

Office of Surface Mining Reclamation and Enforcement

Annual Evaluation Summary Report

for the

Regulatory

Program

Administered by the State

of

COLORADO

for

Evaluation Year 1997

(October 1, 1996, through September 30, 1997)

DRAFT

TABLE OF CONTENTS

I.	Introduction	3
II.	Overview of the Colorado Coal Mining Industry	3
III.	Overview of the Public Participation Opportunities in the Oversight Process and the State Program	5
IV.	Major Accomplishments/Issues/Innovations	6
V.	Success in Achieving the Purposes of SMCRA	8
	A. Off-site Impacts	8
	B. Bond Releases	8
VI.	OSM Assistance	9
VII.	General Oversight Topic Reviews	9
	Appendix A: Tabular Summary of Core Data to Characterize the Program	11

I. Introduction

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) created the Office of Surface Mining Reclamation and Enforcement (OSM) in the Department of the Interior. SMCRA provides authority to OSM to oversee the implementation of and provide Federal funding for State regulatory programs that have been approved by OSM as meeting the minimum standards specified by SMCRA. This report contains summary information regarding the Colorado program and the effectiveness of the Colorado program in meeting the applicable purposes of SMCRA as specified in section 102. With this report, OSM has again transitioned the annual report time table. This year's report covers the period October 1, 1996 through September 30, 1997. Detailed background information and comprehensive reports for the program elements evaluated during the period are available for review and copying at the OSM Denver Field Office.

The following is a list of acronyms used in this report:

AHR	Annual Hydrologic Report
BLM	U. S. Bureau of Land Management
DMG	Division of Minerals and Geology
FTE	Full-Time Equivalents
OSM	Office of Surface Mining Reclamation and Enforcement
SMCRA	Surface Mining Control and Reclamation Act of 1977
WRCC	Western Regional Coordinating Center

II. Overview of the Colorado Coal Mining Industry

Coal bearing regions within the State cover approximately 29,600 square miles, which is 28.4 percent of the total area of Colorado. Coal reserves vary from lignite to anthracite. More than 70 percent is bituminous, 23 percent is subbituminous, 5 percent is lignite, and less than 1 percent is anthracite. The demonstrated coal reserve base is about 17.1 billion tons, or 3.5 percent of the national reserve base. Of this reserve base, an unmineable fraction exists consisting of coal rendered not mineable because it is in or near alluvial valley floors, national parks, historic and archaeological sites, and under towns or properties where surface impacts are concerns. These restrictions are imposed by Section 522 of SMCRA. Some 8.8 million acres of coal rights in the State are owned by the Federal Government; on about 72 percent of this land, the Federal Government controls both the coal and surface rights. All Federal coal is leased by the U.S. Bureau of Land Management (BLM). BLM estimates that approximately 4.2 billion tons of reserve base are under Federal ownership. Recoverable coal reserves held under Federal leases are estimated to be approximately 1.9 billion tons (of which 540 million tons is surface mineable). On average, 96 percent of Colorado's coal production is obtained from mines

on Federal lands.

Commercial coal production first began in 1861, while surface mining for coal began in the early 1950's. Underground production tonnage was first recorded in 1864. Generally, production climbed between 1875 and 1920. The one million tons per year milestone was reached in 1888, and the five million tons mark was attained by the end of the century. By 1910, production was at 10 million tons annually, and it remained steady until affected by the Depression. Production returned to five million tons per year through the mid-1930's. World War II increased production to eight million tons per year. Following the war, the change to diesel fuel for locomotives and oil for electric production severely reduced the demand for coal, and production ranges remained at two to four million tons per year through 1963, increased to eight million tons in 1976, then climbed rapidly to 19.3 million tons in 1981. Coal production declined somewhat through 1988, then climbed back to 19.3 million tons in 1992. 1994 and 1995 were record years with 20.2 and 26 million tons respectively. 1996 production dropped to 18.2 million tons, but 1997 was again a record year with 27.4 million tons produced.

Colorado continues to lead the world in record longwall production. The West Elk Mine continues to hold the record with more than one million tons mined in a month.

Surface and underground mines employ less than 2000 people. Employment peaked in the early 1980's with 4700 people producing coal. Currently 26 surface mines, 32 underground mines, and two facilities are regulated under the approved State program by the Colorado Division of Minerals and Geology (DMG). Eight underground mines and four surface mines were producing coal at the end of the evaluation period. Permitted mine acreage per minesite ranged from 38 to 17,862 acres.

Differences in elevation create many climatic zones. Local annual precipitation can average less than 8 inches in some areas in extreme western Colorado and can average in excess of 30 inches in certain mountainous areas. Generally, precipitation rates are low at most minesites, making revegetation difficult. This problem can be overcome with careful species selection. The growing season can be up to 169 days in length at some sites, but is usually much less, especially in the mountainous regions of the western half of the State.

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

LAND USE AND MINING WORKSHOPS

Public outreach was enhanced through Land Use and Mining Workshops, one of which was held in Colorado Springs. The workshops introduce DMG to the public, local

government agencies, and owners of land within coal mine operations. DMG prepared an information packet, outlining permitting processes and opportunities for comment, which was distributed to meeting attendants. The outreach effort will increase public awareness of DMG and encourage public participation in coal mine permitting. DMG plans two more workshops in 1998.

In addition, coal program staff participated in the North West Colorado Coal conference held in Steamboat Springs. At the same conference the Division presented, for the first time, a public information display which included photographs, charts, handouts, and other information on Division activities and coal mining in Colorado. This display, subsequently, has been used in other outreach efforts throughout the state, including "A Taste of Colorado" in Denver, and the Small Miner's Conference in Montrose.

DMG Staff also participated in outreach efforts of the Minerals, Energy, Geology Advisory Board in Leadville and Greeley.

MINED LAND RECLAMATION BOARD MEETINGS

The Mined Land Reclamation Board held three of its monthly meetings away from its regular Denver meeting site. Meetings were held in Grand Junction, La Junta, and Glenwood Springs. The Grand Junction and Glenwood Springs meetings included a tour of a nearby coal mining operation. Holding the meetings in the vicinity of the mining operations encouraged public participation by making DMG and the Board more available to the public, and helped DMG and the Board to establish a presence outside of Denver.

JOINT DMG/OSM PUBLIC MEETINGS

DMG and OSM conducted two public meetings for the purposes of receiving comments and suggestions for oversight of the Colorado program. The meetings were held at opposite ends of the state to allow for greater public attendance. Notice of the meetings was published in a statewide distributed newspaper and the public was encouraged to submit written comments if unable to attend the meetings. In addition, approximately 130 letters were sent to environmental groups, the coal industry, and consultants with notification of the meetings.

COAL BASIN MINE

Public participation at the Coal Basin Mine bond forfeiture site increased dramatically in 1997. DMG was actively involved with two community-based organizations throughout the year, attending local meetings and hosting tours of the site. In addition, DMG began to cultivate educational partnerships with two local schools, Colorado Rocky Mountain School in Carbondale, and the Aspen Middle School of Aspen.

Part of the reclamation plan being implemented at Coal Basin is to plant trees upon completion of other reclamation phases. In order to accomplish this objective, and to continue to enlist local support for the reclamation efforts at Coal Basin, two volunteer tree planting projects were organized by DMG. Each project was built around the core support of local schools. Community support was enlisted for each of the planting dates to supplement the local school volunteers. Additionally, staff from DMG's Denver office and from OSM helped with organizing school children and in planting trees. Of the approximately 5,000 trees planted in Coal Basin in 1997, 4,000 were planted by volunteers.

DMG hosted a number of working groups at the site in 1997. The U.S. Forest Service Regional Management Team visited the site in the early summer, while the Forest Management Team was at the site later in the year.

The Colorado Mined Land Reclamation Board, along with representatives of various public interest groups and interested individuals visited the site in August. This public meeting provided an opportunity for Board members and the public to visit first hand the reclamation projects completed in 1995 and 1996, as well as to view on-going projects. The public also had the opportunity to address the Board on-site about any questions, comments or concerns they have regarding Division management of the site.

IV. Major Accomplishments/Issues/Innovations

SOFTWARE TRAINING

Software training was made available to all DMG staff during the summer of 1997. Training was provided in word processing, spreadsheets, databases, computer aided presentations, and operating systems.

NEW AND UPGRADED COMPUTER HARDWARE

Personal computers were upgraded, for all of the DMG staff, to machines with faster processors, and each staff member's operating system was upgraded. All DMG staff now have desktop access to the Internet. In addition to these upgrades, support equipment, such as a flatbed scanner, slide scanner, laptop machines and portable printers, a color printer, and a digitizer were purchased.

COAL BASIN MINE RECLAMATION

INNOVATIVE RECLAMATION TECHNIQUES

Because of the steepness and height of the back walls at coal stockpiles B and M, long backfilled slopes were created during the reclamation process. In order to alleviate the potential problem of rilling and gullyng occurring at these locations, methods to break

up the surface were considered. The contractor was directed to create a series of depressions and berms across the face of each backfill. These generally measure eighteen inches from base to crest, and about five feet in width. These were constructed throughout the backfilled coal stockpiles prior to initiating revegetation. These features will not only break up water drainage patterns to minimize gully formation, but the depression portion of the features will act as collection areas for organic matter and water, and will ultimately act as points of soil generation.

The Mine 4 Steep Slope Revegetation Project was directed at stabilizing the approximately twelve acres of mine bench out slopes through revegetation processes. A number of techniques which had been tested over the past two years on a smaller scale were specified for implementation during completion of this Project. An organic, spray-on erosion control mat was applied to the upper portion of the mine bench. This material, initially experimented with on 1/4 acre in 1995, holds soil particles in place, while permitting seed sown prior to application to germinate and grow through the material. The erosion potential of the slopes below the treated area will be reduced as water flow patterns of the treated area immediately uphill are disrupted by stabilized soils and increased vegetative growth.

Seeding of the slopes was accomplished using both commercially available species, and seed collected from species native to the mine site at the 10,000 foot elevation. Seed from Purple Reedgrass, Aster, and Senecio were collected at maturity from the Mine 1 area, and redistributed in selected areas at Mine 4. In some cases, the natives were seeded in conjunction with commercial species, and in others they were seeded alone, supplemented only by Woods Rose.

Straw mulch was blown onto the slopes, and was anchored with two different types of tackifier. One of these materials, which was donated by the manufacturer, is purported to stabilize soil particles as well as to tack mulching materials.

AUGMENTATION OF FUNDS

The Division has been very active in seeking to augment the available reclamation funds. Due to a concern that the funds being provided by the liquidation plan may be insufficient to accomplish all of the reclamation required at the mine, the Division has applied for supplemental funds from various sources. Since the fall of 1996, the Division has applied for at least six grants from various State, Federal and Private organizations.

Most recently, the Division and Pitkin County have entered into a partnership to control a noxious weed infestation near the lower elevation portions of the mine. A grant proposal was jointly submitted in mid-December, 1997 to the Colorado Department of Agriculture in order to begin control efforts in the spring of 1998. Other grants which have been applied for include a Challenge Cost Share project in cooperation with the U.S. Forest

Service to conduct watershed restoration work near the mine bench outcrops, and a grant from the Office of Surface Mining to accomplish remedial work on a portion of the Old Refuse Pile near the Warehouse vicinity.

The Division has received approval for some grants already. The National Arbor Day Foundation has committed to providing \$7,500 for the purchase of trees to be planted on Federally managed lands. The Office of Surface Mining has approved a grant request for \$115,000 to construct the Dutch Creek Diversion. The National Community Conservation Corps approved an erosion control and tree planting project wherein a crew of twelve individuals would work at the site for six weeks. However, at the last moment, problems within the National Community Conservation Corps forced cancellation of the project.

SELF-BONDING PROGRAM

DMG implemented self-bonding rules which were promulgated in January of 1997. Implementation of the rules involved the development of self-bond application review criteria, as well as forms to accompany self-bond applications. OSM bonding specialists worked with DMG staff to develop the forms and review criteria, and provided instruction on evaluating financial statements provided by mine operators. In 1997, three applications for self-bonding were received and reviewed. One of the applications was approved, one is still under review, and one was declined.

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

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

A. Off-Site Impacts:

OSM conducted 16 inspections with at least a partial focus on off-site impacts. No off-site impacts were observed during these inspections. DMG conducted 246 inspections with at least a partial focus on off-site impacts. Violations with off-site damages, or the potential for off-site damages, were observed nine times. State Notices of Violation were

issued for each occurrence. Five of the violations were deemed to have a minor impact on water resources, two had minor impacts on land resources related to hydrology, and two had minor impacts related to land encroachment. The nature of the violations do not present a discernable pattern. DMG has been successful in deterring off-site impacts from coal mining operations.

B. Bond Release:

Few permanent program mining operations in Colorado have acreage that has been granted a Phase III bond liability release. Determining the success of the Colorado program based on this figure is deceptive because; these operations tend to be large and long-lived, many of the operations have reclaimed acreage but have not requested release because doing so would also mean relinquishing control of their leases, more than half of the mines are underground operations where the surface disturbance will not be reclaimed until final closure of the mine, and all of the mines are subject to the 10-year minimum bond liability period.

The contemporaneous reclamation special study undertaken during the last evaluation year did not identify any violations of the performance standards. However, the majority of sites have not had any Phase III releases. One of the conclusions that may be drawn from this is that while these operations are successfully conducting reclamation of disturbed acreage, liability release is not being pursued for the reasons mentioned. The small amount of Phase III acres released compared to the acreage permitted does not represent a reclamation failure in Colorado.

VI. OSM Assistance

The percentage of program costs for which OSM provides funding is relatively high in Colorado. The majority of mines operate on Federal lands and OSM funds the regulation of these mines through a Federal lands cooperative agreement. OSM provided \$1.57 million dollars to DMG for the evaluation period. This figure represents 81 percent of the total program costs.

OSM continues to provide a wide variety of technical training opportunities for DMG personnel. DMG representatives have attended courses such as SB Slope, Earthvision, and Global Positioning Systems during the evaluation year. WRCC also worked closely with DMG to develop a guidance letter to the industry on operator's responsibilities for distribution of various documents such as permit applications, renewals, and revisions for operations on Federal lands.

OSM sent a two person team to the Coal Basin Mine in September to help establish an on-the-ground 'footprint' of the Dutch Creek Diversion to be constructed in 1998. This task needed to be accomplished in order that pre-construction work could begin on

schedule in the fall of 1997. As part of the effort to assist DMG in the reclamation of the Coal Basin forfeited site, OSM granted \$115,000 to DMG to aid in the construction of the Dutch Creek Diversion.

VII. General Oversight Topic Reviews

Oversight of the Colorado regulatory program focused on hydrologic quality and blasting to assess off-site impacts, coal mine waste banks to assess reclamation success, and blasting to assess public participation requirements. In addition to these topics, five complete inspections were conducted.

The oversight team selected the topics to be investigated and defined the scope of the topic. For purposes of clarity, definitions and measurements were included in the agreement so inspection staff and specialists would be consistent with each special focus inspection. Specific mines and a schedule were agreed upon.

A. Off-Site Impacts - Hydrologic Quality

This topic was identified as a multi-year special focus. DMG and OSM utilized a Hydrologist in addition to inspection personnel for this review topic and all field work was completed during the last evaluation year. The final review was completed in the Spring of 1997, after the mining operations submitted their Annual Hydrologic Report (AHR). The information gleaned from the field review was compared to the AHR data. The focus was to determine how effectively DMG was implementing its approved program to prevent off-site impacts to surface waters which could potentially be affected by mining operations. The definition of an off-site impact is different for each mining operation and is outlined in the Probable Hydrologic Consequences approved as part of the mining permit.

The field review consisted of verification that the operation has installed and maintained all necessary monitoring equipment, is conducting all the required monitoring, and is submitting all the required data. No violations of the performance standards were identified. Additional criteria used in the review to ascertain that there are no off-site impacts was DMG's development and implementation of a) a consistent, thorough, and effective program for the review of hydrologic data for each operation, and b) a plan for remediation of any operations where it has been determined that detrimental off-site impacts have occurred or are likely to occur.

Each of the mines reviewed submitted an AHR to DMG and the AHR's evaluated long term trends in water quality and quantity. DMG performed a technical review on each of the AHRs, and, where appropriate, sent an adequacy letter to the individual operation if concerns arose or clarification was needed.

All the mining operations reviewed were in compliance with DMG's requirements and no off-site impacts were identified. DMG's methods of ensuring no surface water off-site impacts is effective.

B. Off-Site Impacts - Blasting

The review of this topic was completed during the evaluation year utilizing OSM and DMG inspection personnel including an expert in blasting operations. The focus of the review was to determine how effectively DMG was implementing its approved program to prevent off-site impacts attendant to blasting operations. Off-site impacts were identified as injury to persons, damage to public or private property outside the permit area, adverse impacts to underground mine workings, and changes in the course, channel, or availability of surface or ground waters outside the permit area. This included flyrock if it extended beyond the permit boundary. An airblast or ground vibration limitation exceedance was not considered an off-site impact, though it was recognized that the exceedance represented an indicator of increased potential for off-site impacts.

Three mines were evaluated during this review. Team members met prior to each field inspection and planned the review. The three permits were reviewed to determine site specific blasting requirements. Evaluation consisted of placing a seismograph in the field for approximately one month without giving the operator prior notice, observing loaded blast areas, observing undisturbed areas around blasted areas for flyrock, observing active blasting safety procedure, and reviewing blasting records.

One violation was issued as a result of the review. An operation was using the scaled distance formula incorrectly which resulted in one shot blasting more than the allowed amount of explosives per 8-millisecond period. Though this was the only violation, DMG and OSM identified blasting procedures that could be improved upon by the operations and made recommendations accordingly.

With the one exception, all blasting operations reviewed were in compliance with DMG's requirements and no off-site impacts were identified. DMG's methods of ensuring no blasting off-site impacts is effective.

C. Reclamation Success - Coal Mine Waste Banks

OSM completed review of this topic during the evaluation year. OSM utilized a Mining Engineer in addition to inspection personnel for the review. The focus was to determine how effectively DMG is implementing its approved program to obtain stable reclaimed coal mine waste banks. In that waste banks in varying degrees of reclamation were

reviewed, success was measured against permit requirements and field conditions. This review will not guarantee ultimate successful reclamation, but it was a measure of successful reclamation to date. To ascertain successful reclamation, the review included verification that field conditions met the design requirements for all components of a waste bank design including water control measures, lift and compaction requirements, slopes and stability, and that the inspection requirements had been fulfilled.

Team members met prior to each review to plan and organize the permit review and field inspection. Permits for the three mining operations were reviewed to determine the site specific coal mine waste bank requirements. Field review consisted of matching the site specific design requirements with the construction that had been conducted. Also reviewed were engineer's waste bank inspection reports, compaction testing reports, piezometric monitoring results, and DMG and OSM inspection reports.

The data collected generally showed that the seven waste banks appeared to be built in compliance with their respective approved permits. With regard to stability, no evidence of deep seated massive failures or impending failures was found. There were no indications of wide spread geotechnical instability at any of the waste banks. The team members identified areas in which improvements could be made such as waste bank inspection reporting and permit design information.

D. Public Participation - Blasting

The review of this topic was completed during the evaluation year using DMG and OSM personnel. The focus of the review was to determine how effectively DMG was implementing its approved program to provide for the notification and public participation requirements found in the blasting regulations. These requirements include publication of a blasting schedule in a local newspaper, distribution of the blasting schedule to residences and other entities within one-half mile of the blasting area, and notification to entities of their eligibility for a preblast survey. Preblast inspection reports were also reviewed if an individual had requested the inspection.

Team members met prior to each inspection to plan the inspection and the individual permits were reviewed to determine site specific conditions. The seismograph record generated was compared to blasting records for the same time period. If the operation routinely uses their own seismograph, the records were compared to the seismograph record generated during the inspection.

The operations reviewed were all in compliance with DMG's requirements. DMG's methods of ensuring compliance are effective.

E. Complete Inspections

Five complete inspections were conducted in Colorado during the oversight year. The inspections were conducted on operations that were not subject to a review under one of the topics listed above and had not been subject to an oversight inspection during the preceding year. While the inspections were conducted as complete inspections, critical attention was paid to the conditions that were reviewed under the special focus topics.

The mines were not selected on a random basis as has occurred in the past. Diversity in such categories as operational status, type of operation, geography, and size was considered in making the selection. No Ten-Day Notices or Federal enforcement actions were taken as a result of these inspections.

Appendix A:
Tabular Summary of Core Data to Characterize the
Colorado Program

TABLE 1

COAL PRODUCTION (Millions of short tons)			
Period	Surface mines	Underground mines	Total
Coal production ^A for entire State:			
1994	8.64	11.56	20.20
1995	8.56	17.47	26.03
1996	6.81	11.42	18.23
1997	9.62	17.80	27.42

TABLE 2

INSPECTABLE UNITS (As of September 30, 1997)												
Coal mines and related facilities	Number and status of permits									Permitted acreage ^A (hundreds of acres)		
	Active or temporarily inactive		Inactive Phase II bond release		Abandoned		Totals		Insp. Unit ^D			
	IP	PP	IP	PP	IP	PP	IP	PP				
	IP	PP	IP	PP	IP	PP	IP	PP		Total		
STATE and PRIVATE LANDS REGULATORY AUTHORITY: STATE												
Surface mines	0	3	0	9	0	3	0	15		0	92.8	92.8
Underground mines	0	1	0	6	1	6	1	13		<1	306.0	306.0
Other facilities	0	2	0	0	0	0	0	2		0	2.0	2.0
Subtotals	0	6	0	15	1	9	1	30	31	<1	400.8	400.8
FEDERAL LANDS REGULATORY AUTHORITY: STATE												
Surface mines	0	5	0	5	0	1	0	11		0	401.5	401.5
Underground mines	0	12	0	6	0	2	0	20		0	944.2	944.2
Other facilities	0	0	0	0	0	0	0	0		0	0	0
Subtotals	0	17	0	11	0	3	0	31	31	0	1345.7	1345.7
ALL LANDS^B												
Surface mines	0	8	0	14	0	4	0	26		0	494.4	494.4
Underground mines	0	13	0	12	1	8	1	33		<1	1250.1	1250.1
Other facilities	0	2	0	0	0	0	0	2		0	2.0	2.0
Subtotals	0	23	0	26	1	12	1	61	62	<1	1746.5	1746.5
Average number of permits per inspectable unit (excluding exploration sites)										1		
Average number of acres per inspectable unit (excluding exploration sites)										2863.1		
Number of exploration permits on State and private lands: 0								On Federal lands: 0 ^C				
Number of exploration notices on State and private lands: 5								On Federal lands: 163 ^C				
<p>IP: Initial regulatory program sites. PP: Permanent regulatory program sites. ^A When a unit is located on more than one type of land, includes only the acreage located on the indicated type of land. ^B Numbers of units may not equal the sum of the three preceding categories because a single inspectable unit may include lands in more than one of the preceding categories ^C Includes only exploration activities regulated by the State pursuant to a cooperative agreement with OSM or by ISM pursuant to a federal lands program. Excludes exploration regulated by the Bureau of Land Management. ^D Inspectable Units includes multiple permits that have been grouped together as one unit for inspection frequency purposes by some State programs.</p>												

TABLE 3

STATE PERMITTING ACTIVITY												
Type of application	Surface mines			Underground mines			Other facilities			Totals		
	App. Rec.	Issued	Acres	App. Rec.	Issued	Acres ^A	App. Rec.	Issued	Acres	App. Rec.	Issued	Acres
New permits	0	0		1	1		0	0		1	1	2327
Renewals	4	9		6	3		0	0		10	12	24426
Incidental boundary revisions	1	0		2	2		0	0		3	2	-36.4
Revisions (exclusive of incidental boundary revisions)	62	58		118	111		2	3		182	172	
Transfers, sales and assignments of permit rights	0	0		3	4		0	0		3	4	
Small operator assistance	0	0		0	0		0	0		0	0	
Exploration permits	0	0		0	0		0	0		0	0	
Exploration notices ^B	2	3		0	0		0	0		2	3	

OPTIONAL - Number of midterm permit reviews completed that are not reported as revisions - 7

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

^B State approval not required. Involves removal of less than 250 tons of coal and does not affect lands designated unsuitable for mining. Colorado does not distinguish between surface and underground mine exploration.

TABLE 5

ANNUAL STATE MINING AND RECLAMATION RESULTS		
Bond release phase	Applicable performance standard	Acreage released during this evaluation period
Phase I	<ul style="list-style-type: none"> •Approximate original contour restored •Topsoil or approved alternative replaced 	1271.94
Phase II	<ul style="list-style-type: none"> •Surface stability •Establishment of vegetation 	476.34
Phase III	<ul style="list-style-type: none"> •Post-mining land use/productivity restored •Successful permanent vegetation •Groundwater recharge, quality and quantity restored •Surface water quality and quantity restored 	295.77
	Total number of disturbed acres at end of last review period (September 30, 1996)¹	20845.40
	Total number of acres disturbed during this evaluation year²	472.26
	Number of acres disturbed during this evaluation year that are considered remining	0
<p>¹ Disturbed acres in this category are those that have not received a Phase III or other final bond release (State maintains jurisdiction).</p> <p>² Acreage figures are based on calendar year.</p>		

TABLE 5A

MINING AND RECLAMATION ACTIVITY^A (In Acres)		
Activity	1996	Permanent Program to Date^B
Disturbed Area	472.26	21,040
Backfilled and Regraded	499.7	13,251
Topsoil Replaced	441.8	11,837
Revegetated	398.18	13,039

^A Excludes forfeiture sites.

^B Information has not been compiled for all sites. Figures include estimated acreage for those sites for which data has not been compiled.

TABLE 6

STATUS OF RECLAMATION AT REVOKED PERMIT SITES			
Mine	1997 Work	Monies Expended in 1997	Unencumbered Monies Remaining
GEC	Reclamation success monitoring	\$0.00	\$483.25
Fruita	Reclamation success monitoring	\$0.00	\$28,349.00
Hawk's Nest	Weed control	\$1,172.50	\$3,424.50
Twin Pines	Reclamation success monitoring	\$0.00	\$22,660.00
TBM	Reclamation success monitoring	\$0.00	\$39,084.50
Grassy Gap	Reclamation success monitoring	\$0.00	\$27,639.20
Arness-McGriffin	Reclamation success monitoring	\$0.00	\$0.00
O.C. No. 2	Reclamation success monitoring	\$0.00	\$16,895.50
Coal Basin	Backfilling and grading - 20.65 acres, topsoil redistribution - 7.9 acres, revegetation - 60.7 acres	*	*

* Confidential information

TABLE 7

STATE BOND FORFEITURE ACTIVITY (Permanent Program Permits)			
	Sites	Dollars	Acres
Bonds forfeited as of September 30, 1996 ^A	12	\$4,677,813	
Bonds forfeited during EY 1997	0	\$0	
Forfeited bonds collected as of September 30, 1996 ^A	12	\$4,677,813	
Forfeited bonds collected during EY 1997	0	\$0	
Forfeiture sites reclaimed during EY 1997	0	B	
Forfeiture sites repermited during EY 1997	0		
Forfeiture sites unreclaimed as of September 30, 1997	C		
Excess reclamation costs recovered from permittee	0	\$0	
Excess forfeiture proceeds returned to permittee	0	\$0	
^A Includes data only for those forfeiture sites not fully reclaimed as of this date. ^B Cost of reclamation, excluding general administrative expenses. ^C Forfeiture sites are in various stages of reclamation. See Table 6 for additional information.			

TABLE 8

STATE REGULATORY PROGRAM STAFFING (Full-time equivalents at end of evaluation year)	
Function	EY 1997
Regulatory program	
Permit review	19
Inspection.....	
Other (administrative, fiscal, personnel, etc.)	6

The FTE's listed above as "Permit review" and "Inspection" conduct 50% inspection and 50% permitting. Job classification does not make a distinction between the two activities.

TABLE 9

REGULATORY FUNDS GRANTED TO STATE BY OSM (Millions of dollars)		
Type of grant	Federal funds awarded	Federal funding as a percentage of total program costs
Administration and enforcement	1.57	79%
Small operator assistance	0	0
Totals	1.57	