a completion date for problems completed after March 31, 2001. This revision was dated May 11, 2001.

In September, 2003, The Department of Interior Office of Inspector General issued an audit report[7] (exhibit 1) which found inaccuracies in cost estimates, units, and documentation of data in the system. The audit recommended that OSM take corrective measures to establish quality control systems, update cost estimates, and establish procedures to verify the accuracy of data. OSM has responded in part by mandating this oversight review.

SCOPE/METHODOLOGY

Maryland personnel responsible for maintenance of the AMLIS system were interviewed (Exhibit 2) regarding internal procedures for updating the system. These procedures were then compared to requirements of OSM Directive AML-1 for consistency and effectiveness. Next, a sample of ten problem area files were reviewed to determine completeness, accuracy, and timeliness of information entered into AMLIS. Files were chosen to reflect the range of programs, problem types, and funding status present in Maryland. Additional records were checked based on findings from the sample. Emphasis was placed on costs and units reclaimed, and the presence of supporting documentation. Finally, each of the ten sample sites were visited for field verification of AMLIS data.

FINDINGS

Processes and Procedures:

Certification – As mentioned earlier, in September of 2003 the Department of Interior Office of Inspector General issued an audit report that found inaccuracies which compromised AMLIS's ability to identify the highest priority sites for funding, forecast future reclamation needs, and measure performance under AML program goals. It recommended that OSM:

1. Establish a quality control system that ensures the accuracy of data entered into AMLIS
2. Update and periodically adjust the estimated costs of reclamation, and

[7] Report No. 2003-I-0074

3. Establish procedures to verify the validity of reported performance for acid mine drainage projects reported under the Appalachian Clean Streams Initiative Program.

OSM concurred with each of the three recommendations, and as part of an implementation plan to address the first recommendation, is requiring that States formally certify the accuracy of their systems. While there is no standard certification document, OSM has offered suggestions to include a certification statement as follows:

"The (State/Nation/Tribe/OSM) certifies that it has a system in place that ensures the accuracy of data in AMLIS. This is done by [short description of the system and its checks and balances]. Signed: _____"

Maryland has no formal certification of their system. As part of this review OSM has agreed to work with Maryland on establishing a system and/or schedule for implementation.

Updates - Maryland follows the procedures contained in the OSM Inventory Manual[8] on updating the three funding phases of problems. Maryland staff stated that they conducted a general update to funding costs on selected, high cost projects within the last four or five years. They are presently working on a scrub of the entire inventory, including incorporation of GIS, GPS information, field work, regrouping of problem areas, and updates of outstanding costs. They have run into difficulties, however, regarding the database program used to incorporate data and have been unable to proceed further with the scrub until internal decisions are made at the Departmental level. Expectations are that modifications to a Departmental FOXPRO database program will take approximately eight to twelve months. After this effort is completed, data entry will proceed and updated data files incorporated into AMLIS.

The inventory manual requires that updates occur to change problems from the "unfunded" category to "funded" no earlier than issuance by OSM of an authorization to proceed document and no later than execution of a contract. Maryland's general policy is to wait until the contract execution to take this step. Also, Maryland uses the final inspection of a project site as the trigger for updating problems to the "completed" category.

Ranking and Selection – Chapters four and five of Maryland's approved State Reclamation Plan contains procedures for ranking and selecting projects in the inventory based on priority. Maryland follows the procedures in the State Reclamation Plan. In addition, chapter five of the AML-1 Directive requires preparation and retention of "priority documentation forms"[9] to document reasons problems were given priority one or two rankings, as well as to document the basis of reclamation cost estimates. Priority one problems are defined under section 403(a) of SMCRA as those requiring, *"the protection of public health, safety, general welfare, and property from extreme danger of adverse effects of coal mining practices."* Priority two problems are those requiring *"the protection of public health, safety, and general welfare from adverse effects of coal mining practices."* Further clarification of these definitions is provided in OSM's Final Guidelines for Reclamation Programs and Projects[10] and 30 CFR section 701.5. Presently there are eight types of

[8] Directive AML-1
[9] Formerly called "supplemental forms"
[10] 45 FR 14810-14819, March 6, 1980

priority documentation forms which reflect the different types of priority 1 and 2 problems encountered. Originally, hard copies of the form were required to be retained by States, but this is no longer necessary as States now have the ability to add the priority documentation directly into AMLIS.[11] File review of the ten sample projects revealed evidence of one hard copy priority documentation form.[12] For the remaining projects there was no evidence of either electronic or hard copy priority documentation forms in the files. However, as part of their ongoing database update, Maryland does maintain a field documentation form which includes information required in the priority documentation forms necessary to establish priorities for all priority one and two problems.

Cost Estimates – Maryland uses a combination of the OSM guidelines, which were included in the 1984 Inventory Manual, along with historical data on past projects to estimate unfunded costs to reclaim problems when new PADS are entered into AMLIS. Upon switching problems from unfunded to funded, Maryland uses either the design costs, if the entry is made following completion of the design, or updates based on field visits, professional experience, and historical costs. When costs are switched from funded to completed, costs are updated based on actual invoices.

Accuracy:

Updates – OSM Directive AML-1 requires that updated Problem Area Description documents (PAD) be entered into the system in accordance with the funding phases shown in the table below.

PAD SUBMISSION GUIDE

Planned Program	*Unfunded*	*Funded*	*Completed*
Pre-SMCRA Coal (P1& P2) State/Tribe AML Program - Includes work conducted under the Enhancing AML Reclamation@ rule, Appalachian Clean Streams Initiative, RAMP & FRP (non-Emergency)	X	X	X
Pre-SMCRA Coal (P3, P4, P5) State/Tribe AML Program- Includes P3 work conducted under the Enhancing AML Reclamation@ rule.		X	X
Pre-SMCRA Coal (Research)			X
State Program Emergencies - Federal Emergency projects are entered into FRPMS and information then transferred to the AML Inventory.			X
OSM=s Watershed Cooperative Agreement Program		X	X
Non-coal (P1, P2, P3) & 411(f)		X	X

[11] This option has been available since 1998 or prior.
[12] Glotfelty

*Acid Mine Drainage Plan, Coal Interim Site */, & Coal Insolvent Surety Site */*		*X*	*X*
Remining, Other (formerly Private & 10% Set aside)			X

Unfunded, funded, and completed projects in the Inventory are to be updated according to the following:

a. Unfunded.

(1) When new problem areas are identified;
(2) When new problems occur or are identified on existing problem areas;
(3) When estimated costs are revised substantially;
(4) When priority rankings change; and
(5) When the request for an Authorization To Proceed (ATP) is submitted to OSM for a pre-SMCRA coal P1 & P2 keyword(s)[13], including Appalachian Clean Streams Initiative projects. If the features included in the proposed project are not already in the system, they must be included in the unfunded columns of the appropriate priority prior to the request for an ATP. Projects are not considered funded until the ATP is approved.

b. Funded.:

(1) No earlier than when OSM approves an ATP to reclaim keyword(s). The features and costs should be moved from unfunded to funded and costs updated to reflect the ATP;
(2) No later than when a construction contract is signed to reclaim keyword hazard(s). The features and costs included in the contract should be moved from unfunded to funded and costs updated to reflect the construction contract. If the keyword hazard(s) and costs were moved from unfunded to funded after OSM approved an ATP, the costs do not have to be revised when a contract is signed. However, it is desirable to do so if there is a significant difference between the costs entered after the ATP is approved and the cost of the contract; and,
(3) When the request for an ATP is approved by OSM or a contract is signed to perform the work for:

- Pre-SMCRA coal P3, 4 & 5 sites;
- non-coal;
- SMCRA 411(f) sites;
- acid mine drainage sites;
- coal interim permit sites; and
- coal insolvent sureties sites.

c. Completed:

[13] The terms “keyword” and “problem” are both used in this document. In the past the term “problem” has been used in most cases. The team preparing this manual thought that there were actually many more types of problems than those used in the AML Inventory and that people in the field have fit these many types of problems into one of the keywords used in the AML Inventory.

(1) Upon project completion as required by 30 CFR 886.23. Reclaimed features and associated costs should be moved from funded to completed columns, and costs updated to reflect the construction costs;

(2) When construction is completed on projects within certain programs when that data has not been previously entered into the Inventory, (e.g., State Program Emergencies); and

(3) When the preparer becomes aware that the keywords have been abated through methods other than through SMCRA programs (private reclamation, remining, natural causes).

In order to assess the accuracy and timeliness of update entries, OSM tested whether costs and units had been shifted from unfunded to funded between the issuance of an ATP and execution of a contract, and the documentation and timeliness of shifting from funded to completed upon completion of a project.[14] Results are shown in the table below.

PROJECT	FUNDED			COMPLETED		
	ATP APPROVED	CONTRACT SIGNED	ENTRY MADE[15]	COMPLETION DATE	ENTRY MADE[16]	DIFFERENCE (DAYS)
Bartlett Hill Landslide[16]	NA[17]	?		9/19/91	1/13/93	481
Fazenbaker[18]	NA	NA	NA	NA	NA	NA
Glotfelty				9/16/99	3/2/00	167
Maryland Allegany Features[19]	NA	NA	NA	NA	NA	NA
Oak Hill Landslide	9/21/00	?	8/24/00	NA	NA	NA
Railroad Street AML Remediation	9/18/00	?	8/24/00	NA	NA	NA
Shallmar AMLR	1/27/89[20]	5/8/02	6/20/00	8/14/03	9/23/03	40
Spruce Hollow AML Project[21]	2/18/98	6/28/02	6/19/00	4/8/03	9/23/03	168
Washington Hollow AML Project[22]	NA[23]	NA	NA	NA	NA	NA
Woodland Creek[24]	NA	NA	NA	NA	NA	NA
AVERAGE						**214**

Three of the ten projects reviewed were emergencies and not evaluated as OSM makes AMLIS entries for emergencies, and then only upon completion. This process is through quarterly

[14] BOM considers the final inspection date the date a project is completed.
[15] From AMLIS Change History
[16] Bartlett Hill did not have a record of entries prior to completion
[17] ATP's were not in use at the time of approval of this project. It was approved under a 1989 grant action.
[18] Fazenbaker is an emergency project and therefore entered into AMLIS by OSM rather than Maryland
[19] Maryland Allegany Features is an emergency project and therefore entered into AMLIS by OSM rather than Maryland
[20] Grant amendment recommended for approval 1/27/89 (This preceded ATP documents)
[21] Co-op w/NRCS
[22] Co-op w/NRCS
[23] Presently unfunded
[24] Woodland Creek is an emergency project and therefore entered into AMLIS by OSM rather than Maryland

submission of completed emergency project data from the Pittsburgh Federal Reclamation Program Division to Headquarters. Two other projects were still in the unfunded stage and therefore not subject to evaluation.

Of the five projects which were subject to evaluation for transfer from unfunded to funded, timely entries had been made for two. Of the three which did not have timely entries, one, (Bartlett Hill Landslide) had no history of entries prior to completion of the project. The remaining two had entries made prior to the ATP (the earliest allowable date for transfer).

Four of the five projects subject to evaluation had reclamation activities completed. The average range of time for transferring from funded to completed for these projects was 40 to 481 days. This raises a concern regarding timely input in accordance with the above requirements. More importantly, entries made after September 30 of any given year are not likely to be included in the OSM annual report to Congress. Two of the four projects had entries made after the due date. . Mitigating factors in this issue may have been the considerable amount of time the AMLIS system was not available for input due to litigation, and problems with the original operating system. The system is now available through an internet web site.

Appropriations language for the last several years has stipulated that a State may set-aside 10% of their appropriations into an interest bearing account for future use in treating Acid Mine Drainage, and allows greater than 10% (up to $1,000,000) for Maryland if all priority 1 problems have been completed. Maryland has formally declared that all known priority 1 problems have been completed. However, the AMLIS system showed four priority 1 problems in three problem areas[25] as unfunded costs. If correct, Maryland would need to immediately stop drawing set-aside funds in excess of the 10% limit and return any funds previously drawn. If incorrect, Maryland would need to update AMLIS to reflect that all priority 1 problems have been addressed. After informing Maryland staff of this discrepancy, these sites were reevaluated and determined to be priority two problems. AMLIS has since been updated to reflect this change.

Units and Costs - The accurate apportionment of costs among and within individual problems is difficult due to an inherent incompatibility between the way AMLIS records problem units and costs versus the way projects are designed and contracts bid. While bid designs, contracts, and invoices follow a standard method of breaking out costs by various activities (mobilization, clearing/grubbing, earth moving, revegetation, etc.), and costs (lump sum, unit cost per cubic yard of fill, etc.) within an individual problem, these do not correlate to AMLIS activities (linear feet of highwalls reclaimed, number of portals sealed, etc.) and unit costs (cost per linear feet of highwall eliminated, cost per portal closed). Interpolation from one system to the other is awkward, inconsistent, and often inaccurate.

Distribution of similar costs among multiple AMLIS problems creates further imprecision. Often, contract activities cover more than one AMLIS problem. For example, an AMLIS problem area may have two problems, dangerous highwall, and portals, to be reclaimed. The contract may correct both of these problems by one activity, moving x cubic yards of fill up against the highwall. States must apportion this cost among both problems, but there is no universal or standard guidance

[25] Wolfden Run (clogged streams and clogged stream lands), Eckhart Coal Waste AMLR (clogged streams), and Vindex (dangerous piles & embankments)

provided. Another example is mobilization costs. Mobilization is generally a single lump sum contract activity which is a part of all problems, but again there is no standard guidance on apportioning this cost.

Maryland has offered an informal suggestion that would assist in achieving more consistency in apportioning costs. Their suggestion would be to add another line entry to each AMLIS problem showing a percentage distribution for those costs which are either non-problem specific or those which are allocated among several different problems. This way, the distribution method would be documented for ease in determining how these costs were arrived at, and guidance could be provided by OSM to achieve greater consistency among States.

Documentation – Chapter 7 of the OSM inventory manual provides recommendations for estimating reclamation costs. As previously stated, Maryland generally uses the guidance provided by OSM in estimating unfunded reclamation costs, along with staff experience, field reviews, and actual costs for similar work. The IG audit found that the OSM guidance is outdated.[26] However, as stated in the inventory manual, these costs *"are not intended as accurate reclamation costs expressed in current value dollars. Whatever basis you use for developing Inventory cost guidelines should be documented under the "basis for your cost estimate" on the Priority Documentation Forms."* Priority documentation forms (Exhibit 4) formerly called "supplemental forms", are not required to be submitted to OSM as part of the NEPA process, but are required to be maintained by the State in either hard copy or electronic form. As stated earlier, only one of the files reviewed had copies of the priority documentation form on file and none had electronic entries. Therefore, where possible, OSM used the inventory manual guidance to ascertain the accuracy of cost estimates for unfunded costs, discussed the basis for funded costs with Maryland staff, and checked final invoices for verifying completed costs. Results are shown in the table on page 13. Only seven projects were reviewed for documentation of cost estimates. The other three were emergencies and are maintained in AMLIS by OSM.

Unfunded Costs - The lack of priority documentation forms to indicate the basis of cost estimates made review of unfunded estimates difficult. Of the seven projects reviewed for cost documentation, three never had entries made into the unfunded phase, and only two still included unfunded costs in AMLIS. Of these two, use of the inventory manual guidance was not possible for the Shallmar project since the Polluted Water category (PWAI) cost estimate requires information on flows, etc., which were not documented in the file. However, Maryland noted that their estimate for Shallmar unfunded costs was based on the cost of installing a similar doser treatment facility at another project and was thus likely more accurate than using the inventory manual. The other project with unfunded costs, Washington Hollow, had an estimate of $300,000 for reclamation of .1 acres subsidence. Using guidelines, the minimum reclamation acreage is listed at .5 acres times $50k per acre, which yields an estimate of only $25,000. Maryland's estimate was based on a consultant study on the extent of the problem. The study recommended grouting @ 140 c.y. per area for 4 areas, comprising approximately .1 acres. Costs were then derived by BOM

[26] Guidance provided in 1984 with updates for dangerous highwalls, subsidence, and underground mine fires in 1989/90.

based on calculations of grout needed and previous experience with grouting operations on a similar highway subsidence project.[27] Maryland feels this estimate is more accurate than using the inventory guidelines.

Funded Costs - Two of the three projects which included funded costs included some form of documentation of the basis for the costs. These tended to be plans and specifications, field engineer estimates, and maps. Due to the difficulties mentioned earlier regarding incompatibilities with units and activities used in contract specifications vs. those used in AMLIS, and the lack of documentation of a basis for calculations, costs in the funded category were not evaluated by problem type, but for the entire problem area. As shown in the table there were some discrepancies between the documentation and AMLIS entries for the two projects which included documentation on file. Maryland was unsure of the reason for the $7340 discrepancy for the Oak Hill landslide project. The Natural Resources Conservation Service actually prepared the estimates for this project through a memorandum of understanding (MOU) with BOM for this project. A preliminary estimate of costs provided by the NRCS dated 6/17/98, estimated reclamation costs of $357,340, and suggested using $400,000 for planning purposes. A 6/28/02, purchase order was for $300,000. Maryland explained the $74,359 discrepancy for the other project, Spruce Hollow, as the amount paid through the RAMP program for this project. If this is correct, these costs should be entered separately under the RAMP Program in AMLIS.

Completed Costs – Four of the sampled problem areas had completed costs. Three of the four had documentation in the form of final invoices or other documentation which supported the AMLIS entry.[28] The fourth, Spruce Hollow, showed an AMLIS entry $74,359 more than the final invoice. Maryland staff explained that this was the cost for the RAMP portion of this project. However, AMLIS entries do not include other funding sources for this project. Also, RAMP costs should be entered as a separate PADS since they pertain to a separate program.

[27] MD-043-SGA State Route 936 Roadway Grouting @ $355k
[28] Gotfelty difference $382 attributed to rounding

PROJECT COST DOCUMENTATION

		UNFUNDED				FUNDED			COMPLETED		
PROJECT NAME	**PRIORITY DOCUMENTATION FORM PRESENT?**	**PROBLEM**	**AMLIS ENTRY $**	**GUIDANCE CALCULATIONS**	**DIFFERENCE**	**AMLIS ENTRY**	**DOCUMENTATION**	**DIFFERENCE**	**AMLIS ENTRY**	**INVOICE**	**DIFFERENCE**
Bartlett Hill Landslide[29]	NO	DS	NA	NA	NA	NA	NA	NA	$155,993	$155,993	$0
Fazenbaker[30]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glotfelty[31]	YES	PWAI	NA	NA	NA	NA	NA	NA	$82,000	$81,618	$382[32]
Allegany Features[33]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oak Hill Landslide	NO	CS, CSL, DS, WA	NA	NA	NA	$350,000	$357,340 (NRCS estimate)	$7,340 (See narrative)	NA	NA	NA
Railroad Street AML[34]	NO	CS, CSL, WA	NA	NA	NA	$438,500	$423,500 (BOM engineer estimate)	$15,000 (See narrative)	NA	NA	NA
Shallmar AMLR	NO	DI, DPE, HEF, IRW, P, PWAI	$100,000[35] (PWAI)	NA	NA	NA	NA	NA	$1,202,523	$1,202,523	$0
Spruce Hollow[36]	NO	DI, CS, CSL	NA	NA	NA	$60,000 (DI)	None (Consultant estimate based on experience)	NA	$321,130	$246,771	$74,359[37]
Washington Hollow[38]	NO	S	$300,000	$10,000	$290,000 (See narrative)	NA	NA	NA	NA	NA	NA
Woodland Creek	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AVERAGE											

[29] Bartlett Hill did not have a record of entries prior to completion
[30] Fazenbaker is an emergency project and therefore entered into AMLIS by OSM rather than Maryland
[31] Glotfelty did not have a record of entries prior to completion
[32] Difference due to rounding
[33] Maryland Allegany Features is an emergency project and therefore entered into AMLIS by OSM rather than Maryland
[34] Railroad Street project did not have a record of unfunded entries
[35] This cost estimate was for a doser and based on the cost of installing the kempton air shaft doser (no documentation)
[36] Co-op w/NRCS
[37] This difference is the amount paid under RAMP portion
[38] Co-op w/NRCS

Program Assignments

The AMLIS system currently contains information for nineteen program areas.[39] These program areas are further divided into problem areas which contain reclamation features. The reclamation features, or problems, are monitored in three funding phases by units and costs of reclamation. Maryland has undertaken projects in seven of these programs. However, AMLIS data shows entries for only five of these program areas; Pre-SMCRA Coal (P1, P2, P3); Pre-SMCRA Coal (P3 only); Remining; Other, and RAMP. The other two programs, Appalachian Clean Streams Initiative and the Watershed Cooperative Agreement Program, have had projects completed which are either not in the inventory or are entered under a different program category.

A third program, the federal emergency program, is maintained in a separate tracking system[40] by OSM and added to AMLIS upon completion. Emergency projects are incorporated into the system by county. During the interview, Maryland expressed an interest in closer coordination with OSM on federal emergencies. Because projects are combined by county in the AMLIS system, Maryland is unable to monitor project-specific information for the state. Maryland would like to have more information such as final design plans and specifications, location coordinates, and other project-specific information. Much of the data is available on OSM's Federal Reclamation Project Management System (FRPMS), which is maintained by OSM's Federal Reclamation Program Division in the Pittsburgh Appalachian Region Coordinating Center. Division staff were contacted and agreed to share with Maryland any and all of this information, as well as file information on reclamation plans and specifications.

Individual programs were reviewed in conjunction with an excel spreadsheet provided by BOM which lists completed projects (exhibit 4) and The BOM Semi-Annual Report for the period April – October 2003. Results of the review are as follows:

Pre-SMCRA Coal Program (SGA) – This program, which includes Priority 1, 2, and 3 sites with coal removed prior to 1977, constitutes the bulk of Maryland AMLIS problem areas with 111 of the 157 total. In comparing the program assigned in AMLIS to the data contained in the aforementioned documents, several discrepancies were noted. All were either emergency program problem areas[41] entered into AMLIS as Pre-SMCRA Coal Program (SGA) problem areas, or CLA/WCA problem areas shown in AMLIS as SGA problem areas only. Two of these SGA completed projects were also duplicated in AMLIS as emergency projects entered by OSM upon completion. These entries, as shown in the table below, amount to $492,607 in duplicate costs. Part of this problem may be attributed to a lack of coordination between OSM and Maryland. OSM at one time had encouraged states to enter emergency data into AMLIS, but now OSM makes all emergency entries for states without approved emergency programs.

[39] Pre-SMCRA Coal (P1, P2, P3); Pre-SMCRA Coal (P3 only); Pre-SMCRA Coal (P4); Pre-SMCRA Coal (P5); Pre-SMCRA Coal (Research); State Emergencies; RAMP; Federal Reclamation Program non-emergency; Remining; Coal Interim site; Coal Insolvent Surety site; Acid Mine Drainage Plan; Other; Non-coal; Appalachian Clean Streams Initiative; Watershed Cooperative Agreement Program; Enhanced AML Rule projects; 10% set-aside

[40] Federal Reclamation Program Management System (FRPMS)

[41] As shown on the BOM Completed Projects Spreadsheet, exhibit 1

PROJECT	COMPLETED EMERGENCY PROJECTS		
	cost under SGA[42]	cost under Emergency[43]	Duplicate Costs input
Mayhew Landslide	$38,000	$40,669.50	$38,000
Woodland Creek	$454,607.00	$454,607.00	$454,607.00
TOTALS	$727,750.80	$474,179.80	$492,607.00

Appalachian Clean Streams Initiative (CLA)/ Watershed Co-op (WCA) Programs- There are no entries in the AMLIS CLA or WCA programs for Maryland. However, according to the semi-annual Report published by BOM, eleven projects (see table below) are funded either wholly or partially with CLA or WCA money. If the semi-annual report information is correct, these projects should have separate PAD entries in AMLIS under the appropriate WCA and/or CLA program.

PROJECT	SGA PROGRAM AMLIS ENTRY #	FUND SOURCE(S)[44]
Casselman River AMD Abatement Project	MD-007-SGA	ACSI and WCA
Coney Cleaners AMD Project	MD-209-SGA	ACSI
Crellin Bore Hole Project	MD-210-SGA	ACSI
Elklick II AMD Project	MD-212-SGA	ACSI
Elklick III AMD Project	MD-213-SGA	ACSI and Small Creeks and Estuaries Grant
Everhart SAPS System	MD-215-SGA	ACSI, WCA, EPA
Glotfelty	MD-208-SGA	ACSI
McDonald Mine Doser Project	MD-169-SGA	ACSI, WCA
Mill Run Diversion Well	MD-031-SGA	ACSI
Neff Run AMD	MD-171-SGA	ACSI
Potomac Hill AMD Abatement Project	MD-064-SGA	ACSI

Pre-SMCRA Coal (P3 only) (SGB) – Includes Problem areas which consist of priority 3 problems only. Maryland has two of these problem areas.

Rural Abandoned Mine Program (RAMP) (RUA) – Maryland has 39 problem areas entered under the RAMP program. Many of these projects were added to AMLIS in 1992 and 1993 at approximately the same time when the NRCS sent completed PADS through BOM to OSM for entry into the AMLIS system. There have been no active RAMP program entries in recent years.

Other (PVA) – This program includes those problem areas with funding sources other than the AML program. There are four AMLIS entries for these programs. They were funded by State dollars[45].

[42] Source - AMLIS
[43] Source AMLIS system – MD ALLEGANY FEA Problem Area (Costs may differ from AMLIS SGA entry due to inclusion of Admin costs in FRPMS)
[44] Per BOM semi-annual report
[45] Bituminous Coal Mine Reclamation Fund and Deep Mine Fund

Field Review

Field review was conducted of six of the ten sites[46] in order to confirm that AMLIS accurately reflected field conditions. In all cases field conditions were found to be accurate and current as found in the AMLIS system. The following chart and individual problem summaries encapsulate the field review and individual problem area findings:

PROJECT	*PROBLEM*	*CONFIRMED?*	*PRIORITY*	*CONFIRMED?*	*FUNDING STATUS*	*CONFIRMED?*	*UNITS*	*CONFIRMED?*
Bartlett Hill Landslide	Dangerous slide	Y	1	Y	Completed	Y	4 acres	Y
Oak Hill Landslide	Clogged Stream	Y	2	Y	Funded	Y	.1 acres	Y
	Clogged Stream Land	Y	2	Y	Funded	Y	.5 acres	Y
	Dangerous Slide	Y	2	Y	Funded	Y	1.5 acres	Y
	Water Problems	Y	3	Y	Funded	Y	25 gpm	Y
Railroad street aml Remediation	Clogged Stream	Y	2	Y	Funded	Y	.4 acres	Y
	Clogged Stream Lands	Y	2	Y	Funded	Y	2.0 acres	Y
	Water Problems	Y	3	Y	Funded	Y	35 gpm	Y
Shallmar AMLR	Dangerous Impoundment	Y	2	Y	Completed	Y	1 acre	Y
	Dangerous Pile/Embankment	Y	2	Y	Completed	Y	21.5 acres	Y
	Hazardous Equipment	Y	2	Y	Completed	Y	1 count	Y
	Industrial/Residential Waste	Y	2	Y	Completed	Y	1 acre	Y
	Portal	Y	2	Y	Completed	Y	3 count	Y
	Polluted Water Agricultural/Industrial	Y	2	Y	Unfunded	Y	? count	?
	Polluted Water Agricultural/Industrial	Y	2	Y	Completed	Y	? count	?
	Bench	Y	3	Y	Complete	Y	2.5 acres	Y
	Highwall	Y	3	Y	Unfunded	Y	1200 ft.	Y
	Highwall	Y	3	Y	Completed	Y	800 ft.	Y
	Mine Openings	Y	3	Y	Unfunded	Y	1	Y
Spruce Hollow	Dangerous Impoundment	Y	1	Y	Completed	Y	1	Y
	Clogged Streams	Y	2	Y	Completed	Y	.2 acres	Y
	Clogged Stream Lands	Y	2	Y	Completed	Y	1 acre	Y
	Dangerous Impoundment	Y	2	Y	Funded	Y	1 acre	Y
	Dangerous Impoundment	Y	2	Y	Completed	Y	1 acre	Y
Washington Hollow	Subsidence	Y	2	Y	Unfunded	Y	.1 acre	Y

[46] Four of the sites were not visited because one had been visited earlier and three were emergencies.

Bartlett Hill Landslide

Before

After

The Bartlett Hill Landslide was a priority one problem area consisting of a dangerous slide encroaching on an occupied dwelling. Four acres of slide area were reclaimed[47] including installation of subdrains, ditches, and a gabion retaining wall at a completed cost of $155,993.

[47] Engineer's estimate of five acres included support areas per BOM engineer

Oak Hill Landslide

The Oak Hill Landslide problem area is an ongoing reclamation project which includes priority 2 clogged streams, clogged stream lands and dangerous slide problems, as well as priority 3 water problems. The toe of the slide was partially blocking a perennial stream. Reclamation was originally undertaken by the Natural Resource Conservation Service (NRCS) through a memorandum of understanding (MOU) with BOM. The reclamation proved unsuccessful due to additional unanticipated saturation zones deeper in the fill and the design was modified to include removal of slide material from the site to alleviate weight on the upper portion of the slide. In addition, acid mine drainage (AMD) is being routed through a four-cell successive alkaline producing system (SAPS). The SAPS is designed for treatment of 80 gallons per minute (gpm) flow, but is currently treating approximately 25 gpm, with plans to direct additional AMD through the system. This project is funded for $350,000.

Railroad Street AML Remediation

The Railroad Street AML remediation project includes a priority 2 clogged stream and clogged stream land problems, as well as priority 3 water problems. AMD from old deep mines flows along a bench, then down a steep embankment before crossing through a culvert under a public road. The culvert periodically fills with coal mine waste sediment, causing flooding of the road. Plans call for diversion ditches, sub-drains, and a SAPS system, with estimated costs totaling $438,500. The engineer's estimate on file indicates costs of $423,500. Maryland staff feels that the additional $12,600 may be for the design costs. If this is correct, these costs should be removed from AMLIS as AMLIS should only include construction costs.

Shallmar AMLR

Before

After

The Shallmar AMLR problem area has reclaimed features including a priority 2 dangerous impoundment, 21.5 acres of dangerous piles/embankments, 1 hazardous equipment area, Industrial Residential waste, and 2.5 acres of priority 3 bench. Remaining problems include installation of a doser to treat a priority 2 polluted water/agricultural industrial (PWAI) problem, reclamation of 1200 feet of priority three highwall and one mine opening. Total expenditures thus far are $1.2 million with an estimated $260,000 remaining in unfunded costs.

Spruce Hollow AML Project

Before

Before

After

The Spruce Hollow AML Project included removal of a priority 1 dangerous impoundment, and reclamation of priority 2 clogged streams and clogged stream lands, which have been completed, and a priority 2 dangerous impoundment feature which has been funded but not addressed. The priority 1 dangerous impoundment was threatening 23 homes and residents downstream. A 600 foot section of clogged stream and an acre of clogged stream lands were reclaimed. In addition, a pond was installed as a wetlands remediation measure. Another $60,000 in funded costs remains to address remediation of flooding downstream attributed to removal of the dangerous impoundment.

Washington Hollow

The Washington Hollow Project is an unfunded priority 2 subsidence. Cost estimates of $300,000 for .1 acres of subsidence in 4 areas along a 450 foot section of public road are based on an engineer's survey of the amount of grout required for each of the four areas, plus experience with previous grouting jobs. The cover from the coal seam to the surface varies from 0 to 45 feet.

RECOMMENDATIONS

1. Recommend Maryland adopt a formal certification system to assure accuracy of information in AMLIS to resolve Interior Inspector General audit finding.
2. Recommend that Maryland assure problem areas are entered into AMLIS under the correct AMLIS Program in accordance with OSM Directive AML-1.
3. Recommend that Maryland assure that priority documentation form records are maintained for each problem in accordance with OSM Directive AML-1.
4. Recommend that Maryland use separate program PADS for multi-program funded projects in accordance with OSM Directive AML-1.
5. Recommend that Maryland assure that non-OSM program funding sources are recorded separately in accordance with OSM Directive AML-1.
6. Recommend Maryland assure problem areas are not duplicated among programs in accordance with OSM Directive AML-1.
7. Recommend Maryland assure that updates are entered in a timely manner in accordance with OSM Directive AML-1.

EXHIBITS

Exhibit 1 - Inspector General Audit Report

U.S. Department of the Interior
Office of Inspector General
AUDIT REPORT
Inventory System and Performance Results of the Abandoned Mine Land Program, Office of Surface Mining Reclamation and Enforcement

Report No. 2003-I-0074 September 2003

United States Department of the Interior

Office of Inspector General
Eastern Region Audits
381 Elden Street
Suite 1100
Herndon, Virginia 20170

September 30, 2003

Memorandum

To: Director, Office of Surface Mining Reclamation and Enforcement
From: William J. Dolan, Jr.
Regional Audit Manager, Eastern Region
Subject: Final Audit Report on the Inventory System and Performance Results of the Abandoned Mine Land Program, Office of Surface Mining Reclamation and Enforcement (Report No. 2003-I-0074)

This report presents the results of our audit of the Abandoned Mine Land Inventory System (AMLIS) and the Abandoned Mine Land (AML) Program performance reporting of the Office of Surface Mining Reclamation and Enforcement (OSM).

The OSM utilizes AMLIS, which is a computer database compilation of abandoned mine sites in the United States, to perform reclamation activities through AML. We found that AMLIS contained inaccurate data that compromised its ability to identify the highest priority sites for funding, forecast future reclamation needs, and measure performance under AML program goals. The OSM needs to establish a quality control system that ensures the accuracy of data entered into AMLIS, update and periodically adjust the estimated costs of reclamation, and establish procedures to verify the validity of reported performance for acid mine drainage projects.

In the September 26, 2003, response to our draft report, the Director of OSM concurred with the report's three recommendations. We consider Recommendations 1 and 3 resolved and implemented and Recommendation 2 resolved but not implemented. Accordingly, we are referring Recommendation 2 to the Assistant Secretary for Policy, Management and Budget for tracking of implementation.

The legislation, as amended, creating the Office of Inspector General, (5 U.S.C. App 3) requires semiannual reporting to Congress on all audit reports issued, actions taken to implement audit recommendations, and recommendations that have not been implemented. Therefore, this report will be included in our next semiannual report.
If you have any questions regarding this report, please call me at (703) 487-8011.

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Introduction

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) established the Office of Surface Mining Reclamation and Enforcement (OSM) to regulate coal mining operations and to reclaim lands and waters degraded and abandoned before the Act was passed. OSM performs reclamation activities through its Abandoned Mine Land Program (AML), which is funded from fees paid by coal operators to the Abandoned Mine Reclamation Fund (AML Fund).[1] State and Indian tribal governments perform nearly all of the reclamation work through grants from the AML Fund that totaled about $198 million in fiscal year (FY) 2001. Also in FY 2001, OSM administered the federal reclamation program that received about $18 million from the AML Fund for emergency reclamation activities not covered by state and Indian tribal programs.

SMCRA set priorities for using monies from the AML Fund, as follows: (1) the protection of public health, safety, general welfare, and property from extreme danger of adverse effects of coal mining practices; (2) the protection of public health, safety, and general welfare from adverse effects of mining practices; (3) the restoration of land and water resources and the environment previously degraded by adverse effects of mining practices; (4) the protection, repair, replacement, construction, or enhancement of public facilities; and, (5) the development of publicly owned land adversely affected by coal mining practices.

SMCRA also required the Secretary of the Interior to maintain an inventory of degraded sites meeting priorities 1 and 2 (high priority projects) and to provide standard procedures for states and Indian tribes to keep the inventory current. This requirement led OSM to create the Abandoned Mine Land Inventory System (AMLIS), which is a computer database compilation of abandoned mine sites in the United States. AMLIS contains data on unfunded high priority coal reclamation sites, funded projects, and completed projects listed by problem type.[2] It is the primary source of

[1] Coal mine operators pay fees of 35 cents per ton for surface mined coal, 15 cents per ton for coal mined underground, and 10 cents per ton for lignite. OSM deposits the fees into the AML Fund. Expenditures from the Fund may only be made through appropriations and are used to pay the costs of abandoned mine land reclamation projects and transfers to the United Mine Workers of America Combined Benefit Fund.

[2] A problem type is an adverse condition, such as a clogged stream, waste pile, landslide, subsidence, or an underground mine fire.

Inventory of

Abandoned Mine Land Background

information on the number of sites and amounts of funds used for reclamation work completed and for sites remaining to be reclaimed. The information in AMLIS is developed and updated by the individual states or Tribes, or OSM, as applicable.

At the end of FY 2001, AMLIS reported that reclamation projects costing $1.5 billion had been completed and that it would cost $8.5 billion to reclaim the remaining abandoned mine sites. Of the $8.5 billion, priority 1 sites totaled approximately $200 million, priority 2 sites totaled about $6.5 billion and priority 3 sites totaled about $1.8 billion. Funded but incomplete projects comprised the remaining $241 million.

The Government Performance and Results Act of 1993 (GPRA) requires federal departments to prepare annual performance reports comparing planned, measurable goals with actual performance results. Congress was concerned that "Federal managers are seriously disadvantaged in their efforts to improve program efficiency and effectiveness, because of insufficient articulation of program goals and inadequate information on program performance." The purpose of GPRA was to "help Federal managers improve service delivery, by requiring that they plan for meeting program objectives and by providing them with information about program results and service quality." In accordance with GPRA, OSM established two AML performance goals based on the following performance measures:

1. Acres Reclaimed. AML sets annual target goals based on specific amounts of acreage to be reclaimed, "GPRA acres." OSM computes GPRA acres using standard conversion factors for each problem type. For FY 2001, OSM planned to reclaim 8,600 GPRA acres and reported that 13,808 acres were reclaimed.

2. Number of New Acid Mine Drainage (AMD) Projects. In 1995, OSM started the Appalachian Clean Streams Initiative (ACSI). The intent of the initiative was to facilitate the partnership efforts of citizen groups; university researchers; the coal industry; corporations; the environmental community; and local, state, and federal government agencies in eliminating the environmental and economic impact of streams polluted by acid mine drainage. In FY 2001, OSM planned to fund 35 new cooperative AMD projects under ACSI and reported that 37 projects were initiated.

GPRA Goals

Related to the AML Program

Our objective was to determine whether OSM: (1) maintained complete and accurate information in AMLIS to permit effective management of and reporting on AML activities, and (2) established adequate performance measures and goals, and data verification procedures to accurately report on AML performance results. Our audit was conducted at OSM headquarters in Washington, D.C.; Regional Offices in Pittsburgh, Pennsylvania, and Denver, Colorado; and five field offices.

As part of our audit, we evaluated OSM's system of internal controls related to the data in AMLIS and the information reported to Congress in its "Fiscal Year 2001 Performance Report."

We conducted our audit in accordance with the "Government Auditing Standards," issued by the Comptroller General of the United States. Accordingly, we included such tests of records and other auditing procedures that were considered necessary under the circumstances.

Objective and Scope

Results of Audit

We found that AMLIS contained inaccurate data. This diminishes its usefulness for identifying the highest priority sites[3] for funding, forecasting future reclamation needs, and measuring performance under AML program goals. Accurate information for decision-making is particularly important at this time because OSM's authorization for collecting reclamation fees under SMCRA is due to end on September 30, 2004, creating an imminent need for legislative and programmatic change. Our audit also determined that OSM lacked effective procedures for verifying the validity of reported performance under the goal for AMD.

Our testing of the accuracy of costs and measurement data[4] in AMLIS disclosed that approximately 23 percent of the data listed for completed projects and 22 percent for unreclaimed sites were incorrect or not supported by adequate documentation. We attribute these high error rates to the lack of adequate procedures for ensuring that data were accurately entered into AMLIS. In addition, we found that OSM does not perform a periodic adjustment of the estimated costs for unreclaimed sites to reflect price changes. As a result, the reliability of total AMLIS estimated cost of $8.5 billion for unreclaimed sites is questionable.

To determine whether the inventory of AML sites was complete and accurate, we reviewed sites listed for the States of Kentucky, Ohio, Pennsylvania, and West Virginia, because they accounted for 78 percent, or $6.7 billion of the $8.5 billion, of the estimated costs listed for unreclaimed sites in AMLIS. We statistically sampled 48 of the 8,925 line items listed for completed projects and 54 of the 8,529 line items listed for unreclaimed sites for these states. We restricted our review to errors impacting the two most significant attributes of the inventory, the measurement data (units) listed and the actual or estimated cost listed, as appropriate. Detailed information on our sampling methodology and results is in Appendix 1.

[3] Although AMLIS records data by problem areas, we refer to them as either unreclaimed sites or completed projects in the report.

[4] Measurement data (units) are acres, miles, feet, counts, or gallons per minute depending on the problem type. For example: acres of dangerous embankments, miles of clogged stream, feet of dangerous highwall, counts (two) of mine openings, and gallons per minute of water problems.

AMLIS Not Accurate

We found errors in the unit and cost data recorded in AMLIS for 11[5] of the 48 sampled completed projects, resulting in a total projected error rate of 22.92 percent. Specifically, we found that:

• Measurement data (units) for 10 of the 48 completed projects reviewed were not in agreement with supporting documentation. For example, AMLIS reported for one project that 30 acres of spoil area had been reclaimed, but the supporting documentation showed that only 12 acres were reclaimed for the project. The error rate for these 48 projects was projected to be 20.83 percent.

• Reported costs for 10 of the 48 projects reviewed were either not supported by appropriate documentation or were not in agreement with the documentation provided. For example, for one project AMLIS reported $66,671 for a dangerous impoundment and the supporting documentation instead showed $37,950 for a dangerous slide. There was no supporting documentation for the dangerous impoundment that was reported in AMLIS. In another example, a project was incorrectly recorded in AMLIS as $805,456 for a surface burning reclamation project, when it should have been listed as $580,359 for cleaning up a bad water supply. The error rate for these 48 projects was projected to be 20.83 percent.

We found 6 errors in the unit data and 12 errors in the cost data recorded in AMLIS for 12[6] of the 54 sampled unreclaimed sites, resulting in a total projected error rate of 22.2 percent. Specifically, we found that:

• Measurement data (units) for 6 of the 54 sites reviewed were either not supported by appropriate documentation or were not in agreement with the documentation provided. For example, AMLIS reported that four portals needed to be reclaimed at one site, and the supporting documentation reported two portals. The error rate for these 54 sites was projected to be 11.1 percent.

[5] 9 of the 11 projects contained errors in both recorded units and costs and were, therefore, included in each of the categories above.

[6] 6 of the 12 unreclaimed sites contained errors in both recorded units and costs and were, therefore, included in each of the categories above.

Completed Projects
Unreclaimed Sites

• Reported costs for 12 of the 54 sites reviewed were either not supported by appropriate documentation or were not in agreement with the documentation provided. For example, for one site AMLIS reported an estimated cost to reclaim of $72,178,523, however the supporting documentation showed an estimated cost of $52,762,500. The error rate for these 54 sites was projected to be 22.2 percent.

We also found that the estimated costs listed for unreclaimed sites are not periodically updated to reflect current conditions. OSM Directive AML–1 requires that OSM update the unreclaimed site inventory under specific circumstances, such as when new problems are identified, priority rankings change, or when estimated costs are revised "substantially." In our opinion, OSM should require that cost estimates recorded in AMLIS be updated periodically to facilitate effective decision-making.

We recognize that it is not practical to re-estimate the costs of reclaiming sites on an individual basis because the inventory contains information on approximately 9,000 unreclaimed sites. However, we believe a viable method could be developed, based on the average actual costs to reclaim each site. For example, an average reclamation cost per acre could be determined from the actual reclamation costs of recently completed projects and applied to the sites listed in AMLIS. Once cost estimates have been initially updated, either the average cost per acre method or an appropriate price index, such as one based on percentage increases or decreases in construction costs, could then be applied periodically to keep the estimates current.

Improvements are needed in GPRA reporting on the number of acres reclaimed and AMD projects started. Specifically, OSM did not have adequate procedures for validating and verifying the information reported in AMLIS for unreclaimed sites, completed projects, and for the performance reported under the AMD goal. The annual performance of the AML environmental restoration program is reported based on the number of GPRA acres shown as reclaimed in AMLIS and, therefore, any errors intrinsic to AMLIS are reflected in reported results. As previously discussed, our statistical review of AMLIS disclosed an average error rate of approximately 23 percent regarding completed projects. Consequently, because GPRA acres are based on the data recorded in AMLIS, performance results could be significantly misstated.

Update of Cost Estimates for Unreclaimed Sites
AML Acres Reclaimed
GPRA Reporting

Implementation of our recommended actions for ensuring the accuracy of AMLIS data should correct the misstatements and serve as the verification and validation process for reported results. We found that OSM did not have a method in place to verify and validate the data supporting the number of new AMD projects funded under the Appalachian Clean Streams Initiative. In FY 2001, OSM's goal was to provide funding for 35 new AMD projects, and it reported that 37 projects were actually provided funding during the fiscal year. However, we found that OSM had not established clear criteria to identify: (1) the actual date of a new project or (2) the type of documentation needed by OSM to ensure the validity of the newly funded projects reported. As a result, we found that states were identifying newly funded projects with varying criteria, such as authorization to proceed dates and actual project start dates. We also found that OSM frequently misinterpreted and erroneously reported information because they did not require clear and consistent documentation. We reviewed the documentation regarding the 37 new projects reported by OSM for FY 2001 and found support for only 25 new projects. As a result, instead of exceeding its target goal by two projects, OSM was actually 10 projects short of achieving its targeted performance. For example, OSM reported seven new projects for Ohio. During the audit, a State of Ohio Department of Natural Resources representative informed us that there were only three new ACSI projects during FY 2001.

During our audit, OSM developed a definition for "new" projects and distributed it to the states and OSM field offices. OSM is also in the process of developing criteria to establish clearly defined procedures for identifying, documenting, and verifying the validity of new projects for the year.

Number of AMD Projects

In our report, "Special Report to the Chairman, Committee on Governmental Affairs United States Senate, Review of the Fiscal Year 1999 Performance Reports and Fiscal Year 2001 Performance Plans for the U.S. Department of the Interior" (No. 00-I-533) in June 2001, we suggested that OSM could improve its fiscal year 2001 GPRA goals reporting by (a) providing sufficient information to fully explain the goals and their significance, (b) describing the total program areas for which measures have been established, and (c) adding goals and measures that address the highest priority coal projects.

We found that during fiscal year 2001, OSM had the goal to reclaim 8,600 acres and reported reclaiming 13,808 acres. This goal and its measure did not provide information on the accomplishments by priority or type of project. The other GPRA goal for fiscal year 2001 was to fund 35 new AMD projects under the Appalachian Clean Streams Initiative. OSM reported funding 37 new projects. This goal and its measure did not provide useful information on the results of the funding.

During fiscal year 2002, OSM identified three new GPRA goals and set measures that are more detailed and outcome-oriented for fiscal year 2004. For example, one new goal is to eliminate health and safety hazards related to past mining and its measures are the number of hazards eliminated by type, actual units, and the number of people no longer at risk for these hazards. OSM has established individual measurement goals for each type of hazard for fiscal year 2004. Also, the goal aims to reduce the safety risks related to past mining for 10,000 people. The other new GPRA goals are to improve mine-scarred land and water resources and to improve the use of financial resources dedicated to protecting the public from the adverse effects of past mining.

GPRA Goals and Measures

Recommendations

We recommend that the Director, OSM:

1. Establish a quality control system that ensures that states, Tribes, and OSM, as applicable, review and certify the accuracy of data entered into AMLIS.
2. Update the estimated costs of reclaiming sites not yet reclaimed and continue to adjust the costs on a periodic basis.
3. Establish procedures to verify the accuracy of the number of funded AMD projects reported under ACSI.

Director, Office of Surface Mining Response and Office of Inspector General Reply

In the September 26, 2003, response (Appendix 2) to the draft report, OSM concurred with the three recommendations. Recommendations 1 and 3 are considered resolved and implemented and Recommendation 2 resolved but not implemented (Appendix 3). The response indicated that Recommendation 2 will be implemented by the end of fiscal year 2004.

Appendix 1
Page 1 of 2

SAMPLING METHOD AND PROJECTED RESULTS

The purpose of our testing was to assess the reliability of the data contained in AMLIS for decision-making and reporting. Because the most significant information for effective decision-making and reporting involved the number of acres reclaimed each year by the AML program and the estimated costs to reclaim the remaining acres, we focused our review on errors that would impact the accuracy of these attributes. We performed a statistical review of random attribute samples selected from the total population of lines of data (input) for completed projects and unreclaimed sites in the following four states: Kentucky, Ohio, Pennsylvania, and West Virginia. These four states represent 78 percent of the total estimated cost to reclaim high priority AML acres. The sampling method gave every line (generally problem type) in the population the same chance of selection and was designed to measure the rate of occurrence on

the attributes of interest, which were reported costs and measurement data (units). The samples were not designed to estimate the population values or their differences from the recorded values.

Completed Projects

We randomly selected 60 completed projects for review. However, we were unable to review the documentation for 12 of the sampled projects because 5 were USDA RAMP (Rural Area Mine Program) projects not within the scope of our review and 7 of the projects were archived and supporting documentation was not available. Exclusion of these 12 sample items resulted in a revised sample size of 48. The sample was drawn from lines of data in the AMLIS database. For the selected states, there were 8,925 lines of data with 4,053 project numbers.

[7] Nine of the 11 completed projects contained errors in both reported costs and measurement data and were, therefore, included in each of the categories above.

Error Rate
Sample Size
Number of Errors
Overall Error Rate
Lower Limit
Upper Limit
Confidence Level
Completed Projects 48
Reported Costs 10 20.83% 10.5% 34.95% 95%
Measurement Data 10 20.83% 10.5% 34.95% 95%
Items in more than one category[7] (9)
Items with errors 11 22.92% 12.06% 37.26% 95%

Appendix 1
Page 2 of 2

Unreclaimed Sites[8]

We randomly selected 60 sample items for review in this area. However, six sample items were USDA RAMP sites. Exclusion of these 6 items resulted in a revised sample size of 54. RAMP sites account for 709 of 8,529 lines of data and 391 of 5,219 problem areas for the selected states.

Sample Results

The overall error rate is the rate of occurrence of the problem in the sample. If we had reviewed the entire population, we are 95 percent confident that the actual error rate would fall between the lower limit and the upper limit. For example, in our sample of 54 unreclaimed sites, we found 12 with errors – a rate of 22.22 percent. Based on our sample, we are 95 percent confident that if we had tested all of the sites in AMLIS, the error rate would be between 12.08 percent and 35.53 percent.

For reported costs, an error occurs when the costs reported in AMLIS are not supported by appropriate documentation or are not in agreement with the documentation provided. For measurement data, an error occurs when data reported in AMLIS are not supported by appropriate documentation or are not in agreement with the documentation provided.

Six of the 12 unreclaimed sites contained errors in both reported costs and measurement data and were, therefore, included in each of the categories above.

Error Rate
Sample Size
Number of Errors
Overall Error Rate
Lower Limit
Upper Limit
Confidence Level
Unreclaimed Sites 54

Reported Costs 12 22.22% 12.08% 35.53% 95%
Measurement Data 6 11.11% 4.22% 22.57% 95%
Items in more than one
category[9] (6)
Items with errors 12 22.22% 12.08% 35.53% 95%

Status of Audit Recommendations

Recommendation Status Action Required

1 and 3 Resolved and
implemented.
No further response to the Office of Inspector General
is necessary.

2 Resolved; not
implemented
No further response to the Office of Inspector General
is necessary. The recommendation will be referred to
the Assistant Secretary for Policy, Management and
Budget for tracking of implementation.

[8] The unreclaimed sites included unfunded problem areas only. Funded projects were excluded because they were only 28 percent of the costs to be reclaimed and were in varying stages of completion.
[9] Six of the 12 unreclaimed sites contained errors in both reported costs and measurement data and were, therefore, included in each of the categories above.

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Exhibit 2 – AMLIS Interview Form

AMLIS INTERVIEW

12/10/03

1. Are new PA's being added to the AMLIS system? (How frequently?)

2. Are existing PA's updated in accordance with AML inventory manual, chapter 1, item #5 for unfunded PA's? Funded? Completed? (i.e.; at what point are new PA's and revisions entered and how current is information)

3. Does Maryland have any non-coal problems entered in AMLIS? ACSI problems? Interim Program problems? Insolvent surety? RAMP? 411(f) (public facilities)? Watershed Co-ops? Who is responsible for input?

4. If any RAMP problems are in the inventory, describe the coordination process w/NRCS.

5. Are chapters 4 and 5 of the Maryland State Reclamation Plan relating to the inventory and ranking and selection procedures still applicable and being followed?

6. Is the AML enhancement (ENN) program used in AMLIS? The Watershed Program (WCA)?

7. Is the Priority document form used for establishing priority rating (P1, P2, etc.)

8. What is used as a basis for making cost estimates for unfunded problems?

9. Are comparisons made of unfunded estimates with completed costs to revise the basis for costs?

Exhibit 3 - Priority Documentation Form

Priority Documentation Form **CS, CSL, DI** **Page 1 of 2**

CS--CLOGGED STREAM, CSL--CLOGGED STREAM LAND, DI--DANGEROUS IMPOUNDMENT

PAD NO.:	DATE:	KEYWORD:	PRIORITY:

I.	Health, Safety and General Welfare Information	Yes	No
1.	Is there any occupied structure, improved property, road, or public facility located within the flood water path limit that would be subjected to destruction or flood water damage in the event of local stream flooding, or water retention structure failure?		
2.	Was there any previous record of flooding in the problem area caused by a stream bed being filled with AML-related sediments (thus losing storm water carrying capacity) where the cause of the flooding problem has not been corrected? *Note: Both keyword CS and CSL can be considered as the cause of the flooding problem.*		
3.	Is there a ***high probability of occurrence*** of flooding caused by either an AML-related sediment-filled stream bed, or significant erosion carried downstream by surface water runoff from the unreclaimed AML area, or by a deteriorated AML-related water retention structure currently impounding a large quantity body of water located upstream?		
4.	Is there ***potential danger*** of flooding caused by an AML-related sediment-filled stream bed, or significant erosion carried downstream by surface water runoff from the unreclaimed AML area, or by a deteriorated AML-related water retention structure currently impounding a large quantity body of water located upstream?		
5.	Is there any water impounding structure that has been breached, vacating the main body of impounded water, and where the water retention capacity of the structure is now being restored gradually by natural clogging and damming action?		
6.	Does the problem meet the General Welfare criteria outlined in Chapter 6 of the AML Inventory Manual for: a. Immediate Vicinity of a Residential Area? b. Adverse Economic Impact on the Local Community?		

Positive answers to Question 1 and Question 2 or 3 indicate the problem can qualify to meet Priority 1 criteria with the adequate justification included in the narrative description.

Positive answers to Question 1 and Question 4 or 5 indicate the problem can qualify to meet Priority 2 criteria with the adequate justification included in the narrative description.

A positive answer to Question 6 indicates the problem can qualify to meet Priority 2 criteria with the adequate justification included in the narrative description.

PAD NO.:	DATE:	KEYWORD:	PRIORITY:

II. RECLAMATION PROBLEM DESCRIPTION (Evidence of Extreme Danger and Health, Safety, and General Warfare Problems):

7. Narrative description of Priority 1 (Extreme Danger) problems:

8. Narrative description of Priority 2 (HS&GW) problems:

III. Basis for Your Cost Estimate(s):

Exhibit 4 – Completed Projects By Date

									Cost by Fund Source														
											Federal							State					
Project	GIS ID	File Drawer	Completion Date (Start Date)	AMLIS #	County	Acres - AML	Acres - Fofeiture	Gallons per minute - AMD	Title IV - AML	Title IV - Emergency	Title IV- ACSI	Title IV - Waterhed Cooperative Funds	EPA 104(b)(3)	OSM Administered ARC or Conservation Fund	Deep Mine Fund	Water Quality Restoration Loan	Bond Forfeiture and Supplemental Fund	BCMR Fund	AMD Set-Aside Fund	Small Creeks and Estuary	Private Donations	Other Agency Matching Funds	PROJECT COST
Detmold Landslide	20	4	December 15, 1975		Allegany	3.7												33276.48					
Frostburg State College Subsidence	21	12	August 1, 1980	MD-065-SGA	Allegany	5.0				961,895.00												1,128,730.00	2,090,625.00
Barton Deep Mine Drainage Control	22	12	August 1, 1980		Allegany	2.0									119,262.00								119,262.00
Permit 317 Mine Forfeiture Reclamation	23	4	October 21, 1981		Garrett		6										39,500.00						39,500.00
Permit 226 Forfeiture Reclamation	24	4	November 23, 1981		Allegany		10										21,511.00						21,511.00
Cherry Creek Mine Drainage Abatement Project	25	7	August 16, 1982		Garrett	17.2								40,000.00		49,900.00							89,900.00
Permit 303 Forfeiture Reclamation - Ginnaman	26		July 25, 1982		All/gar		15										22,630.00						22,630.00
Permit 291 Forfeiture Reclamation	27	4	September 15, 1982		Allegany		7										25,198.00						25,198.00
Permit 262 Forfeiture Reclamation	28		September 20, 1982		Garrett		25										68,000.00						68,000.00
Special Reclamation M77-82S - Union Coal	29	4	October 22, 1982		Allegany	6.0												9,850.00					9,850.00
DM 106 Mine Forfeiture Reclamation	30	4	October 27, 1982		Garrett		6										16,600.21	2,899.79					19,500.00
Crellin Community Park Reclamation	31	3	November 18, 1982		Garrett	1.0									16,000								16,000.00
Franklin Refuse Reclamation	32	4	February 15, 1983		Allegany	0.8									7,150.00								7,150.00
Masteller Special Reclamation	33	4	August 31, 1983		Garrett	6.0									7,000.00								7,000.00
Clinton Bond Forfeiture #258 and 285	34	4	November 4, 1983		Garrett		80										285,000.00						285,000.00
Permit 242 Forfeiture Reclamation - Hopwood	35	4	May 28, 1984		Garrett	15.0	15										95,936.00						95,936.00
Amish Road Reclamation	36	13	August 15, 1984	MD-007-SGA	Garrett	32.0			199,905.00														199,905.00
Franklin Portal Reclamation	37	1	August 24, 1984	MD-022-SGA	Allegany	0.5			1,300.00									2,980.00					4,280.00
Morgan/ Stewart Subsidence	38	10	January 1, 1985		Allegany	1.0				3,973.50													3,973.50
Westernport Landslide Stabilization	39	11	January 24, 1985	MD-076-SGA	Allegany	2.5			201,090.00														201,090.00
Permit 361 Forfeiture Reclamation - Pamela	40	10	May 1, 1985		Allegany		70										194,814.00						194,814.00
Blue Goose Road Reclamation	41	3	May 6, 1985	MD-001-SGA	Garrett	15.0			47,957.00														47,957.00
Eckhart Refuse Pile	42		May 28, 1985		Allegany	1.0				525													525.00
Meadow Run Reclamation - Markowitz Tract	43	2	August 6, 1985		Garrett	10.0												11,957.50					11,957.50
Permit 341 Forfeiture Reclamation - Eastern	44	10	August 22, 1985		Allegany		47										192,000.00						192,000.00
Trap Run Reclamation	45	7	August 23, 1985	MD-004-SGA	Garrett	20.0			68,000.00														68,000.00
Buckel Pit Reclamation	46	7	September 5, 1985	MD-071-SGA	Garrett	12.0			41,500.00														41,500.00
Casselman Deep Mine	47	7	September 17, 1985	MD-013-SGA	Garrett	1.0			2,665.00														2,665.00
Woodland Creek Stream Lining	48	12	September 23, 1985	MD-066_SGA	Allegany	4.0				454,607.00					49,900.00	50,000.00							554,507.00
Meadow Lake Reclamation	49	12	October 24, 1985	MD-027-SGA	Garrett	32.0			92,500.00														92,500.00
Permit 312 Forfeiture Reclamation - RAK	50	10	November 19, 1985		All/gar		95										379,600.00						379,600.00
Walnut Bottom Road Reclamation	51	3	December 19, 1985	MD-072-SGA	Garrett	10.0												17,627.00					17,627.00
Franklin Abandoned Mine Spoil Reclamation	52	10	May 1, 1986			1.2												25,750.00					25,750.00
Permit 308 Forfeiture Reclamation - Best	53	10	May 5, 1986		Allegany		50										207,118.00						207,118.00
Vale Run Stream Lining - 1	54	14	June 9, 1986	MD-068-SGA	Allegany	6.5								262,700.00									262,700.00
Allegheny Mining Special Reclamation - Permit 38	55	4	September 7, 1986		Garrett	3.8												5,000.00					5,000.00
Amish Road /Tarkiln Run Reclamation	56	9	September 22, 1986	MD-007-SGA	Garrett	30.0			233,864.91														233,864.91
Eckhart/Westernport Subsidence	57	7	October 15, 1986	MD-078-SGA	Allegany	1.0				1,949.80					36,400.00								38,349.80
Foxtown Road / Negro Mtn.	58	2	October 27, 1986	MD-016-SGA	Garrett	10.0			14,957.50														14,957.50
Mt. Savage Deep Mine Reclamation	59	3	November 19, 1986	MD-060-SGA	Allegany	1.0									22,000.00								22,000.00
Jennings Deep Mine Reclamation	60	3	November 19, 1986	MD-011-SGA	Garrett	1.0									29,865.00								29,865.00
Moran Manor Gob Pile	61	2	November 25, 1986	MD-056-SGA	Allegany	3.0									48,644.78								48,644.78
Kitzmiller Landslide Stabilization	62	12	June 15, 1987	MD-016-SGA	Garrett	5.0				17,623.00					33,351.64			33,000.00					83,974.64
Foxtown Road Reclamation	63	2	July 1, 1987	MD-008-SGA	Garrett	18.0			22,750.00														22,750.00
Frostburg Coal Company AML Project	64	10	August 1, 1987		Allegany										45,535.00								45,535.00
Kelley-Liller/Buffalo AMLR	65	2	October 5, 1987	MD-053-SGA	Garrett	35.0			175,000.00														175,000.00
Table Rock/Backbone Mt. AMLR	66	10	December 22, 1987	MD-062-SGA	Garrett	8.0			19,000.00														19,000.00
Delta/Yoder AMLR	67	10	January 26, 1988	MD-057-SGA	Garrett	8.5			27,700.00														27,700.00
Lonaconing Abandoned Tipple Reclamation	68	10	April 28, 1988		Allegany	1.0									4,991.00								4,991.00
Pickel Hill AMLR	69	10	May 18, 1988	MD-061-SGA	Allegany	5.0			45,610.00														45,610.00
Austin Kelly AMLR -Phase 1	70	3	September 24, 1986	MD-058-SGA	Garrett	22.0			21,997.00														21,997.00
Gray AMLR	71	3	July 11, 1988	MD-093-SGA	Garrett	6.0			16,000.00														16,000.00
Aaron's Run Road Refuse Reclamation	72	10	August 26, 1988	MD-030-SGA	Allegany	8.0			72,650.04														72,650.04
Potomac Hill AMLR	73	11	September 27, 1988	MD-064-SGA	Allegany	2.0			33,815.00														33,815.00
Woodland AMLR	74	2	October 3, 1988	MD-085-SGA	Allegany	20.0			108,700.00														108,700.00
Sugar Point AMLR	75	1	November 2, 1988	MD-024-SGA	Garrett	50.0			95,900.00														95,900.00
Mill Run Refuse Removal	76	2	December 5, 1988	MD-031-SGA	Allegany	20.0			182,598.57														182,598.57
Harvey AML Reclamation	77	4	June 8, 1989		Garrett	11.0									32,457.50			10,000.00					42,457.50
Pheasant Ridge AMLR	78	13	June 23, 1989	MD-051-SGA	Garrett	60.0			160,603.60														160,603.60
Staub Run Stream Lining - Phase I and II	79	12	October 2, 1989		Allegany	6.2								147,201.10									147,201.10
Squirrel Neck Run Pollution Abatement	80	1	November 27, 1989		Allegany	7.5								471,212.13									471,212.13
Lonaconing Mine Openings Reclamation	81	2	December 4, 1989	MD-097-SGA	Allegany	0.5			6,015.56														6,015.56
Lostland Run Coal Waste Stabilization	82	1	January 3, 1990	MD-154-SGA	Garrett	4.0			73,435.00														73,435.00
Staub Run Stream Lining - Phase III	83	3	April 5, 1990		Allegany	6.2								97,560.00									97,560.00
Hill Run Reclamation	84	3	April 11, 1990	MD-098-SGA	Allegany	6.0			71,671.00														71,671.00
Midland Drainage Tunnel Reclamation	85	2	May 3, 1990	MD-096-SGA	Allegany	0.5			7,691.87														7,691.87
Eckhart Coal Waste Stabilization	86	7	August 6, 1990	MD-095-SGA	Allegany	8.0			519,640.89														519,640.89
Austin/Kelly AMLR- Phase III	87	3	September 9, 1990	MD-058-SGA	Garrett	3.0			37,591.00														37,591.00
Jennings Run Airshaft Reclamation	88	3	October 5, 1990		Allegany	0.5									2,450.00								2,450.00
Koontz Coal / Buffalo AMLR	89	4	February 20, 1991	MD-015-SGA	Allegany	9.4			99,875.50														99,875.50
Michael's Run Reclamation	90	3	April 15, 1991	MD-054-SGA	Garrett	3.5			119,849.99														119,849.99
Pond Hill / Buffalo AMLR	91	3	June 14, 1991		Allegany	3.0												15,000.00					15,000.00
Bartlett Hill Landslide Reclamation	92	1	September 20, 1991	MD-099-SGA	Allegany	5.0			155,992.37														155,992.37
Fazenbaker Mine Drainage	93		January 1, 1992		Allegany	0.5				11,145.71													11,145.71
Shrader Subsidence	94	19	January 1, 1992		Allegany	0.5				115,639.87													115,639.87
Malec Subsidence	95		January 1, 1992		Allegany	1.0				9,822.85													9,822.85
Dutch Hollow AMLR	96	6	January 6, 1992	MD-040-SGA	Allegany	30.0			127,700.00														127,700.00
Frostburg Subsidence Reclamation	97	11	February 7, 1992	MD-102-SGA	Allegany	1.5			253,571.00														253,571.00
Ocean Gob Piles Reclamation	98	17	May 28, 1992	MD-043-SGA	Allegany	13.0			343,067.33														343,067.33
Lonaconing Subsidence Stabilization	99	2	May 28, 1992	MD-100-SGA	Allegany	2.0			400,441.25														400,441.25
Kyle Refuse Fire Reclamation	100	17	June 30, 1992	MD-113-SGA	Allegany	1.0			89,778.75	39659.65													129,438.40
Wolfden Run Reclamation	101	14	August 13, 1992	MD-088-SGA	Garrett	5.0			111,311.00														111,311.00
Bessemer 296 Bond Forfeiture - Phase I	102	17	October 7, 1992		Allegany		48.00										298,500.00						298,500.00
Gilman Deep Mine Reclamation	103	3	October 9, 1992	MD-101-SGA	Garrett	2.5			11,136.00														11,136.00
Durst Road AMLR	104	4	October 14, 1992	MD-014-SGA	Garrett	38.0			178,623.00														178,623.00
Shillingburg Landslide	105	6	January 1, 1993		Allegany	25.0				483,166.62													483,166.62
Crellin Deep Mine Closure	106	17	May 24, 1993	MD-109-SGA	Garrett	1.5			3,588.00														3,588.00
Cheese Mine Air Shaft Reclamation	107		August 9, 1993	MD-152-SGA	Allegany	0.5									2,437.00								2,437.00
Ternent AMLR	108	13	August 27, 1993	MD-106-SGA	Garrett	28.0			110,169.36														110,169.36
Vale Run Stream Rehabilitation	109	14	September 7, 1993	MD-068-SGA	Allegany	4.3			266,100.00														266,100.00
Moores Run AMLR	110	14	September 9, 1993	MD-112-SGA	Allegany	2.5			49,995.00														49,995.00
Aarons Run / Grove AMLR	111	14	September 10, 1993	MD-108-SGA	Garrett	12.6			144,062.00														144,062.00
Jones Coal 376 Mine Forfeiture	112	17	May 5, 1994		Garrett		34.00										270,883.70						270,883.70
Hilltop AMLR - Phase I	113	1	May 10, 1994	MD-104-SGA	Garrett	14.0			148,443.75														148,443.75
Hilltop 387 Mine Forfeiture	114	1	May 10, 1994		Garrett		23.00										62,043.45						62,043.45
Bessemer 296 Bond Forfeiture - Phase II	115	17	June 7, 1994		Allegany		20.50										89,353.14						89,353.14
Bessemer AMLR	116	17	June 7, 1994	MD-105-SGA	Garrett	30.5			203,977.45														203,977.45
MD State Rt. 936 Roadway Stability	117	4	June 9, 1994	MD-043-SGA	Allegany	5.0			1,299,550.63														1,299,550.63
Meadow Run AMLR	118	13	July 22, 1994	MD-216-SGA	Garrett	32.0			242,624.51														242,624.51
Bessemer 296 Mine Forfeiture - Phase III	119	17	August 31, 1994		Garrett		27.00										167,500.00						167,500.00
Franklin Hill Landslide Reclamation	120	18	September 2, 1994	MD-018-SAG	Garrett	42.0			677,486.41														677,486.41
Dr. Feaster Mine Subsidence	121	19	November 30, 1994		Garrett	0.5									1,640.00								1,640.00
Delta 378 Mine Forfeiture - Phase I	122	14	July 14, 1995		Allegany		40.00										95,400.00						95,400.00
Midlothian AMLR	123	18	August 22, 1995	MD-125-SGA	Allegany	12.5			126,906.36														126,906.36
Mud Mine AMLR	124	18	October 25, 1995	MD-145-SGA	Allegany	1.0			22,850.00														22,850.00
Fazenbaker Mine Drainage II	125		January 1, 1996		Allegany	0.5				2,450.00													2,450.00
Mayhew Landslide	126	19	January 1, 1996		Allegany	3.0				40,669.50													40,669.50
Three Forks Run Lime Doser	127	See Vindex	June 1, 1996	MD-046-SGA	Garrett	0.3		100.00	51,850.00														51,850.00
Delta 378 Mine Forfeiture - Phase II	128		July 20, 1996		Allegany		3.00										11,958.00						11,958.00
Delta 107 Mine Forfeiture	129		August 20, 1996		Allegany		5.00										27,831.00						27,831.00
Waverly Street Landslide	130	13	October 18, 1996	MD-156-SGA	Allegany	6.0			361,299.98													1,468,700.02	1,830,000.00
Metz Water Supply Replacement	131	1	October 20, 1996	MD-163-SGA	Allegany	1.0			31,725.00														31,725.00
Ellis Fazenbaker Landslide	132		January 1, 1997		Allegany	1.0				31,178.50													31,178.50
Bean Landslide	133		January 1, 1997		Allegany	5.0				139,090.26													139,090.26
MD State Rt. 135 Landslide Stabilization	134	1	May 23, 1997	MD-167-SGA	Garrett	2.0			425,000.00													450,120.00	875,120.00
Vindex Refuse AMLR	135	6	July 29, 1997	MD-046-SGA	Garrett	74.0			3,335,762.93														3,335,762.93
Hilltop AMLR - Phase II	136	11	April 15, 1998	MD-104-SGA	Garrett	5.2			52,611.14														52,611.14
Midland Municipal Park Refuse Removal	137		May 12, 1998	MD-220-SGA	Allegany	4.0									50,076.50								50,076.50
Moran Manor Tram Road Refuse Removal	138	19	May 27, 1998		Allegany	2.5									7,152.00								7,152.00
Beechwood Hollow Mine Drainage Control	139	3	June 15, 1998		Allegany	0.5									9,890.14								9,890.14
Elklick Run II AMD Project (and modifications)	140	PRD	August 1, 1998		Garrett	2.0		30	67,199.00														67,199.00
Aaron's Run / Wassel Deep Mine Closure	141	19	August 7, 1998		Garrett	0.5									504.00								504.00
Devault Mine Drainage Control	142	18	August 10, 1998	MD-161-SGA	Allegany	1.0			21,873.60						8,033.32								29,906.92
Ross/Davis Water Supply Replacement	143	4	August 30, 1998	MD-164-SGA	Allegany	3.5			115,500.00													13,613.00	129,113.00
Bessmer 296 Mine Forfeiture - Phase IV	144		September 30, 1998		Allegany		6.00										28,214.00						28,214.00
Kempton Coal Waste Stabilization	145	5	October 16, 1998	MD-107-SGA	Garrett	28.5			290,511.95														290,511.95
Kyle Hill Acid Mine Drainage Control	146	19	October 27, 1998		Allegany	1.0									10,589.00								10,589.00
Kempton Airshaft Doser	147	5	December 8, 1998	MD-207-SGA	Garrett	1.0		2,100.00											104,012.19				104,012.19
Vindex Sed and Ero Control Removal	148	6	July 2, 1999	MD-046-SGA	Garrett	6.0			45,055.00														45,055.00
Little Meadows AMLR	149	5	July 27, 1999	MD-026-SGA	Garrett	66.0			298,793.00														298,793.00
Buffalo Coal / Kempton	150	5	August 31, 1999	MD-222-SGA	Garrett	4.2			24,690.99														24,690.99
MD State Rt. 936 Roadway Grouting	151		September 8, 1999	MD-043-SGA	Allegany	1.0			355,907.05														355,907.05
Interstate 335 Mine Forfieture - Phase II	152	PRD	September 14, 1999		Garrett		5	100									203,343.00						203,343.00
Glotfelty AMD Remediation Project	153	PRD	September 16, 1999		Garrett			20															0.00
Georges Creek Stream Lining	154	5	September 20, 1999	MD-043-SGA	Allegany	12.7										615,466.00							615,466.00
Jones 405 Mine Forfeiture - Phase I	155	16	November 26, 1999		Garrett		29.00										248,572.00						248,572.00
Kyle Hill Water Supply Replacement	156		May 1, 2000	MD- - SGA	Allegany	6.0			437,000.00														437,000.00
Chestnut Ridge AMLR	157	18	June 19, 2000	MD-160-SGA	Garrett	20.0			97,908.84														97,908.84
Neff Run AMD and Habitat Improvement	158	PRD	June 30, 2000		Allegany	2.0					19,323.35												19,323.35
Elklick Run III AMD Project	159	PRD	August 10, 2000		Garrett	2.0		30			32,039.74									30,000.00			62,039.74
Jones 405 Mine Forfeiture - Phase II	160	16	September 27, 2000		Garrett		27.00										165,585.50						165,585.50
Everhart AMD Remediation Project	161	PRD	October 15, 2000		Garrett	5.0					10,000.00	50,000.00	29,670.00										89,670.00
Russel Mine Drainage	162	19	October 27, 2000		Allegany	1.0									3,919.56								3,919.56
Interstate 335 Mine Forfieture - Phase III	163	PRD	November 1, 2000		Garrett												5,144.00						5,144.00
Jones 405 Mine Forfeiture Revegetation	164		November 15, 2000		Garrett												30,328.29						30,328.29
Blank Road Coal Refuse Stabilization	165	19	November 22, 2000		Allegany	3.0									4,500.00								4,500.00
Mill Run Diversion Well Project	166	PRD	December 15, 2000		Allegany	0.5		100					15,000.00	115,000.00	5,000.00								135,000.00
Barton Mining Special Reclamation Project	167	19	June 30, 2001		Allegany	4.0												4,500.00					4,500.00
Teets AMD Remediation Project	168	PRD	August 24, 2001		Garrett	1.0		50			55,000.00			125,000.00									180,000.00
Coney Cleaners AMD Project	169	PRD	September 24, 2001		Allegany	2.0		100			37,273.00	95,000.00								68,112.00			200,385.00
Crable Deep Mine Blowout	170	19	September 24, 2001		Allegany	1.0									2,664.40								2,664.40
Ishler Mine Drainage Control Project	171	19	October 2, 2001		Allegany	1.0									3,909.55								3,909.55
Franklin Bench Diversion	172	19	October 18, 2001		Allegany	1.0									6,569.00								6,569.00
Rockville Street / Smith	173	19	January 17, 2002		Allegany	1.0									5,151.39								5,151.39
Marsh Landslide	174	19	April 2, 2002		Allegany	1.0									6,750.00								6,750.00
Winkler Mine Drainage	175	19	April 15, 2002		Allegany	0.5									1,495.00								1,495.00
Fazenbaker AMD Remediation Project	176	PRD	July 3, 2002		Allegany	2.0		30			37,000.00	115,000.00											152,000.00
Morgan Mine Drainage	177	19	July 9, 2002		Allegany	1.0									4,647.90								4,647.90
Round Glade Run AMD Remediation Project	178	PRD	September 4, 2002		Allegany	2.0		10							35,119.00								35,119.00
McDonald Mine Doser Project	179	PRD	October 2, 2002		Allegany	0.5		100			18,581.00	125,000.00											143,581.00
Warnick Road Waterline Installation	180		October 18, 2002		Allegany	6.0			170,000.00														170,000.00
Potomac Hill AMD Abatement Project	181	PRD	November 1, 2002		Allegany	5.0		50			25,000.00	120,000.00								64,855.00			209,855.00
Cherry Creek Doser Project	182	PRD	December 1, 2002		Garrett	0.5		100													150,000.00		150,000.00
Mud Mine Blowout Remediation	183	19	December 15, 2002	MD-145-SGA	Allegany	0.5			24,500.00														24,500.00
Spruce Hollow Railroad Embankment Removal	184	16	December 19, 2002		Allegany	8.0			246,771.00														246,771.00
Shriver Subsidence	185	19	June 2, 2003		Allegany	1.0									1,026.50								1,026.50
Shallmar Coal Waste Stabilization	187	15	July 10, 2003		Garrett	28.0			1,202,523.00														1,202,523.00
Win-More Special Reclamation II	188	19	August 15, 2003		Allegany	1.0												9,419.50					9,419.50
Kitzmiller Coal Waste Stabilization	189	15	January 1, 2004		Garrett	15.0			1,508,339.02							245,939.98							1,754,279.00
Oak Hill Landslide and AMD	190		January 1, 2004		Allegany	5.0		40	250,000.00														250,000.00
Westernport Sewer Project	191	11			Allegany	1.0									300,000.00								300,000.00
North Branch AMD Remediation Project	192	PRD																					0.00
Elklick Run I AMD Project	193	PRD	January 1, 2004					30															0.00
Mill Run Limestone Sand Project	194	PRD	January 1, 2004		Allegany	0.5																	0.00
Preston Well Sealing Project	195	PRD	January 1, 2004																				0.00
Bear Hill Road AMLR Reclamation	196	16	January 1, 2004		Garrett	2.0			78,135.00														78,135.00
Mill Run II AMLR Project	197																						
Rockville Street / Howell/Clark	198	19			Allegany	0.5																	
North Yough River Project	199	6																					
Grantsville Dump Reclamation	200																						
Deer Park Daylighting	201	9																					
Mill Run Refuse Removal - Area B	202	See Mill Run			Allegany																		
Action Mining Special Reclamation	203	10	April 26, 1986		Garrett	1.0												2500					
Win-More Mining Special Reclamation	204	10	September 6, 1988		Allegany	6.5												34680					
Evans Coal Special Reclamation- Permit 384	205	10	April 21, 1886		?	1.0												2450					
Winner Bros. Special Reclamation	206	10	September 25, 1987		?	1.5												7110					
Clyde Marsh Special Reclamation	207	10	December 5, 1984		Allegany	14.0												23275					
Alleghany Mining Special Rec - Bittinger	208	10	August 27, 1986		Garrett	3.8												6000					
Barton Gob Pile	209	10																					
Merrill Reclamation Project	210	10	September 11, 1984		Garrett	8.0												11957					
Franklin Gob Drainage	211	10	August 24, 1984		Allegany	1.0												4280					
Oliver 233 Forfeiture Reclamation	212	14	?		Allegany		20										168250						
Austin Kelly AMLR -Phase II	213	3	May 21, 1986		Garrett	?												28000					
Mill Run/ Chub Run Reclamation	214	2	?		Garrett	15.5												39000					
Jones 405 Forfeiture - Phase III	215				Garrett																		
Kempton Borehole Road	216	2	December 30, 2002		Garrett	2.0							33201										
Winebrenner Run AMD Treatment Project	217	19	October 10, 2003		Allegany	0.0		60															
Sand Spring Borehole	217	10			Garrett																		
TOTALS						1268.7	693.5		$17,282,165.10	$2,313,396.26	$234,217.09	$505,000.00	$44,670.00	$1,258,673.23	$926,081.18	$961,305.98	$3,252,563.29	$181,260.27	$104,012.19	$162,967.00	$150,000.00	$3,061,163.02	$30,404,198.13